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Gender and Generational Roles in Rice Production in Akwa Ibom State, Nigeria

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Abstract:

The study assessed the gender/generational roles in rice production in Akwa Ibom State, Nigeria. Multi-stage sampling procedure was used to select one hundred and eighty respondents for the study. Primary data were collected using structured interview schedule and analysed using descriptive and inferential statistical tools. Results show that the mean age of the farmers was 45.32 years, with more male headed households (67.78%) than females. Majority (73.89%) were married, with only 24.44% having no formal education. Results also show 22.63 years and 1.35 hectares as average years of experience in rice production and average farm size respectively. Adult males were role players in bush clearing (58.33%) and tilling of the soil (54.44%). Adult females played leading roles in parboiling (67.78%) of the product. Young males were key actors in trapping of rodents/making scare crows (83.33%), while young females were identified with drying of the rice grains (58.59%). Major constraints to rice production were insufficient funds and insufficient/high cost of labour, ranking 1st and 2nd most serious constraints respectively. It is recommended that programmes designed to encourage increased rice production in the area be patterned to provide loans and also help to reduce high cost of labour by mechanizing most activities in the rice production process in the area. Moreover, the programmes should be segregated in line with the gender/generational division of labour in rice production to help tackle gender/generational specific constraints.

Keywords: Gender, constraint, farmers, farm size, responsibility

1. Introduction

Rice (*Oryza sativa*) is one of the staple food crops in Nigeria and is consumed all over the country. It is a rich source of carbohydrate, vitamins and minerals and helps to fight hunger and starvation. Rice production helps to draw the country closer to the much-desired food security status. It is also used as raw materials for many products. The offal, stalk and other by-products are of importance in feeding the livestock. Apart from the provision of food for man and feed for animal, rice is used in industries for the production of starch, gum, flour etc. Production of rice creates employment for the farmers, hired labourers and others involved in the trade along the value chain. Rice is of economic importance especially for those who produce the commodity for commercial purpose. It increases the income of the farmers, boost their social status and leads to overall improvement in their standard of living. For countries that export the commodity, it is a veritable source of foreign exchange earnings.

Rice is produced all over the world, with China being the leading producer, producing an estimated 146.0 million tons of the total global output of 484.3 million tons during the 2017/2018 market year (USDA, 2018). In Africa, Nigeria is one of the rice producing countries, producing about 2.8 million tons of the product during the 2017/2018 market year (USDA, 2017). Despite the fact that Nigeria is one of the producers of the product in Africa, the quantity imported yearly is very high. This is due to the high demand for the product and the large population size of the country. However, with reforms in the agricultural sector, especially in rice production, Nigeria will soon join countries like China and India as a major exporter of the produce. Moreover, according to Salami (2018), Nigeria saved 216 billion Naira between 2015 and 2018 since the beginning of the vigorous drive to increase local rice production in the country.

There are various activities involved in rice production. These include bush clearing, tillage, planting, transplanting, control of pest/diseases and harvesting. Others include threshing, milling, bagging and storage. Both males and females, young and old are involved in the various stages of the production process, though levels of involvement may differ across sex and age groups. However, some of these activities are tedious and require strength and vigour to participate in them.

Akwa Ibom State has a large expanse of land suitable for rice cultivation, but the state is not considered among the leading rice producers in the country. States numbered among rice producers are Kebbi, Benue, Ebonyi and Ekiti (Sherif, 2018). However, with the presidential initiative on Agriculture and the ban on importation of rice, its production in Akwa Ibom State is beginning to receive a boost. Rice farmers in the state have taken advantage of the high demand for the product and the accompanying high economic returns. Rice production is found to be a lucrative business, but many factors hinder the production of this important crop in many parts of the country. Some of these problems are general in nature, while some are location specific. These problems if controlled or eroded can bring about an increase in the number of farmers involved in the trade and also in the quantity of the product produced.

Rice production is undertaken by males and females, young and old, with the various groups undertaking specific activities, though these activities often overlap. Literature on the intra-household division of labour in rice production among males and females, young and old indicate that these roles vary from place to place, with the extent of mechanization in rice production exerting great influence. But activities in rice production in the state are largely non-mechanized. The non-mechanization of these activities is one of the causes of its low production. Information on the various facets of rice production in the state is a necessity if remarkable increase in the production of the crop is expected. Moreover, it is projected that development efforts should target the various groups (adult males, adult females, young males and young females) differently. But information on who does what in rice production in the state is lacking. The dearth of information on this poses a serious problem at efforts directed at increasing rice production in the state. To overcome this, the study assessed the roles and responsibilities of adult males, adult females, young males and young females, and the problems they face in the production of rice in Akwa Ibom State.

The following specific objectives were considered. These were to:

- Describe the socio-economic characteristics of rice producers in the state
- Examine the farm related characteristics of rice farmers in the study area
- Ascertain the constraints to rice production in the study area
- Assess the intra-household roles and responsibilities in rice production in the study area

1.1. Hypothesis Tested

- Ho: There is no significance difference in the extent of constraints to rice production faced between male and female farmers in the study area.

1.2. Materials and Method

The study was conducted in Akwa Ibom State, Nigeria. The state is one of the thirty-six states of the country. It lies between latitudes 4° 32" and 5° 33" North and longitudes 7° 35" and 8° 25" East. Akwa Ibom State is bounded on the east by Rivers State, west by Cross River State, north by Abia State and on the South by the Gulf of Guinea. It has an estimated population of 5,451,277 people as at 2016 (Akwa Ibom State Government, 2018). The major livelihood activities include farming, fishing and trading, with a large expanse of land suited for rice production.

The population of the study comprised all rice farmers in the state. However, Ini Local Government Area of the state was purposively selected for the study because of the concentration of rice farmers in the area. Simple random sampling method was used to select nine villages for the study. Farming households were identified and systematic sampling method was used to select twenty households from each of the sampled villages for the study. In each of the households, household heads were interviewed, making a sample size of one hundred and eighty respondents. Primary data were obtained using structured interview schedule (researcher administered questionnaire). The data were analysed using frequency counts, percentage, mean, Chi-square and t-test. Activities performed by males and those of the females constituted the gender roles. Young males/young females were conceptualized as those not more than seventeen years of age, while those who were eighteen years and above were regarded as adult males/adult females.

2. Results and Discussion

2.1. Socio-Economic Characteristics of the Respondents

Table 1 show that the modal age group of the farmers was 41-50 years, with a mean age of 45.32 years. This indicates that rice production is undertaken by farmers who are matured in age, with a corresponding capacity of land ownership or acquisition. Moreover, this is an indication that rice farmers in the area are in their active productive years, with the vigour needed for the rigorous activities in rice production. More male headed households (67.78%) than females were involved in rice production in the area. This may be attributed to the high energy demanding nature of the activities in swamp rice production that is obtained in the area. Matanmi, Adesiji, Owawusi and Oladipo (2011) in their study of rice production in Patigi Local Government Area of Kwara State, Nigeria also found out that more males were into rice production than females.

Table 1 reveals that 73.89% of the respondents were married, while 26.11% consisted of the singles, divorcees and widows/widowers. Majority of the respondents being married may be as a result of the high respect placed on marriage by the culture of the area. It could also be an outcome of the desire for family labour to aid in the rice production activities. Educational status as presented in Table 1 indicates that farmers with formal and informal education participated in rice production in the area. According to the table, only 24.44% of the respondents had no formal education. The high proportion of educated persons involved in rice production is an indication that innovations in rice production could be easily adopted in the area because of the established positive correlation of formal education with adoption of innovation.

Household sizes in the area were moderately high, with a modal household class of 4-6 persons, and 6 as the average number of people per household. These moderately high household sizes are expected in rural agrarian communities of the state as household members are good sources of unpaid family labour. Effiong, Ijioma and Okolo (2015) observed that farmers have high household sizes to harness members of the household for farm labour. Monthly income of the farmers was low, as only 54.43% of the respondents earned above twenty thousand naira (₦20,000.00) per month. The reason for this may not be far from the fact that the farms from where they earn part of their income are small.

Characteristics	Frequency	Percentage	Mean
Age			
≤ 20	5	2.77	
21 – 30	20	11.11	
31 – 40	38	21.11	
41 – 50	60	33.33	45.32
51 – 60	42	23.33	
61 -70	13	7.22	
> 70	4	1.11	
Sex			
Males	112	67.78	
Females	58	32.22	
Marital status			
Single	35	19.44	
Married	133	73.89	
Divorced	4	2.22	
Widowed	8	4.44	
Educational status			
Informal	44	24.44	
Primary	57	31.67	
Secondary	65	36.11	
NCE/OND	10	5.56	
B. Sc & above	4	2.22	
Household size			
1 – 3	22	12.22	
4 – 6	99	55.00	6
7 – 9	50	27.78	
< 9	9	5.00	
Monthly income (₦)			
≤ 10,000	15	8.33	
10,001 – 20,000	67	37.22	
20,001 – 30,000	62	34.44	23,700.00
31,000 – 40,000	22	12.22	
41,000 – 50,000	8	4.44	
> 50,000	6	3.33	

Table 1: Personal Characteristics of the Rice Farmers
Source: Field Survey, 2018

2.2. Farm Related Characteristics of the Respondents

Table 2 shows that the farmers were well experienced in the art of rice production as only 16.11% of the respondents had not more than ten years of experience on rice production, with 22.6 as the mean years of experience on the trade. The table also shows that the average farm size was 1.35 hectares, indicating that rice farms in the area were small. This is collaborated by the findings of Effiong, Ijioma and Okolo (2015) that most rice farmers in Bende Local Government Area of Abia State have small and fragmented farms scattered all over the area. Many rice farmers (56.67%) in the state used a combination of both family and hired labourers for their rice production. Also, 63.33% of the farmers sourced their capital from personal savings. This could be as a result of their inability to obtain loan from financial institutions and could be a major reason why their farm holdings are small. In the same vein, Iwuchukwu, Ayogu and Udegbumam (2017), found out that majority of rice farmers in Awka sourced their capital from personal savings.

Characteristics	Frequency	Percentage	Mean
Experience in rice production (Yrs)			
≤ 10	29	16.11	
11 – 20	63	35.00	22.63
21 – 30	56	31.11	
> 30	32	17.78	
Farm size (Ha)			
≤ 1	93	51.67	
2	64	35.56	1.35
3	19	10.56	
≥ 4	4	2.22	
Type of labour used			
Family	71	39.44	
Hired	7	3.89	
Combination	102	56.67	
Source of capital			
Personal savings	114	63.33	
Family and friends	17	9.44	
Financial institutions/co-operative societies	3	1.67	
Combination	46	25.56	

Table 2: Respondents' Farm-Related Characteristics
Source: Field Survey, 2018

Table 3 show that insufficient funds was the most serious constraint to rice production in the state. This may affect the extent of production of the grains in the area. The result is in consonant with the observation of Iwuchukwu, et al (2017) that insufficient finance, difficulty in obtaining credit and lack of collateral were some of the economic related problems in rice production in Awka North Local Government Area of Anambra State, Nigeria. Insufficient/high cost of labour was identified as the second most severe constraint to rice production in Akwa Ibom State. Rice production in many parts of Africa, Nigeria inclusive is not mechanized. This serves as a constraint to rice production as there is a high demand for, and scarcity of labour with its attendant implications on the cost and returns on rice production in the area. High incidence of pests/diseases and insufficient land were also identified as major constraints to rice production in the area as they ranked 3rd and 4th most severe constraints respectively. These reduces the profit from rice production as the quality and quantity of the product produced are adversely affected. The high incidence of pest/diseases was also identified by Iwuchukwu, et al (2017) as one of the major constraints to rice production in parts of the country. Other constraints identified include problem of weed control, high cost of agro-chemicals and transportation problem. However, poor extension contact and poor technical know-how were the least among the constraints to rice production in the area as they ranked 12th and 13th respectively among the identified constraints.

Factors	Not a Constraint	Minor Constraint	Major Constraint	Mean	Rank
Insufficient land	7.22	28.89	63.89	2.57	4 th
Poor soil fertility	57.78	24.44	17.78	1.60	10 th
Insufficient funds	3.33	9.44	87.22	2.84	1 st
Problem of weed control	10.56	23.33	66.11	2.56	5 th
High incidence of pest/diseases	7.78	24.44	67.78	2.60	3 rd
Insufficient processing equipment	62.22	25.00	12.78	1.50	11 th
Poor/insufficient storage facilities	51.67	32.22	16.11	1.64	9 th
Poor extension contacts	62.78	26.11	11.11	1.48	12 th
Tedious nature of the activities	40.00	36.11	23.89	1.84	8 th
Insufficient/high cost of labour	5.00	22.22	72.78	2.68	2 nd
High cost of agro-chemicals	40.00	33.33	26.67	1.87	6 th
Transportation problem	34.44	46.11	19.44	1.85	7 th
Poor technical know-how	67.78	20.00	12.22	1.44	13 th

Table 3: Constraints to Rice Production in the Area
Source: Field Survey, 2018

2.3. Roles and Responsibilities in Rice Production

Table 4 shows that adult males were role players in bush clearing as indicated by 58.33% of the respondents. Moreover, tilling of the soil was adjudged the responsibility of adult males as indicated by 54.44% of the respondents. These activities are usually tedious, with high energy sapping potentials and males usually take up these tasks, especially in swamp rice production. Other activities where adult males were identified as role players include transplanting (42.78%), harvesting (48.89%), bagging (45.56%) and storage (40.00%). This is in line with the findings of Iwuchukwu and Udegbumam (2017) that men are role players in bush clearing, agrochemical application, bagging and storage of the

products. The author added that adult males participated in many other operations in rice production more than the females.

Table 4 also shows that adult females were role players in weeding (43.33%), parboiling (67.78%) and marketing of the produce (53.89%). They also supported greatly in other activities including milling (41.11%) and drying (52.22%). A similar observation was earlier made by Addison, Ohene-yankyera and Fredua-Antoh (2016) that women were active players in some rice production activities including weeding and drying. Though most young males and females played supportive roles in rice production in the area, young males were identified by 83.33% of the respondents as key actors in trapping of rodents/making scare crows. However, 33.33% of the respondents noted that bush clearing is also the responsibility of young males. Young females were role players in drying the rice grains (58.59%), though they showed great support in weeding (42.78%), threshing (40.00%) and parboiling (51.67%) of the product.

Activities	Roles/Responsibilities			
	Adult males (%)	Adult females (%)	Young males (%)	Young females (%)
Bush clearing	58.33	15.56	33.33	2.78
Tilling of the soil	54.44	15.00	38.89	1.67
Nursery preparation	40.00	27.78	37.78	16.67
Planting	37.78	33.33	37.22	33.89
Transplanting	42.78	34.44	40.56	36.67
Weeding	27.78	43.33	25.00	42.78
Trapping of rodents/ making scare crows	22.78	1.11	83.33	6.67
Harvesting	48.89	29.44	34.44	35.56
Threshing	41.11	38.89	45.56	40.00
Parboiling	23.33	67.78	33.89	51.67
Drying	18.89	52.22	21.11	58.59
Milling	35.00	41.11	36.67	64.11
Bagging	45.56	38.89	40.00	32.78
Storage	40.00	37.22	19.44	36.11
Marketing	38.89	53.89	28.89	20.00

Table 4: Roles/Responsibilities In Rice Production

Multiple Responses

Source: Field Survey, 2018

Result of t-Test analysis of the difference in intensity of constraints to rice production in the area between male and female farmers shows that there is no significant difference ($t = 0.64$, $p > 0.05$) in the intensity of constraints to rice production faced between male and female rice farmers. This indicates that constraints to rice production in the area is equally felt by both male and female rice producers. Therefore, efforts made to reduce the constraints and increase rice production in the state should target all farmers equally irrespective of sex.

Variables	Index	t-value	p-value	Remarks
Males	1.21	0.64	0.53	NS
Females	1.25			

Table 5: T-Test Analysis of Constraints to Rice Production between Male and Female Respondents

3. Conclusion and Recommendations

Most rice farmers in the area were males, educated and well experience in rice production but with small farm sizes. They combined family and hired labour for their farm activities, with personal savings as the major source of capital. Adult males were role players in bush clearing and tilling of the soil, while adult females were responsible for weeding, parboiling and marketing of the produce. Young males were key players in trapping of rodents/making scare crows, while young females were responsible for drying the grains. Major constraints to rice production were insufficient funds, high cost of labour and high incidence of pest/diseases. There was no significant difference in the severity of constraints to rice production between male and female rice farmers in the area. It is recommended that programmes designed by individuals, government and non-governmental organisations to encourage increased rice production and improve the standard of living of rice farmers in the area be patterned to provide soft or interest-free loans to the farmers to ease the problem of insufficient funds. The programmes should also help to increase farm sizes, control pest/diseases and reduce high cost of labour by mechanizing most activities in the production process.

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