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ASSESSMENT OF GENDER ROLES IN ADOPTION OF SYSTEM OF RICE INTENSIFICATION TECHNOLOGY AMONG FARMERS IN YEWA NORTH LOCAL GOVERNMENT AREA OGUN STATE, NIGERIA

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Abstract

This study assessed gender roles in adoption of System of Rice Intensification (SRI) technology among farmers in Yewa North Local Government Area of Ogun State. Nigeria One hundred and twenty rice farmers were randomly selected as sample size and primary data were collected using structured questionnaire and analyzed using descriptive statistics and chi square test. The socio-economic characteristics showed that majority (65%) of the respondents were male, majority (55%) were aged between 31 - 50 years, and majority (78%) of the respondents were married. Majority (65%) of the respondents had primary education, with an average household size of five (5) persons, farm sizes were generally small, with over 70% cultivating less than 2 hectares, and only 22% having access to credit facilities. Gender roles were evident in rice production activities, with men dominating land preparation, while women were more involved in transplanting, weeding, and postharvest operations. The findings further revealed that adoption of SRI was constrained by several factors such as high initial investment (87.5%) being the most significant. Other constraints included conflict experiences (29.2%), labour shortages (20.8%), lack of technical knowledge (16.7%), poor maintenance practices (3.3%), and limited access to quality inputs (4.2%). The study concludes that socio-economic factors and gender roles significantly influenced adoption of SRI and recommends gender-sensitive training and labour support for rural rice farmers.

Keywords: *Assessment, Gender roles, system rice intensification, system of rice technology, adoption.*

Introduction

Rice is one of the major staple foods in Nigeria, consumed across all geopolitical zones and socioeconomic classes (Food and Agricultural Organization (FAO), 2021). Rice consumption is steadily increasing in Nigeria due to rapid population growth, urbanization, and changing dietary patterns, with national demand estimated at over 7 million metric tonnes annually (Food and Agriculture Organization, 2024; United States Department of Agriculture, 2023). Rice consumption in Nigeria has continued to grow rapidly, driven by increasing urbanization, rising household incomes, and a strong preference for rice as a convenient staple food (International Rice Research Institute, 2023; FAO, 2022).

The System of Rice Intensification (SRI) is a rice production approach that involves improved crop, soil, water, and nutrient management practices designed to increase rice productivity while reducing the use of resources such as water, seed, and external inputs. The method promotes sustainable rice farming and enhances yield through better plant management practices (Uphoff, 2015).

The System of Rice Intensification (SRI) originated in Madagascar in the early 1980s, when Father Henri de Laulanié developed cultivation practices designed to increase rice yields under resource-limited conditions. Rice production systems such as System of Rice Intensification (SRI)

has gained wider acceptance due to their emphasis on reduced water use, improved soil health through organic inputs, and increased productivity under smallholder conditions (Food and Agriculture Organization, 2023). Farmers achieved higher yields with fewer inputs, sparking further interest.

In Nigeria, SRI was introduced through research and extension programs led by Africa Rice and International Rice Research Institute (IRRI). Studies have demonstrated its potential to improve yield, reduce water use, and lower input costs, making it attractive to smallholder farmers (Nwalieji, 2015; IRRI, 2018).

SRI is increasingly promoted because of its multiple agronomic and socio-economic benefits compared to traditional rice production methods. These advantages includes higher yields; ranging from 20–50%, alongside significant seed savings due to reduced planting density and improved crop management practices (Food and Agriculture Organization, 2021). Fewer seedlings are required due to wider spacing and early transplanting, while intermittent irrigation significantly reduces water use, conserving up to 30–50% compared to continuous flooding in rice production systems (FAO, 2022). Men and women farmers hold different positions in rice production, subject to cultural norms, resources, and authority to make judgments. In Nigeria, men control the land, access to credit, and use of machinery in most farming communities while women play a major role in the labor-intensive work, e.g. transplanting, weeding, and post-harvest processing (FAO, 2018; Doss et al. 2023).

Objectives of the study

The broad objective of the study was to assess gender roles in adoption of system of rice intensification technology among farmers in Yewa North Local Government Area Ogun State, Nigeria and the specific objectives were to:

i. describe socio-economic characteristics of the rice farmers in Yewa North Local Government Area Ogun State;
ii. describe gender role in SRI technology among the respondents;
iii. ascertain the level of adoption of SRI technology between male and female farmers; and
iv. identify challenges to adoption of SRI technology among the respondents.

Methodology

Yewa North Local Government Area (formerly Egbado North LGA) is located in the western part of Ogun State, South-West Nigeria, with its administrative headquarters situated at Ayetoro. It is the largest Local Government Area in Ogun State by landmass, covering approximately 2,087 square kilometres. Geographically, Yewa North lies approximately between Latitude 6°52′N and 7°25′N and Longitude 2°43′E and 3°07′E, while Ayetoro, the headquarters, is located around 7°14′N and 3°02′E. The Local Government Area shares boundaries with the Republic of Benin to the west, Imeko-Afon Local Government Area to the north, Yewa South Local Government Area to the south, and Ewekoro and parts of Abeokuta North Local Government Area to the east. The inhabitants are predominantly Yoruba people, particularly the Yewa (Egbado) and Ketu subgroups. The major language spoken is Yoruba, although English serves as the official language for administration and education. According to the 2006 National Population Census, Yewa North has a population of approximately 181,826 inhabitants. The relief and topography of the area are characterized by derived savannah vegetation, gently undulating plains, and an eroded pediment landscape with well-incised valleys.

Elevation in some parts ranges between 90 and 120 metres above sea level, while rivers such as Yewa River, Rori River, and Ayinbo River drain the area. The climate is tropical with distinct wet and dry seasons, making it suitable for agricultural activities. Agriculture constitutes the major occupation of the inhabitants, with farming and trading being dominant livelihood activities. Major economic activities include crop production, livestock rearing, local trading, transportation services, and small-scale commerce. Nomadic cattle rearing is also common in some communities. Major crops produced include rice, cassava, maize, yam, cocoa, cotton, banana, plantain, and vegetables,

while livestock production contributes significantly to the local economy. Yewa North is also endowed with mineral resources such as limestone and kaolin, which possess industrial and economic importance within Ogun State. The combination of fertile land resources, favorable climatic conditions, and extensive agricultural activities makes Yewa North an important agricultural zone in Ogun State and a suitable location for agricultural and rural development studies. The population of the study constituted of all rural rice farmers in Yewa North LGA. Five council wards Ijoun, Eggua, Igan Alade, Ayetoro and Agbon-Ojodu were purposively chosen based on the large number of rice farmers practicing SRI in the area. A total sample size of 120 respondents was selected for the sudy. Primary data were collected from the rice farmers using structured questionnaire, data collected were analyzed with descriptive statistics and chi-square test

Results And Discussion

Socio-Economic Characteristics of The Respondents

Table 1 reveals that majority of male farmers (65%) dominated the proportion of respondents, although women also play important roles in labor and post-harvest activities. Most (95.8%) of the respondents were married and within the active age range of 35–55 years, with a mean age of 46 years, indicating an experienced farming population. Majority (56.7%) had primary education, suggesting that limited literacy level may affect access to extension information, though extension services help bridge this gap. The average household size was 7 persons, having an average of 7 persons may provide family labor for the labor-intensive SRI practices. Farmers cultivated an average of 2 hectares, showing that they are mainly smallholder farmers. More than half had access to credit, almost all belonged to cooperatives, and all the respondents had access to extension services, which enhances adoption of improved rice technology.

Table 1: Socio-economic Characteristics of Rice Farmers (N=120)

Variables	Frequency	Percentage
Sex		
Male	78	65.0
Female	42	35.0
Total	**120**	**100**
Marital Status		
Single	3	2.5
Married	115	95.8
Widow	2	1.7
Total	**120**	**100**
Age (years)		
22-30	10	8.3
31-40	26	21.7
41-50	45	37.5
51-60	33	27.5
>60	6	5
Total	**120**	**100**
Educational Level		
Non formal Education	11	9.2
Primary	68	56.7
Secondary	37	30.8
Tertiary	4	3.3
Total	**120**	**100**

Household Size		
3-5	39	32.5
6-9	65	54.2
10-14	16	13.3
Total	**120**	**100**
Rice Experience(yrs)		
1-10	82	68.3
11-20	29	24.2
21-30	9	7.5
Total	**120**	**100**
Farming Status		
Full time	66	55.0
Part time	54	45.0
Total	**120**	**100**
Farm size for rice		
0.6-1.5	35	29.2
1.6-2.5	34	28.3
2.6-3.5	24	20
3.6-4.5	22	18.3
4.6-5.5	5	4.2
Total	**120**	**100**
Access to credit		
Yes	73	60.8
No	47	39.2
Total	**120**	**100**
Members of cooperative		
Yes	117	97.5
No	3	2.5
Total	**120**	**100**
Access to Extension Service		
Yes	120	100.0
No	0	0
Total	**120**	**100**

Source: Field Survey (2025)

Gender roles in Land Preparation

Table 2 shows that the chi-square test for land preparation was not statistically significant (χ^2=1.52, p=0.218). At 0.05%, chi square calculated was higher than the tabulated value. This indicates that there was strong statistical evidence of gender differences in Land preparation. These findings on Land preparation provide insights into how gender roles are distributed in rice farming activities. The chi-square test for Planting/Transplanting seedlings was not statistically significant (χ^2=2.998, p=0.223). At 0.05%This indicates that there is no strong statistical evidence of gender differences in Planting/Transplanting seedlings. The findings on Planting/Transplanting seedlings provide insights into how gender roles are distributed in rice farming activities in the study area, Also chi-square test for weeding was not statistically significant (χ^2=0.054, p=0.973). This indicates that there is no strong statistical evidence of gender differences in weed.

The result in Table 2 also reveals a higher involvement of female respondents in harvesting and threshing activities. The chi-square value (χ^2 = 3.566) with a probability value of 0.059 suggests a marginal gender variation, although the relationship was not statistically significant at the 5% probability level. The table also below shows that the chi-square test for marketing and sale of paddy was statistically significant (χ^2=6.676, p=0.01). This suggests that gender plays a significant role in

determining who is primarily responsible for Marketing and sale of paddy. These findings on marketing and sale of paddy provide insights into how gender roles are distributed in rice farming activities. The results reflect local socio-cultural dynamics where tasks are either male dominated, female dominated, or shared. Where significance was found, it shows entrenched gendered division of labor, in line with (FAO, 2018)

Table 2: Gender roles in Land Preparation

Activity	Chi-Square Value	Df	Significant
Land Preparation	1.52	1	0.218
Planting/Transplanting Seedlings	2.998	2	0.223
Weeding	0.054	2	0.973
Harvesting and threshing	3.566	1	0.059
Marketing and sale of paddy	6.676	1	0.01

Source: Field Survey, 2025

Adoption of SRI technology among male and female

Result in Table 3 depict that 72.5% of the male respondents adopted SRI technology 27.5% of female also, adopted the technology.. This indicates that majority (72.5%) of the male respondents adopted the technology. In Nigeria, male have more resources than female farmers as a result of customary practices which restricts female from acquisition of farming resources like land which is one of the key resources for farming and this may even limited their adoption of certain technologies that require a large land area. This finding is consistent with Doss and Meinzen-Dick (2015), that agricultural production in most African countries is dominated by men.

Table 3: Adoption of SRI technology among male and female (n=120)

Categories	Frequency	Percentage
Male	87	72.5
Female	33	27.5
Total	120	100

Table 3

Source: Field Survey (2025).

Challenges in Adoption of SRI Technology

Table 4 shows that majority (87.5%) of the respondents faced the challenges of high initial investment to adopting SRI and 29.1% experienced conflict. This suggests that the capital-intensive nature of SRI discourages many farmers from adoption.. This aligns with Nwalieji (2015) that high input costs and limited access to credit facilities hinder adoption of SRI among smallholder farmers in Nigeria.

Table 4: Challenges faced by the Respondents in Adoption the Technology (n=120)

Challenge	Frequency	Percentage
High initial Investment	105	87.5
Lack of Technical Know-How	20	16.7
Limited Access to Quality Inputs	5	4.2
Labour Shortages	25	20.8
Resistance from family	1	0.8
Poor maintenance	4	3.3
Experience conflict	35	29.1
Total	**120**	**100**

Source: Field Survey, 2025

Conclusion and Recommendations

Conclusion

This study assessed gender roles in adoption of SRI technology rural rice farmers in Yewa North, Ogun State Nigeria. The findings showed that rice farming was male-dominated, although women actively participated in several farming activities. The SRI technology was mostly adopted by male farmers. The study concludes that reducing these inequalities is important for wider adoption of SRI technology, improved rice productivity, and enhanced food security. Philanthropists, Non-Governmental Organization and Governments at all level should pattern to provide initial capital to system of rice intensification farmers and government through law enforcement agencies should intensify more effort to deal with conflicts to enable SRI farmers to produce rice in a peaceful atmosphere.

Recommendations

Based on the study the following Recommendations were made:

I. Eenhance technologies and machines hubs: To eliminate the time and machinery constraints problem, development patterns and the government must facilitate the introduction and promotion of small scale, affordable mechanization (i.e weeders and threshers). This equipment can also be made more accessible to female farmers by setting up community based machinery hiring services.

ii. Get targeted awareness campaigns: Hold awareness specifically targeting to rise the issue of the role of women in Agriculture and the advantage of equal decision making and equal sharing of resources in the families and the community.

References

Doss, C., & Meinzen-Dick, R. (2015). *Collective action within the household: Insights from natural resource management*.

Doss, C., Quisumbing, A., & Theis, S. (2023). Gender gaps in agricultural technology adoption: Evidence from Nigeria. *World Development, 161*, 106073.

FAO (2021). Food and Agriculture Organization, *Gender roles in agricultural development*.

FAO (2022). Food and Agriculture Organization *Climate-smart crop production systems in practice*.

FAO (2023). Food and Agriculture Organization *System of Rice Intensification (SRI) and sustainable rice production*.

Food and Agriculture Organization, FAO (2018). *The role of gender in agricultural production systems*.

IRRI (2018). International Rice Research Institute *System of Rice Intensification (SRI) practices and adoption in Africa*.

IRRI (2023). International Rice Research Institute *Rice 2.0: Towards transforming rice cultivation in Uttar Pradesh*.

Meinzen-Dick, R. (2015). Collective action within the household: Insights from natural resource management. *World Development, 74*, 171–183.

Nwalieji, H. U. (2015). Farmers' adoption of rice technologies in Anambra State, Nigeria. *Journal of Agricultural Extension, 19*(2), 15–27.

Uphoff, N. (2015). *The System of Rice Intensification (SRI): Responses to frequently asked questions*. Cornell University, SRI International Network and Resources Center (SRI-Rice).

USDA 2023, United States Department of Agriculture. *Grain and feed annual report:Nigeria*.