Journal of Community & Communication Research
ISSN: 2635-3318
Volume 9, Number 1, June 2024
Accessible at: https://jccr.sccdr.org

ASSESSEMENT OF GENDER PARTICIPATION IN RICE PRODUCTION ACTIVITIES IN SOUTH-EAST NIGERIA

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ABSTRACT

The study assessed gender participation in rice production activities in Southeast, Nigeria. The objectives of the study were to:examine the roles performed by men and women in rice production activities, ascertain the level of men and women participation and constraints faced by women rice farmers in South-East. The study adopted a descriptive survey research design. A multistage sampling procedure was used in selecting a sample size of one-hundred and thirty-one (131) men and eighty-eight (88) women registered ADP women rice farmers for the study. Data were obtained with the help of structured questionnaire, and analyzed using descriptive and inferential statistics such as percentages, means and Z-test analysis. The study revealed that Production roles performed by men included land cultivation (74.0%), bird scaring (72.3%), transportation of harvested paddy rice (64.5%), harvesting (64.1), clearing of farmland (62.3%), heaping/packaging of harvested paddy rice (61.7%), while women dominated in weeding (65.8%), application of fertilizer (51.2%) and planting (50.1%). The level of men participation in rice production was high with a grand mean score of 2.81, while women had a moderate level of participation with grand mean score of 2.33. Constraints like high cost of fertilizer/herbicide, pest and disease attacks, inadequate fund to start-of, inadequate credit facilities, unfavorable weather condition, high cost of labour, and scarcity of labour affected the production activities of men and women at high extent with grand mean score of $\bar{x}$ *=2.83 (men) and* $\bar{x}$ *=2.99 (women). Z-test analysis with the mean value of 2.8089 (men) and 2.3309 (women) of 8.680*** *at 0.05 alpha level affirmed that there was a statistical difference in the level of participation of men and women in rice production activities. The study concluded that the level of participation of men in rice production activities in the South-East was high while that of the women was relatively low. Therefore, it was recommended that both government and financial agencies should make loan and other credit facilities accessible to both men and women rice farmers in order to support their rice farming activities and productivity.*

Keywords: Assess, Gender, Production, Rice, Participation

INTRODUCTION

The relevance of rice enterprise in the building of the nation's economy cannot be overemphasized. It is an agriprenuerial enterprise recognized as a key factor in the economic development of the rural and agrarian societies (Olabisi, 2023). Rice enterprise serves as a tool for employment generation, thereby alleviating poverty and delinquencies (Onuekwusi, Nmeregini and Nnaji, 2020). Rice is of high-value and occupies a significant place in the food expenditure of most households in Nigeria (Oteh, Agwu, Okpokiri, Aniuga and Ani, 2019) and is the most widely consumed staple food for a large part of the world's human population.

Rice enterprise involves a lot of agricultural activities carried out by both male and female farmers and as long as agricultural activities are concerned, gender acts as a principal organizer and controller of all activities between the various people involved ranging from production, processing, distribution and consumption (Chekene and Kashim, 2018).

Gender is referred to as the socially constructed differences between women and men and how society gives meanings to these differences, not necessarily about the biological differences in femininity and masculinity (Folake, Adeyemi, and Ojo, 2020). As a social construct, gender varies from society to society and can change over time. Gender participation in rice enterprise depends on the ecology and culture associated with the crop. Rice is considered as a male crop in some parts of the country and a women's crop in others, while in many places, the gender pattern for rice cultivation is complex (Kinkingninhoun, Komatsu, Mujawamariya and Saito 2020). Thapa, Jamkatel, Bharati and Bam (2020) state that women comprise 41% of the world's agricultural labour force and as well play a major role in production, processing, and marketing of agricultural produce throughout the world. Kinkingninhoun *et al.* (2020) also noted that the division of labour among men and women shows distinct tasks. In most rice growing areas in Nigeria and Southeast in particular, tasks like land preparation, ploughing, irrigation, field-leveling, fertilizer and pesticide application, are performed by men while tasks like sowing, transplanting, weeding, manual harvesting and post-harvest activities as well processing and marketing are performed by women (Chete, 2018). In rice processing, Akinnagbe and Ayibiowu (2020) revealed that men are more involved in processing activities like milling, de-stoning and transporting while women were more involved in threshing, sun drying, bagging, soaking, winnowing, parboiling, sun drying, bagging, packaging, storing and marketing. Similarly, Chakma, Ruba, Senthi and Rahman (2021) noted that women are usually involved in the post-harvest processing of rice and play a supporting role in rice farming to men.

However, Onyinyechukwu (2023) noted that gender inequality in access to land and other farm inputs has been identified as one of the causes of the declining productivity in agriculture in various regions in Nigeria, Southeast inclusive. Olakojo (2017) also noted that gender disparities in agriculture is a contributory factor to the poor performance of agriculture, especially in the rural areas that reveal the ever increasing roles that women play in farming activities. These could have huge implications for the level of participation of men and women in rice related enterprises in the study area. Therefore, there is the need to empirically analyze gender participation in rice production, processing and marketing activities in Southeast, Nigeria

Objectives of the Study: The broad objective of this study was to assess gender participation in rice production activities in Southeast, Nigeria. The specific objectives included the following: examine the roles performed by men and women in rice production activities, ascertain the level of gender participation in rice production and examine the constraints faced by men and women in rice production activities in the study area.

METHODOLOGY

The study was carried out in Southeast Nigeria. Southeast is one of the six geopolitical zones, made up of five States, namely Abia, Anambra, Ebonyi, Enugu and Imo The zone has a favorable agro-climatic ecologies which allow the growth and survival of most tropical food crops such as rice, yam, trees as well as livestock production. The estimated population of the zone in 2019 was put at about 22,279,151 people with an estimated population density of 766 persons/km2 (Nicholas *et al*., 2021). The population of the study comprised all registered ADP men and women rice farmers in South-east Nigeria.

Multi-stage sampling procedure was used to select the sample. For stage one, three (3) States were purposively selected in South-east Nigeria due to the intensity of rice production in those areas. For stage two, there was a purposive selection of two (2) Local Government Areas each from the selected States. This gave a total of six (6) LGAs. For the final stage, proportionate sampling technique was used to select men and women rice farmers from each of the selected local government areas, corresponding to 25% of the sample frame obtained from the various State ADPs to ensure proportionality. This gave a grand total of one hundred and thirty-one (131) men and eighty-eight (88) women rice farmers which constituted the sample size for the study.

Data Collection and Analysis

Primary data were obtained with the aid of structured questionnaire, and analyzed using descriptive and inferential statistics such as percentages, means and Z-test analysis. The level of participation of men and women in rice production activities and constraints faced by the respondents in rice production were analyzed using descriptive statistics, while the hypothesis was analyzed using Z-test analysis.

Results and Discussion

Table 1 revealed the distribution of rice production activities performed by men and women in the Southeast. The result disclosed that male were active in land cultivation (land de-stumping and tilling) (74.0%), bird scaring (72.3%), transportation of harvested paddy rice (64.5%), harvesting (64.1), clearing of farmland (62.3%) and heaping/packaging of harvested paddy rice (61.7%), while women were found to dominant in weeding of rice farm (65.8), application of fertilizer (51.2%) and planting (50.1%). This implies that majority of rice production activities were mostly carried out by men than women. This finding is expected because rice production generally is male-dominated due to the nature of the activities as well as the physical energy required. Also, the tedious and strenuous

Table 1: Roles performed by men and women in rice production activities in the study area

Rice production activities	Abia (n=66)		Ebonyi (n=106)		Enugu (n=47)		Southeast (n=219)	
	Men (%)	Women (%)	Men (%)	Women (%)	Men (%)	Women (%)	Men (%)	Women (%)
Clearing of rice farmland	72.7	27.3	54.7	45.3	59.6	40.4	62.3	37.7
Land cultivation (land de-stumping and tilling)	77.3	22.7	74.5	25.5	70.2	29.8	74.0	26.0
Planting	45.5	54.5	57.5	42.5	46.8	53.2	49.9	50.1
Weeding of rice farm	39.4	60.6	29.2	70.8	34.0	66.0	34.2	65.8
Application of pesticides	59.1	40.9	59.4	40.6	57.4	42.6	58.6	41.4
Bird scaring	65.2	34.8	70.8	29.2	80.9	19.1	72.3	27.7
Application of fertilizer	42.4	57.6	52.8	47.2	51.1	48.9	48.8	51.2
Harvesting	75.8	24.2	54.7	45.3	61.7	38.3	64.1	35.9
Heaping/packaging of harvested paddy rice	60.6	39.4	58.5	41.5	66.0	34.0	61.7	38.3
Transportation of harvest paddy	63.6	36.4	66.0	34.0	63.8	36.2	64.5	35.5

Source: Computed from field survey data, 2023

nature of rice farming activities limits women to the roles with less physical energy. This is in line with Akinnagbe and Ayibiowu (2020) who reported that rice production activities such as land clearing, de-stumping/packing and tilling of land were mainly carried out by men while women are involved in planting and weeding. Otuu (2021) also revealed that males ranked more in performing roles association rice production activities.

Level of participation of men and women in rice production activities in South-East

The data on table 2 revealed that men participated actively in clearing of farmland, transportation and harvesting of rice with mean scores of 3.13, 3.09 and 3.07 respectively, while women participated highly in weeding, planting and application of fertilizer with mean scores of 3.10, 2.92 and 2.74 respectively. The grand mean score of 2.81 (men) and 2.33 (women) was an indication that men participated more in rice production activities than women in the study area. The result is relatively similar to Akinnagbe and Ayibiowu (2020) assertions that men were highly involved in the rice production activities. However, Chakma *et al.* (2021) in a related study reported that large proportion of the women had a mid-level participation in rice farming.

Table 2: Level of men and women participation in rice production activities in the study area

S/N	Level of participation	Abia (n=66)		Ebonyi (n=106)		Enugu (n=47)		Southeast (n=219)	
		Men	Women	Men	Women	Men	Women	Men	Women
		$\bar{x}$	$\bar{x}$	$\bar{x}$	$\bar{x}$	$\bar{x}$	$\bar{x}$	$\bar{x}$	$\bar{x}$
1	Clearing of rice farmland	3.27	1.68	3.19	1.73	3.09	1.51	3.18	1.64
2	Land cultivation (land de-stumping and tilling)	3.19	1.44	2.93	1.57	2.83	1.39	2.98	1.47
3	Planting	2.73	3.11	2.62	2.84	2.65	2.80	2.67	2.92
4	Weeding of rice farm	2.21	3.28	2.13	3.12	2.02	2.91	2.12	3.10
5	Application of fertilizer	2.68	2.77	2.67	2.83	2.33	2.61	2.56	2.74
6	Bird scaring	2.75	2.61	2.72	2.21	2.66	2.54	2.71	2.45
7	Application of pesticides	2.81	2.43	2.81	2.69	2.73	2.63	2.78	2.58
8	Harvesting	3.22	2.36	2.97	2.10	3.01	2.19	3.07	2.22
9	Heaping/packaging of harvested paddy rice	3.04	2.15	2.83	2.23	2.88	2.14	2.92	2.17
10	Transportation of harvest paddy	3.23	2.03	3.11	1.97	2.94	1.89	3.09	1.96
	Grand mean	**2.91**	**2.39**	**2.80**	**2.33**	**2.71**	**2.26**	**2.81**	**2.33**

Source: Computed from field survey data, 2023

Note: $\bar{x}$ = Mean responses; low participation = 0.00-1.33; moderate = 1.34-2.67; high = 2.68-4.00

Constraints faced by men and women in rice production in study area

Result in table 3 shows that almost all the identified production constraints affected both men and women rice farmers in their production activities at different levels. However, the women were relatively affected more than the men. The result further revealed that high cost of fertilizer/herbicide, pest and disease attacks, inadequate fund to start-of, inadequate credit facilities, unfavorable weather condition, high cost of labour and scarcity of labour with mean scores of ($\bar{x}$=3.37 and $\bar{x}$=3.43), ($\bar{x}$=3.27 and $\bar{x}$ =3.28), ($\bar{x}$ =3.18 and $\bar{x}$ =3.33), ($\bar{x}$ =3.16 and $\bar{x}$ =3.40), ($\bar{x}$ =3.02 and $\bar{x}$ =3.28), ($\bar{x}$ =3.06 and $\bar{x}$ =3.13) and ($\bar{x}$=3.03 and $\bar{x}$ =3.03) were major constraints that affected both men and women rice farmers respectively. High cost of fertilizer/herbicides may be attributed to the increase in exchange rate which has given rise to inflation and hijack in prices of goods in the market. More so, high cost of these inputs may limit level of usage and affect rice production. This finding was in agreement with Hyacinth (2020) who reported that inadequate fund to start-up, high cost production input and unfavourable weather condition negatively affect rice production. Talaka (2023) also opined that attack by insect pests is one of the major reasons for the low production of rice in Nigeria.

Table 3: Constraints Faced by Men and Women in Rice Production Activities in the Study Area

S/N	Production constraints	Abia (n=66)		Ebonyi (n=106)		Enugu (n=47)		Southeast(n=219)	
		Men	Women	Men	Women	Men	Women	Men	Women
1	Pests and diseases	3.45	3.46	3.15	3.38	3.22	3.00	3.27	3.28
2	Unfavorable weather condition	3.37	3.32	2.89	3.43	2.81	3.10	3.02	3.28
3	Drought	3.18	3.39	2.36	2.78	2.59	2.90	2.71	3.02
4	Untimely supply/distribution of farm inputs	2.16	2.21s	2.05	2.43	2.04	2.55	2.08	2.40
5	Lack of good planting seed variety	2.66	2.61	2.12	2.48	2.07	2.75	2.28	2.61
6	Lack/inadequate credit facilities	3.47	3.25	2.95	3.40	3.07	3.55	3.16	3.40
7	Inadequate fund for start-off	3.37	3.18	3.11	3.15	3.07	3.65	3.18	3.33
8	Inadequate farm inputs	2.39	2.39	2.38	2.55	2.44	2.65	2.40	2.53
9	Inadequate farmland	2.79	3.11	2.41	2.48	2.59	2.85	2.60	2.81
10	High cost of labour	3.16	3.04	3.09	3.28	2.93	3.05	3.06	3.12
11	Scarcity of labour	2.89	2.93	3.14	3.13	3.07	2.75	3.03	2.94
12	High cost of fertilizer/herbicides	3.29	3.25	3.58	3.40	3.41	3.45	3.43	3.37
13	Poor extension contact	3.21	3.07	2.77	2.50	2.59	2.70	2.86	2.76
14	Difficulties of rice harvest	2.87	3.11	2.59	3.10	2.81	2.85	2.76	3.02
15	Ineffective cooperatives	2.68	3.18	2.71	2.65	2.44	3.00	2.61	2.94
	Grand mean	**2.99**	**3.03**	**2.75**	**2.94**	**2.74**	**2.99**	**2.83**	**2.99**

Source: Computed from field survey data, 2023

Note: $\bar{x}$ = Mean responses; low constraint = 0.00-1.33; moderate constraint = 1.34-2.67; high constraint = 2.68-4.00

Differences in the level of participation of men and women in rice production activities

The result in table 4 showed the z-test analysis of the difference in the level of participation of men and women in rice production activities in the South-East. Nigeria. The result showed that there was a statistical significant difference in the level at which men and women participated in rice production activities. The mean value of 2.8089 (men) and 2.3309 (women) of 8.680*** at 0.5 alpha level affirmed that there was a statistical difference. The result implied that the men participated more in rice production activities than the women. The result was expected because generally in the study area, rice production activities were done manually with crude implements and requires a lot of physical energy which may be difficult for the women to partake. Consequently, the strenuous nature of these activities limits women participation in rice production activities making it a male dominated agro enterprise. The result agrees with Akinnagbe and Ayibiowu (2020) who noted that men were highly involved in the rice production activities.

Table 4. **Differences in the level of participation of men and women in rice production activities**

Mean difference in level of participation	No. of respondents	Mean	Std. deviation	Std. error mean	Df	Z-stat	Z-tab
Men	131	2.8089	0.29901	0.02613			
Women	88	2.3309	0.51444	0.05484			
Difference (a-b)		0.4780	0.59823	0.05507	217	8.680***	1.960

Source: Computed from field survey data, 2023

NB: ** = significant at P≤0.05; Df = Degree of freedom

Ho_1 rejected at 0.05 level

CONCLUSION AND RECOMMENDATION: Conclusively, the study revealed that apart from weeding, planting and application of fertilizer, which were the major activities carried out by the women, other activities were majorly carried out by the men. The study therefore concluded that the men had high participation level in rice production activities than the women in South-East Nigeria. Also, all the identified production constraints affected both gender. However the women were more affected than the men. Therefore, the study recommended the South-East Land Act Law should be redesigned in ways that will give both the men and women equal opportunities and access to land. Government and financial agencies should make loans and other credit facilities accessible to the rural rice farmers, especially women rice farmers, in order to support their rice farming activities and boost their productivity.

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