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A Gender-based Analysis of Labour Utilization for rice Production in Guma, Benue State, Nigeria

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Abstract

Rice production in Guma local government area of Benue State was evaluated based on gender participation in labour utilization. Literature was reviewed to ascertain the perspectives of other scholars in various study areas, and Caroline Moser's triple roles gender analysis framework helped to explain the processes. The study used a survey research design with a population of 5125 smallholder rice farmers, out of which 371 respondents were sampled using a multi-stage sampling strategy. Data was collected using questionnaires and key informants' interviews (KIIs) Guide. The results have been presented in tables showing simple frequencies and percentages to answer the research questions. The findings revealed that gender division of labour exists and has a negative effect on labour utilization for rice production and yield in the study area. It also showed that men and women have differential access to land, capital, human labour, inputs, and trainings, which result in a productivity gap as men produce more rice than women in the study area. Thus, the study recommended, among other things that rural development planners must be intentional in mainstreaming gender specific needs in program planning and implementation, and that agricultural extension agents consider the triple roles of women and plan activities accordingly to ensure inclusion.

Keywords: Gender division of labour, smallholder rice farmers, rice production in Guma

Background

Agriculture has been identified by the international development community as a driver of growth and food security, particularly in less developed countries where it is the primary occupation of rural people. Because agriculture plays such an important role, there are efforts to improve agricultural productivity at the global, regional, national, state levels and even local levels. Gender is an

important component of agricultural productivity and growth because of the important roles that women play in agricultural production, particularly in developing countries where men and women have unequal access to resources. In Asia, Duyen *et al.* (2021) reported that identifying appropriate policy interventions for increasing women's productivity and overall agricultural productivity requires an accurate diagnosis of the sources of productivity differences between male and female farmers.

Rice is a vital food crop around the world. More than half of the world's population consumes rice as a healthy and staple food. Rice is consumed by over 4.8 billion people in 176 countries and is the most important food crop for over 2.89 billion people in Asia, over 40 million people in Africa, and over 150.3 million people in America (Shabu, Gyuse & Abawua, 2011). Nigeria is one of the largest countries in Sub-Saharan Africa where agriculture is very important for human welfare and economic growth: it contributes about 25% of the region's GDP and employs a large portion of the population (FAO, 2006; AfDB, 2015). According to empirical evidence, the agricultural gross per capita production index fell from 92.2 percent in 2007 to 88.4 percent in 2013, and both food and non-food gross per capita agricultural production fell: non-food per capita production fell more significantly, from 84.3 percent in 2007 to 51.8 percent in 2013 (FAO, 2014). This decline in agricultural productivity is cause for concern because it affects many people's livelihoods and is related to the sector that experts hope will play a backup role in the near future when Nigeria's non-renewable oil deposits are depleted; thus, the need to explain the factors responsible for the decline in productivity.

In Nigeria, as in many other Sub-Saharan African countries, women outnumber men in the agricultural sector. Nonetheless, their productive capacity remains constrained and significantly lower than that of their male counterpart, potentially contributing to Nigeria's low overall agricultural productivity Olakoja (2017). According to a 2016 report by the Federal Ministry of Agriculture and Rural Development, women account for 75% of Nigeria's farming population.

Rice has become a major source of calories for Nigeria's urban poor, with the poorest third of urban households obtaining 33 percent of their cereal-based calories from rice, and its purchases accounting for a significant portion of cash expenditures on cereals (FAO, 2018). Rice availability and prices have become a major determinant of the welfare of the poorest segments of consumers who have the least food security; thus, rice is at the forefront of the fight against hunger and poverty in Nigeria. This explains why FAO (2018) concluded that increased rice production is required because it has the potential to play a critical role in contributing to Nigerians' food and nutritional security, income generation, poverty alleviation, and socioeconomic growth.

The utilization of labour for rice production in Guma Local Government Area of Benue State is a critical issue that requires a gender-based analysis. The existing literature suggests that there are diverse sources of labour used in rice production in this area (Saror, Pinga & Gomez 2021), and it is important to

understand the gender dynamics associated with these labour sources. Additionally, there is evidence of gender bias and stereotypes affecting women's access to and control over productive resources in rice farming (Olakojo, 2017; Iwuchukwu & Udegbonam, 2017). Therefore, a comprehensive gender-based analysis is necessary to identify the challenges and opportunities for both male and female labour in rice production.

The increasing gender productivity gaps can be traced back to the dynamics in agricultural performance. Women constitute approximately 75 percent of the agricultural labour force in Nigeria, as in many Sub-Saharan African countries; however, their productive capacity remains constrained and significantly lower than their male counterpart, potentially contributing to Nigeria's low overall agricultural productivity. Empirical evidence has shown that failure to pay closer attention to the differentiated societal positions of men and women in terms of resource allocation, opportunities, and rights in the formulation, design, and implementation of development policies and projects can have a negative impact on development outcomes (FAO, 2018). It is on this premise that the World Bank and the United Nations have warned that failure to recognize gender roles, differences, and inequities can have a negative impact on development outcomes (IFAD, 2009). The African Development Bank (2015) also acknowledged that increased integration of Africa's agricultural sector into the global value chain is critical for transformation in the region; however, economic empowerment of women through improved productivity and increased participation in commercial and higher value-added agricultural activities is a critical component of this transformation.

Rice production handling activities, according to Lusiba, Kibwika and Kyazz (2017), are manual, labour intensive, tedious, slow, and time consuming when compared to other crops; thus, labour availability is a critical requirement. The availability of labour to perform critical tasks on time in rice production processes are influenced by intra-household division of labour in terms of roles and responsibilities, gender dynamics, and diversity. There is empirical evidence of scarcity of labour for rice production in Guma local government area of Benue State, (Pinga, Gomez, Fatty & Onyemma, 2022). So where cultural values also make sex division of labour very effective; such that women can be overwhelmed with so much household chores and certain agricultural tasks are an exclusive for women, it can have an impact on women's productivity and yield. Given the scarcity of agricultural labour on the one hand, and the labour-intensive nature of rice production processes on the other, it is critical to make effective use of available labour; where gender division of labour interferes with proper labour utilization, yield and productivity suffer.

Women provide the majority of labour for rice production, despite the fact that men become more involved and take more control due to commercial benefits. This study examined the nature of women's and men's involvement in major tasks in rice production to determine if there is a gender division of

labour and the effects on the proper utilization of the limited agricultural labour available for optimum productivity. It also assessed the differential access of women and men to land, capital, inputs, labour and trainings, which may also lead to productivity gaps in rice yields. The study sought to assess the nature of gender division of labour in the major tasks involved in rice production processes; ascertain the gender differences in productivity and access to resources for rice production; and find out the effects of gender division of labour on proper utilization of available human labour for rice production in Guma local government area of Benue state.

A brief review

Sustainable food and income security can be effective if gender roles and responsibilities are fully understood and considered in policy planning, research and extension. The information gathered during the research stage of such analysis usually makes the differences between men and women explicit (using sex-disaggregated data) so that policies, programs, and projects can build effective actions that promote equality. As a result, the following stakeholders will find these research findings extremely useful: To ensure effectiveness, agricultural policymakers will be empirically guided to develop policies that take gender relations, needs, and constraints of both men and women into account.

This research can also be useful to Non-Governmental Organizations (NGOs) with an interest in agriculture because it will serve as a baseline for their rural development program design and implementation. Rural sociologists and agricultural extension specialists will also be guided to develop gender-specific agricultural projects and implementation plans that meet the specific needs of women and men in the development process. The findings could also be useful to farmers because the implications of these analyses can lead to changes in behavior. For instance, men can empathize with women, particularly because they combine triple roles, and may decide to take on other tasks previously left to women; or women can decide to have an interest in the control of the entire rice production process and benefit appropriately from the proceeds that accrue from it. The results could also serve as a starting point for future researchers interested in gender analysis of rice production to use as empirical literature and to base their questions for further research.

Gender analysis provides information to better understand women's and men's access to and control over resources, which can then be used to address disparities, challenge systemic inequalities (often faced by women), and create efficient and equitable solutions. The information gathered during these analyses' research usually makes the differences between men and women explicit (using sex-disaggregated data) so that policies, programs, and projects can build effective actions that promote equality. Because gender relations change in each context and over time, each development initiative should include a gender analysis (Balgah, Amungwa and Egwu, 2019). Gender analysis provides the data and information required to incorporate a gender

perspective into policies, programs, and projects. Gender analysis identifies differences between and among women and men in terms of their relative position in society and the distribution of resources, opportunities, constraints, and power in a given context as a starting point for gender mainstreaming. In this way, conducting a gender analysis enables the development of interventions that address gender inequalities while also meeting the needs of men and women.

Some authors have studied these disparities in productivity levels in Sub-Saharan Africa and documented that female farmers have lower yields than their male counterparts do. This is due to differences in the following areas: (i) access and use of agricultural inputs and land, (ii) market and credit market access, (iii) labour market discrimination in terms of off-farm wages, (iv) institutional and cultural constraints, and (v) physical and human capital (Peterman et al.; Palacios-Lopez & Lopez, in Olakoja 2017). Nigeria is Africa's second largest rice producer after Egypt, and the highest in West Africa, with an average yield of approximately 1.8 metric tonnes per hectare; a country with vast cultural diversity, where rice is one of the few food items that crosses all cultures and is the most preferred at occasions and gatherings. Rice is Nigeria's third-most consumed staple food (after maize and cassava) and has become a food security crop as its importance has grown. Rice is grown in all of Nigeria's agro-ecological zones (Akinagbe & Ayibiowu, 2020). FARO 44 (a semi-dwarf cultivar), Fadama rice (irrigated, flooded field, *Oryza sativa*), Ofada (heritage varieties grown in southwest Nigeria), and upland and lowland rice types are among the rice varieties cultivated in Nigeria.

Local rice varieties (short-grain heritage varieties) are a traditional staple food consumed in rice-producing communities (Global Africa Information Network, 2019). Scholars have documented the division of labour along gender lines in other parts of Nigeria. For example, Edeoghon, Iyilade, and Nwachukwu (2019) reported that gender participation in rice cultivation is clearly visible in the various stages of production, including land clearing, tilling, weeding, planting, harvesting, transplanting, drying, cleaning, threshing, winnowing, packaging, storage, and transportation. Because of factors such as the labourious nature of the work, tradition or custom, and other factors, a specific gender group commonly dominates these operations. Akinagbe and Ayibiowu's (2020) findings also revealed that men were more involved in the following rice production activities: clearing of land, destumping of farmland, tilling of land, and fertilizer application.

Women were more involved in rice production activities such as planting, weeding, thinning, scaring birds, harvesting, and heaping/packing harvested rice. Children assisted both men and women in the following activities: clearing land, scaring birds, and harvesting and packing harvested rice. This implies that, men performed major role in physical activities like land clearing and tilling, while women major roles were in planting, harvesting, transportation of harvested rice from farms to their homes and marketing which could be termed low energy required activities. In a similar vein, Ayanwale

and Amusan (2014) reported that males dominated rice production in their study area, accounting for 62 percent of respondents, indicating that men are more involved in rice production. Gender may be a factor in enterprise selection and production in the study area, according to this finding. They also revealed that physical energy requirements and socio-cultural values heavily influence gender-based division of labour in the respective activities.

Nwachukwu and Udegbumam (2017) explained that gender roles emerge and are transmitted through the interaction of larger social structures as well as routine family/household level interactions between members. As a result, for interventions to be effective, all stakeholders must design projects with the future in mind. Similarly, Obasi and Kanu (2014) discovered productivity differences between men and women farmers. They explained that such distinctions are most likely due to the fact that men and women in African rural households engage in separate activities both on and off the farm. They also have varying endowments (such as land rights and education), varying levels of human strength, varying access to and adoption of technologies, varying production factors (such as capital, labour, and management), and so on, all of which contribute to production efficiency. This finding is also consistent with the study by Shabu (2013) in Kaambe district of Guma local government area of Benue State on resource use of rice farmers revealed that farm labour also had significant effect on the productivity achieved by farmers amongst other factors in the study area.

According to Saror, Pinga, and Gomez's (2021) study on the various sources of labour used for rice production in Guma Local Government Area of Benue State, family labour was the most commonly adopted source of labour, followed by hired labour and mechanized labour. The study assessed the effects of labour scarcity on rice production and yield in the area and found that labour scarcity was a significant challenge faced by rice farmers. The scarcity of labour was caused by factors such as farmers/herdsmen clashes, migration due to improved education, preference for other rural jobs, and the drudgery of farm activities. The study highlights the importance of labour availability and efficiency in rice production and underscores the need to address the challenges of labour scarcity in efforts to improve rice farming in the study area.

Based on the fact that labour is scarce in the study area, Pinga *et al.* (2022), assessed the effects of labour scarcity on rice production and yield in Guma local government area of Benue State and found that, labour scarcity adversely affects production and yield hence farmers adopted coping strategies such as the intense use of family labour, increased use of chemicals, preference for other crops, importation of labour from other regions, marrying more wives, and leasing out fadama land. From the findings, it is crystal clear that some of the coping strategies for labour scarcity still fall back on the women. Where people intensify the use of family labour and marry more wives only shows that the labour of women is owned and used according to the dictates of the men.

Previous policy efforts to revitalize the agricultural sector in many SSA countries, according to the African Development Bank (2013), have had little or no success, in part due to a failure to recognize the role of women and the negative effects of gender inequalities on agriculture. Some researches have argued that female farmers have lower yields than male farmers, owing to unequal access to and use of agricultural inputs and land, as well as physical and human capital resources (Mukasa & Salami; Peterman et al Palacios-Lopez and Lopez in Olakoja, 2017).

In line with this argument, Akinnagbe and Ayibiowu (2020) reported a significant difference in the quantity of rice produced by men and women in Ogun over a five-year period. They also claimed that their findings were supported by Van Tran et al., (2019), who found a significant difference in the quantity of rice produced by male-headed and female-headed households in Vietnam. Other researchers, on the other hand, have claimed that women are more productive in certain areas. For example, Ojo *et al.* (2020) found that male farmers in southwestern Nigeria are less efficient than their female counterparts, implying that women are more technically efficient than men on an average. This line of argument has been supported by Kulyakwave, Shiwei and Yu (2019) where they found that female-headed households in Tanzania can produce rice yields of up to 3720 Kg per ha, whereas male-headed households produce less yield.

Overall, gender productivity gaps vary by crop and location; both men and women face similar input constraints, resulting in low farm productivity; however, gender productivity gaps are more pronounced in certain crops than others, due to differences in farm output responsiveness to inputs used and other variables such as location and culture. The productivity disparities are particularly traceable to male farming experience and labour market imperfections that favor men or women as the case may be.

It has been established that human labour is scarce in most rural areas of Nigeria (Pinga, Gomez, Lamin & Onyemma, 2022; Oluyole *et al.*, 2013). In addition, that human labour is the primary source of labour available to smallholder farmers in Nigeria (Nwajiuba, 2012) and smallholder farmers contribute more than 85 percent of domestic agricultural output in the country) (FMARD, 2016; Oluyola & Lawal, 2010). Thus, human labour accounts for domestic food supply in Nigeria, as does the need for proper labour utilization for maximum productivity. If due to socio-cultural orientations, the little available human labour is not well utilized due to gender roles and division of labour along sex lines, agricultural productivity which is already low, will be further reduced. However, many of the past studies in the literature assessing the gender disparities in agricultural productivity are fraught with conceptual and methodological flaws in assessing gender differences in agricultural productivity. Empirical evidences are limited not only by study area but also by crop specificity; thus, a gender analysis of rice production in Guma local government area of Benue State.

Theoretical framework

Caroline Moser created the Moser Gender Planning Framework as a tool for gender analysis in development planning to assist women in achieving equality, equity, and empowerment. The framework which is based on Moser's concepts of gender roles and gender needs, as well as her views on how policies should approach gender and development planning, and it is based on three basic concepts: the triple role of women, practical and strategic gender needs, and WID/GAD policy approach categories. The triple role includes reproductive, productive, and community-management responsibilities (Moser, 1993). The triple roles framework (TRF) has been widely used in gender analysis because it helps extension workers in particular and development practitioners in general capture division of labour within households and communities, particularly in developing countries. Moser proposed categorizing (women's) tasks into three categories: reproduction (household and child care), production (farm work or other economic activities), and socio-cultural (community-based) functions (Moser, 1993). Her initial goal was to demonstrate how most women in developing countries frequently take on multiple roles at the same time, as opposed to men, who are often less engaged in household activities but more engaged in production and community - oriented tasks.

Moser defines reproductive roles as "child bearing, caring, and domestic tasks that support household wellbeing." Cooking, fetching water, washing, and caring for children, the sick, and the elderly are typical examples. Because these tasks are rarely paid, they are frequently not considered 'real work,' and thus do not frequently figure in the household economic equation. Productive roles are activities that result in consumable or marketable goods and services. In practice, this would entail farming, petty trade, and other activities. Although both men and women are frequently involved in such activities in many developing countries, Moser believes that women's workload is likely to be greater because they perform such activities alongside reproductive functions. Furthermore, their contributions are likely to be less valued and visible than those of men, whose access to and control over productive resources are validated by patriarchal systems common in many developing countries (Moser, 1993). Moser's final category was the community (or socio-cultural) role. According to her, this includes all forms of work aimed at the general well-being of communities, such as social events, group participation (political, socio-cultural, religious), and community resource management. These activities, as well as their frequency, are either voluntary or mandated by community-based rules and regulations. Nonetheless, Moser proposed that power relations are likely to be unbalanced, as men are more likely to dominate women (for example, by assuming positions of power in such institutions and activities), while women's contributions are often overlooked (Balgah, Amungwa & Egwu 2019).

The relevance of the triple role's framework is heavily dependent on its ability to unravel any existing unequal labour distribution between men and

women for rural sociologists and extension experts. Based on hands-on, context-specific knowledge of who does what, this is likely to generate knowledge that the extension agent can use to make informed decisions, such as what needs to be changed (or not) so that innovative technologies can be adopted at the household level; and who should be involved in a specific village-based trainings or not.

Overall, the information generated has the potential to stimulate behavioural changes, facilitate the timing and effective targeting of extension programs, and involve both men and women in the development of gender-sensitive extension packages, as well as the planning, implementation, monitoring, and evaluation of development projects. Moser's framework has been widely criticized for failing to account for differences such as age, class, and ethnicity, and thus treating women as a homogeneous entity. Furthermore, this framework ignores men's gendered needs or the ways in which they may intersect with women's. Nonetheless, it is regarded as successful in elucidating the gendered interrelationships required to address social and political inequalities; providing a dynamic picture of the underlying causes of poverty and inequality; and placing gender issues at the centre of development.

Materials and methods

Guma Local Government Area is one of Benue State's twenty-three (23) local government areas. Gbajimba is its headquarters. It is about 37 kilometers from Makurdi, the Benue State capital, and takes about an hour to get there. The landmass area is 2,882 km², with a population of 191,599 according to the 2006 census. The former military regime of the late Col. Fidelis A. Makka established the local government area out of the former Makurdi in 1987. It was named after the 'River Guma' in Benue State. It shares boundary Logo local government area to the east, to the south by Makurdi local government area, and to the west by Doma local government area of Nassarawa state. Though the Tiv people dominate the Guma local government, other tribes that live in Guma include Jukuns, Hausas, and Kabuwas. The Guma Local Government Area has ten council wards: Kaambe, Abinsi, Uvir, Saghev, Ndzorov, Nyiev, Mbabai, Mbayer or Ymanadev, Mbawa, and Mbasombo.

Guma Local Government Area, like every other rural Nigerian community, is primarily a farming community. The majority of Tiv-speaking people, in particular, engage in crop cultivation. The majority of Guma's non-Tiv speaking indigenes, such as the Jukuns and Hausas, are fishermen and traders. For the 2018 farming season, there were 266 rice farmer groups registered with local and state government agencies in charge of cooperative registrations and validated into the International Fund for Agricultural Development (IFAD) Value Chain Development Program (VCDP) in Guma Local Government Area. Each of these farmer groups has ten (10) to twenty-five (25) members. This totals five thousand, one hundred and twenty-five (5125) smallholder rice farmers, with 3218 males and 1907 females in the study area. The area has the most rice farmer groups in the entire state of Benue. This represents our total

population for this study. Using Taro-Yamane's sample size determination formula as stated in Emaikwu (2015) thus:

$$n = \frac{N}{1 + N(E)^2} \quad n = \frac{5125}{1 + 5125 \times (0.05)^2} \quad n = \frac{5125}{1 + 5125 \times 0.0025} \quad n = \frac{55125}{1 + 12.8125} \quad n = 371$$

Smallholder rice farmers were chosen as respondents for this study using a two-stage sampling technique. The first step involved the selection of five of the ten political council wards that comprise the entire Guma local government area. The second stage involved randomly selecting 74 smallholder farmers from at least 10 farmer groups in each of the selected council wards, as well as 75 from the last council ward visited, to make up the previously determined sample size of 371. Data were collected using two methods: well-structured pre-tested questionnaire Schedule and key Informant Interview (KII) Guide with selected farmer group leaders in the study areas. The researcher and her assistant administered both the questionnaires and the interviews on the field. and the analyses have been presented below in tables with simple frequencies and percentages.

Results and discussion

Table 1 shows the variables used to describe the respondents, as well as the frequency and percentages as they relate to the total number of sampled respondents.

Table 1: Socio-demographic characteristics of respondents

Variable	Frequency	Percentage (%)
Sex		
Male	223	60
Female	148	40
Age (Years)		
15-25	64	17
26-35	66	18
36-45	146	39
45 and above	95	26
Education		
None	120	32
Primary	130	35
Secondary	67	18
Tertiary	54	15
Marital Status		
Single	63	17
Married	248	67
Widowed	7	2
Separated	53	14
Family Size		
5 and below	13	4
6-10	137	37
11-15	113	31
16-20	94	24
20 and above	14	4
Source of Land		
Inherited	77	21
Rented	92	25
Bought	65	17
Given by Family and Friends	137	37
Size of Rice Farm		
Less than one Hectare	139	38
One to Two Hectares	120	32
Two to Four Hectares	69	18
Four to Five Hectares	43	12

As shown in Table 1, there are more males than females in rice production. This agrees with the findings of other authors (Ayanwale & Amusan, 2014; Obasi & Kalu 2014) who reported in their works that men participate in rice cultivation more than women do because of access to land which is mostly owned by men and the fact that rice is perceived as a highly profitable cash crop. The respondents' ages were divided into four categories; the figures simply show that there are fewer youths in the rice farming business, and the rapidly aging population does the majority of the work. Other authors in Nigeria and around the world have also raised the alarm about this issue. Oluyole and Lawal's (2010) findings in Nigeria, for example, revealed this sad reality. According to the respondents' educational backgrounds, more men in rural areas had some education than women. This finding is consistent with Olakoja (2017) and Obasi and Kalu (2014), and it explains why productivity

levels differ between men and women. The explanation lies in disparities in access to resources and training opportunities caused by cultural biases and education.

Marriage is clearly valued in the Tiv socio-cultural setting; it is used to measure of a woman's worth, according to the data on marital statuses, there are more married women than there are divorced separated and widowed put together. This has compelled some women to remain in toxic relationships in which their partners subject them to inhumane treatment simply to avoid looking bad in the eyes of the community. The implication for some women is that the resources accruing to them are controlled by their spouses, which can lead to differences in productivity as men use all of the resources to purchase inputs for their farms, to the detriment of the women.

The size of one's family is very important, especially in rural areas where having more members means having more hands to work on the farm. The figures show that the rural settings in Benue State's Guma local government area have large family sizes; this, of course, is due to the polygamous nature of some men, as well as the fact that the Tiv man has practiced the extended family system since time immemorial. These family structures have emphasized patriarchal elements, making simple behavioural changes due to developmental interventions difficult. This confirms the findings of Balgah, Amungwa and Egwu (2019) that rural family structures limit women's access to resources.

The figures for sources of land for rice cultivation in Guma local government area revealed that men inherited their rice land from their families because women do not have inheritance rights in Tiv land to date, despite having rights to cultivate the family land. The findings also revealed that in rural Tiv settings, people still share cultivation land with loved ones, sometimes for a token but sometimes for no token at all; this is known as the "ya na angbian" spirit, which translates as "eat and give to your kinsman." This again agrees with Balgah, Amungwa and Egwu (2019) on women's limited access to resources, including land for agricultural use, which affects productivity, tilting towards men, in agreement with Akinnagbe and Ayibiowu's (2020) findings that men have higher productivity levels in rice than women. The sizes of rice farms revealed that men cultivated the larger farms, while women cultivated the smaller portions of rice farms. It was also found that the majority of rice farmers had small plots of one to two hectares. This is consistent with the findings of many other authors, including Oluyola and Lawal (2010), Anyiro, Emerole, Osondu, Udah and Ugorji (2013), and FMARD (2016), who have all asserted that smallholder farmers control the majority of agriculture in Nigeria.

Gender division of labour in rice production processes

The figures in Table 2 show that division of labour exists in rice production, as seen by who does what tasks in the various activities. From the figures, men do the majority of some activities, while women take the lead in others. Children

are not left out either, as they take the lead in some activities and play complementary roles to both women and men in the various activities.

Table 2: Shows gender division of labour by farm activities for rice production

Activity	Men (%)	Women (%)	Children (%)
Site selection	335(90)	24(7)	12(3)
Land clearing	359(97)	12(3)	Nil
Land preparation	333(90)	38(10)	Nil
Planting	24(7)	108(29)	239(64)
Fertilizer Application	19(5)	251(68)	101(27)
Weeding	115 (31)	230(62)	26(7)
Harvesting	157(42)	214(58)	Nil
Threshing	120(32)	229(62)	22(6)
Winnowing	Nil	340(92)	31(8)
Bagging	300(81)	52(14)	19(5)
Transportation	30(8)	298(80)	43(12)
Sales	200(54)	171(46)	Nil

A closer examination of the table reveals that men dominate in activities such as site selection (90%), land clearing (97%), land preparation (90 %), and rice bagging (81%). This is clear evidence that men are actively involved in rice production; in fact, rice is regarded as a high-yielding cash crop, frequently referred to as "men's crops." Men are typically the decision-makers in the household who decide where to locate farms, which explains the high percentage of men involved in that activity. Even in traditional settings, land clearing is associated with men because it differs from weeding, which was traditionally a woman's job. However, with the advent of chemicals, men now share in the task of weeding because it requires some form of skill and the use of chemicals with sprayers, which women are not very comfortable with. However manual weeding is still exclusively for women.

Due to the energy-consuming nature of land preparation, men have traditionally played the role, though some women do participate, albeit not as much as men. This also explains the high proportion (90%) of men in that category. Men are also more likely to bag rice because it takes strength to lift and shake the dried grains into bags for sale. This finding is consistent with both the findings of Edeoghon, Iyilade and Nwachukwu (2019), as well as Akinagbe and Ayibiowu (2020), who also found men dominating similar activities in rice production in their study areas. Women, on the other hand, dominated in fertilizer application (68%), weeding (62%), harvesting alongside men (54%), threshing (62 %), and exclusively doing the winnowing (92%), as well as transportation of grains from farm to house (80%). Women and children are equally responsible for fertilizer application, whether by scattering or dip placement. Women have the patience and time to work on a task for an extended period without becoming tired. This distinguishing feature qualifies them for such tasks. Weeding, particularly the traditional hoe and cutlass-weeding method, has also been and continues to be solely the

responsibility of women. Both men and women harvest and thresh rice; however, according to the responses collected in this study, more women than men participate in these two activities.

However, as shown Table 2, winnowing and transportation of grains from the farm to the house is almost entirely reserved for women, with assistance from children. This findings about women dominating these activities agree with the findings of Obasi and Kanu (2014) as well as Olakoja (2017) in their various study areas. Children do the majority of rice planting (64%), especially if the planting method used is traditional broadcasting, which has been discouraged by modern technology but farmers continue to cling to it. This method requires no special skills; children simply take the rice seeds and scatter them sparingly across the already prepared land.

Because it involves money, most people prefer to do it themselves, which explains why we have 54 percent for men and 46 percent for women in sales, and children are not included. This assertion about gender division of labour in rice production activities is consistent with the findings of Obasi and Kanu (2014), who claimed that in Imo State, strict adherence to gender division of labour has a negative impact on farm labour supply. It also agrees with the findings of many other authors, including Akinnagbe and Ayibiowu (2020), Edeoghon, Iyilade and Nwachukwu (2019), Balgah, Amungwa and Egwu (2019) and Olakoja (2017), who all obtained similar results in their respective research areas. This implies that gender division of labour is a phenomenon that requires the attention of rural development experts rather than being unique to Guma local government or rice production.

Gender differences in access to resources and rice productivity

Key informant interviews were used to test differences in access to resources and rice productivity in the Guma local government area. Leaders of farmer groups that were randomly sampled for the questionnaires were selected and interviewed. The aggregates of their responses are discussed below under the following subheadings:

Access to Land: As previously discussed in the socio-demographic section, men have greater access to suitable land for rice cultivation than women. Men have inheritance rights, whereas women do not, though they can always cultivate land but do not own it. As a result, the man, as the head of his household, is usually the primary custodian of the family farming land and distributes it accordingly, allowing him to select the most suitable land for himself before distributing the rest to women. Even when the land is leased, men have a greater ability to pay for the lease or rent than women, and thus have better access to land for rice production than women. This aligned with the findings of Sangotegbe, Taofeeq and Oluwasusi (2013) in southwest Nigeria, where men more easily access land more than women.

Access to rice production inputs: According to the responses gathered, farmers believe that rice production inputs are very expensive, and access to original inputs is difficult because adulterated fertilizers and chemicals flood the local markets. Again, men have greater access to inputs than women, though economic hardship has affected both men and women, with the effects being more devastating for women due to limited access to resources. Again, men are more likely than women to have the technical knowledge to distinguish between genuine and counterfeit inputs, and they are more likely to travel farther in search of good inputs, which affects their productivity differently. This finding is consistent with the findings of Peterman et al., Palacios-Lopez and Lopez, cited in Olakoja (2017), that men and women have unequal access to agricultural inputs.

Access to information and training: According to the interviews, men have greater and more convenient access to information and training than women. Men congregate in Guma local government area, as in most Tiv-speaking rural areas, for drinking and other leisure activities. In such places, men easily share information about trainings, access to inputs, and improved varieties. Most rural women are burdened by the triple roles of reproduction, production, and community development, with little or no time for leisure. Even when information is shared via social media and radio jingles, men are more likely than women to access it. These findings agreed with Obasi and Kanu (2014), who discovered gender differences in accessing and adopting improved technologies because of institutional barriers.

Access to labour: Men as heads of households are usually in charge of family labour; and they distribute it to favour them. Women on the other hand are considered as part of the family labour, which the man owns. From the responses, it was also gathered that men have more access to hired labour than women because it requires resources and information too. Sometimes the farmers also accommodate the labourers during the peak period. Most of the women interviewed revealed that they have to work on their husbands' farms at peak periods even when their personal farms also needed their attention. So, the family first provides the needed labour on the farm of the men, before anything else. Men are usually in charge of family labour, and they distribute it to benefit themselves. Women, on the other hand, are regarded as part of the family labour owned by the man. This is consistent Olakoja (2017) that men and women have differential access to both human and capital labour.

Productivity gaps in rice production between women and men: It was also discovered that men outperformed women in rice production yield. Although it was not measured, based on interactions, women had less access to resources, labour, information, and training, so it makes sense that men would have higher yield than women. Both men and women attested to this, though men claimed that women cultivated a smaller portion of rice farms due to labour

shortages. Women, on the other hand, countered this argument by explaining the various ways in which differences in access result in yield gaps. This finding supports Olakoja (2017) and Akinnagbe and Ayibiowu (2020) findings that men have higher yields than women due to the factors discussed above. However, these findings contradict those of Kulyakwave, Shiwei and Yu (2019) and Ojo *et al.* (2020), who discovered that women outperformed men in situations where both had access to training and used improved technologies to boost productivity.

Again, these findings are not peculiar to Guma local government area alone. Other authors Anyiro, Emerole, Osondu, Udah and Ugorji (2013); Sangotegbe, Taofeeq and Oluwasusi (2013); Lusiba, Kibwika and Kyazze (2017) as well as Nwachukwu, and Udegbumam (2017) in the analyses in their various study areas also found that gender division of labour in agriculture has always had effects on the supply of labour. As illustrated above, this implies that there are male and female specific tasks in rice production. Women have reproductive and community service tasks in addition to agricultural tasks, and when these roles conflict, it affects the quality and quantity of labour that goes into production tasks, which, when combined with other factors, can affect overall productivity in agriculture.

Conclusion

Based on the study's findings, it is safe to conclude that gender division of labour exists in rice production activities in Benue state's Guma local government area. Men dominate decision-making and the most energy-consuming field tasks such as site selection, land clearing, land preparation, and paddy bagging. Women, on the other hand, are in charge of weeding, fertilizer application, harvesting, winnowing, and paddy transportation. Both men and women harvest and thresh, but women do so more. Children also assist adults along gender lines and dominate planting, especially when it is broadcasting. According to the findings of this study, gender division of labour adversely affects the proper utilization of agricultural labour for rice production in the study area.

Recommendations

Based on the findings of this study, the following recommendations are suggested:

- i. In order to increase rice productivity, policymakers should design interventions for activities such as clearing, tilling, and bagging specifically for men, while activities such as planting, harvesting, and winnowing, as well as transportation interventions, should be specifically designed for women.
- ii. Agricultural extension agents must consider women's triple role responsibilities and plan activities only after taking specific measures to

- include them, preventing men from taking over the entire process as they have in the past.
- iii. Women farmers should form groups and pool their resources to assist one another. They can use their strength in numbers to gather resources, labour, and share information for the benefit of their members.
 - iv. In order to secure the future, sponsors of rural development projects must demand equal representation of men and women as a key requirement for a successful intervention and target boys and girls for gender trainings.
 - v. Rural development experts must create awareness on the negative effects of agricultural division of labour on productivity, where women are assigned tasks simply because they are women, even if they are engaged in other tasks at the critical moments in the farming circle.

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