

Gender Involvement of Tuber Crops Farmers in Ogba/Egbema/Ndoni Local Government Area (Onelga) of Rivers State

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Abstract

The study investigated gender involvement of tuber crops farmers in Ogba/Egbema/Ndoni Local Government Area (ONELGA) of Rivers State. It seeks to identify types of tuber crops that are presently grown in the area; examine the gender differentials in the production of tuber crops and ascertain the reasons for gender differentials in tuber crops production in the area. Two hypotheses were devised to further direct the study. Descriptive survey design was employed and a total sample of 120 farmers made up of equal number of male and female from 12 communities were randomly selected for the study. The major analytical tools engaged were bar graph and weighted mean score derived from Likert rating scale, while Z-test was the inferential tool used to test the hypotheses at 0.05% significant level. The study identified in ranking order that cassava ($M=3.65$)^{R5}, sweet potato ($M=2.75$)^{R4}, yam ($M=2.50$)^{R3} and cocoyam ($M=2.35$)^{R2} are the dominant tuber crops grown in subsistence scales in ONELGA. It showed a mean difference of -1.99, -1.05, -1.03 for cassava, sweet potato and cocoyam respectively, in favour of women, while it showed a mean difference of 1.77 for yam production in favour of men. Finally, it shows in decreasing order of strength that the reasons for gender differentials in tuber crops productions in the area include that: the said – rich syndrome in the society has made most able bodied male farmers to abandon agriculture ($GM = 4.58$); yam production is strenuous, so female farmers prefer to grow cassava and cocoyam that are less strenuous ($GM = 4.53$); theft of tuber crops' products especially, yams from the farm by thieves discourages both men and women from tuber crop production ($GM = 4.48$); tuber crop farming is viewed as farming for lazy and poor people ($GM = 4.15$); and the capital intensive nature of yam production influences female involvement ($GM = 3.76$) among other variables. Test of significance indicates no significant difference in the views of both men and women as regards tuber crops production in the area. So, the study recommended that: A massive call to return to agriculture should be enforced to encourage tuber crops production in ONELGA; incentives should be given publicly to performing tuber crop farmers of the year in the area; and community policing should be engaged to discourage theft of tuber crops products from the farmers' farms.

Keywords: Gender, Involvement, Tuber Crops, Farmers, Production

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Background to the Study

Tubers are various types of modified plants structures that are engorged to amass nutrients (Asumugha, Njoku, Okoye, Aniedu, Ogbonnaya and Nwosu, 2009). They are used by plants to endure the winter or dry months to supply energy and nutrients for re-growth during the next growing season, and as a means of asexual reproduction. The main root/tuber crops commonly grown in Nigeria are cassava (*Manihot esculenta*), the yam (*Dioscorea spp.*), the potato (*Solanum spp.*), the sweet potato (*Ipomoea batatas*) and the edible aroids (*Colocasia spp.* and *Xanthosoma sagittifolium*).

According to Asumugha et al (2009) tuber crops are second in value to cereals which are global sources of carbohydrates. Odinwa et al (2011) stated that sweet potato, cassava and yam hold high fiber content, complex carbohydrates, protein, vitamins and minerals. They also offer some minerals and essential vitamins especially during processing. In some part of Nigeria, their diet is supplemented with the tender leaves of sweet potato, cassava and cocoyam which are rich sources of protein, minerals and vitamins (Asumugha et al, 2009).

Agriculture is the stronghold of most African economies and occupies a vital position in the development of the continent. Despite the importance of agriculture, improvements in this sector have been patchy and on the whole disappointing, with a current development growth rate of 1.7% (Nweke 2016). This slow rate of development has been compounded in the recent past by persistent crop failures, a high human population, economic slump, and swelling external debts. These factors coupled with agricultural mismanagement, escalating cost of production and difficulties with the structural adjustment programmes of the World Bank and the International Monetary Fund (IMF) have led to food scarcity and insecurity (Nweke et al, 1999). All these imply an urgent need to address the issues retarding agricultural production (mostly tuber crops) in Africa and more especially, in Ogba/Egbema/Ndoni local government area (ONELGA) of Rivers State. This requires an understanding of how the farming systems work in practice. To understand the farming system, it is important to recognize the various roles of men and women, including youth, and children in tuber crop production.

In most African countries, women participate in all agricultural subsections besides raising of children. The World Bank (2003) report indicates that women provide 60-80 percent of agricultural labour and they participate in all aspects of agriculture. However, the participation of women in agriculture in developing countries is hardly documented and acknowledged. Commenting on women and rural development in Nigeria, Ezumah (2000) is of the view that women in rural areas are involved in several productive activities, yet their roles are never reflected in the mainstream of public development agenda, which is quite unfair.

Gender has proven to be an essential variable for analyzing the roles, responsibilities, constraints, opportunities, incentives and costs and benefits in Agriculture. Innumerable development projects, government programmes, research studies and theoretical models have demonstrated that improvement of women's access to agricultural research and extension

services must begin with an analysis of men's and women's participation in the agricultural production process along two related dimensions: their role in agriculture and their role in the household (Chukuigwe,2013).

Women are not only key agents for delivery of poverty reduction programmes but, also found themselves in the forefront of major global issues - food production, population growth and climate change. In many African countries, including Nigeria there is still a lack of appreciation of women's rights and gender parity. Consequently, women and girls face discrimination in areas ranging from ownership of assets to accessing social and economic services. This discrimination, coupled with the influence of traditional practices is a significant barrier in the search for women's empowerment (Amugo and Odinwa, 2022). The empowerment of women' is an unconditional necessity for countries that are prepared to face the challenges of globalization as reflected in the global amalgamation of trade, finance, investment and use of new technology.

It is now extensively established that rural women as well as men, throughout the world are engaged in a range of productive activities essential to household welfare, agricultural productivity and economic growth. Yet women's substantial contribution continues to be methodically marginalized and undervalued in conventional agricultural and economic analysis and policies while men's contribution remains the central, often the sole focus of attention. Women are typically and wrongly still characterized as “economically inactive” in statistical surveys of agriculture, a result that tells us more about survey methodology than about reality (Amugo and Odinwa, 2022). Agricultural extension services still do not attach much importance to reaching women farmers or women in the farm. Policy makers and administrators characteristically still assume (in the face of the empirical data) that men are the farmers and women play only “supportive role” as farmers' wives (Chukuigwe, 2013).

The official definition of a farmer in Nigeria in 1965, for example, was given as “an adult male who has the right to produce in a farm. Women are not classified as farmers among many studies of rural women in Nigeria (WORDOC, 1988). According to Akor (1990) 92% of the surveyed northern rural women gave farming as their primary or secondary occupation. Out of these, 74 percent do not own or work their own separate plots. While the official definition of a farmer in Nigeria has been corrected to be gender neutral as in most other countries, gender bias is prevalent in official agricultural circles and among field professionals.

Three quarters of all poor people in developing countries live in rural areas. Their livelihoods usually depend either directly or indirectly on agriculture, with women as the main producers of food on farms. In Sub-Saharan Africa for instance, they produce up to 80% of all staple foods, both those for use in the home and for sale in the market (World Bank, 2013a). In the gendered division of labour women perform a variety of tasks, including general agricultural work and raising fowls and goats, as well as maintaining the household and family. Their responsibilities range from seed management to planting to processing and marketing of agricultural products.

In many developing countries like Nigeria, women have little or no access to or control over land, financial Services, productive resources and extension or marketing services. This is usually due to cultural, traditional and legal factors (including customary law). Moreover, women are often underrepresented in rural organizations and institutions, have low levels of education and are poorly informed. This prevents them from having an equal say in decision-making processes to influence policy and strategy at municipal level (World Bank, 2013b).

Over the years, there has been a noticeable increase in the level of awareness in the modern crop farming activities in Ogba/Egbema Ndoni Local Government Area of Rivers State through Green River Project (GRP) of the Nigerian Agip Oil Company Limited and Sustainable Community Development Programme (Seed Multiplication Centre) of Total E&P Limited (Odinwa, Emah and Odinwa, 2016). Yet, there is disparity in the number of farmers who are involved in growing of tuber crops in the area.

From time immemorial, growing of tuber crops has been linked to a belief system that men grow yam while cassava, potato and cocoyam are crops meant for women. But with the awareness of science and technology as well as the availability of improved crops varieties of tuber crops, the trend is supposed to have changed and more and better food produced through mass participation of men and women in the area. Of particular importance to note, is that since the advent of oil boom, which relegated agriculture to the background of nothingness, majority of men and women in ONELGA have left farming and farming activities because of the crazy rush for quick money. This has consequently left agriculture and particularly growing of tuber crops which constitute the major staple food in the area in the hands of significant few that has lead to the momentous scarcity of tuber crops products and the attendant high cost of available ones in the area. The questions bothering the researchers are these: What types of tuber crops are currently grown in the area? What are the gender differentials in the production of tuber crops in the area? What are the reasons for gender differentials in tuber crops production in the area? Gender equality is a human right issue and thus has a value in itself. Therefore, this study was undertaken to provide answers to the foregoing salient questions which invariably formed the specific objectives of this study.

Two hypotheses were devised to direct the study, such as:

1. Ho: There is no significant difference in the gender differentials of tuber crops farmers in ONELGA.
2. Ho: The reasons for gender differentials in tuber crops productions do not differ significantly between the male and female farmers in ONELGA.

Methodology

The study was conducted in Ogba/Egbema/Ndoni local government area which is one of the twenty-three and one of the largest Local Government Areas in Rivers State. The headquarters is at Omoku mainland. It is the second leading industrial and commercial town in the State (Odinwa and Nlerum, 2015). From the same source, ONELGA has three major ethnic groups namely, Ogba, Egbema and Ndoni. They speak divergent but familiar languages with unique and peculiar cultures. The presence of good climate, vast arable land and

vegetation, fertile soil, hospitality and peaceful disposition made the inhabitants to be predominantly farmers and fishermen. They farm mainly cassava, yam, cocoyam, vegetables, plantain, etc., which still represent the most important and often key components of traditional diets in the area. A few of the population are traders to balance her economy (Odinwa and Nlerum, 2015). The area is blessed with abundant natural resources together with human and deposits of oil and gas.

Descriptive survey design was used to reach the farmers and a total sample size of one hundred and twenty (120) farmers made up of equal number of male and female was randomly selected from twelve communities in the study area. Primary data used in this study were obtained from personal interview and structured questionnaire designed in a Likert rating scale. The major analytical tools employed in the study were bar graph and weighted mean score derived from Likert rating scale $(5+4+3+2+1)/5$, which was processed to obtain a decision mean of 3.0 and used for rational judgment, while Z-test was the inferential tool used to test the hypotheses at 0.05% significant level. Results were illustrated in Bar Graph and Tables for clarity sake.

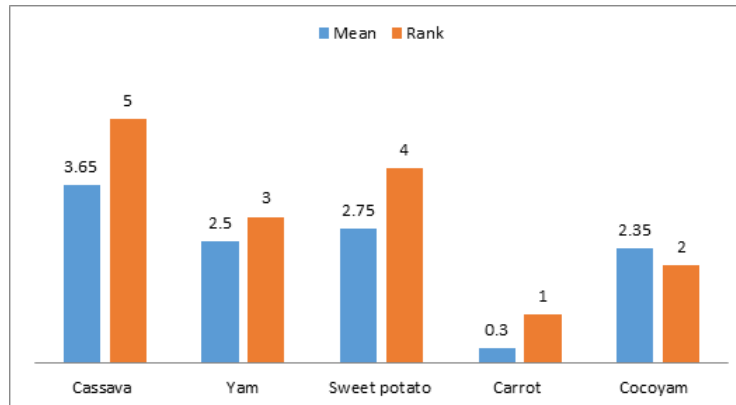
Result and Discussion

Types of Tuber Crops Grown in Ogba/Egbema/Ndoni LGA

The result as shown in Figure 1 identified cassava ($M=3.65$), which ranked 5 as the major and highest grown tuber crop in ONELGA, followed by sweet potato ($M=2.75$), yam ($M=2.50$) and cocoyam ($M=2.35$), which ranked 4, 3 and 2 respectively as other tuber crops that are grown in subsistence scales in the area. This finding shows that cassava is the major tuber crop grown in commercial quantity in the area, while yam, sweet potato and cocoyam productions are included farm activities by farmers just to make ends meet rather than growing them as a business to make money. This finding may be attributed to the oil and gas businesses in the area for over 50 years that have diverted the minds of able bodied men and women from core agricultural activities in a bid to share in the quicker way of making money in the area. This is supported by Onuha (2007) who affirmed that the increasing dependence in oil and gas is posing difficulty in developing agriculture in Nigeria.

The result also showed that carrot is not yet grown in ONELGA. This may stem from the fact that carrot is a temperate crop and soil specific, hence cannot perform in tropical rainforest soils in ONELGA, or because the required extension attention has not been given to the production of carrot in the area, hence the absolute dependence on northern Nigeria for the supply of carrot in the area.

Figure 1: Bar Graph showing the Mean Distribution and Ranks for Types of Tuber Crops Grown in ONELGA



Source: Field survey, 2022

Gender Differentials in Tuber Crops Production in ONELGA

The result in Table 1 indicated that cassava (GM = 3.80) dominated other tuber crops produced in the area. It showed a mean difference of -1.99, -1.05, -1.03 for cassava, sweet potato and cocoyam respectively, implying that women are domineering in cassava, sweet potato and cocoyam productions than their men counterpart in ONELGA. While it showed a mean difference of 1.77 and 0.26 for yam and carrot cultivation in favour of men, meaning that men are little more involved in yam and carrot farming than the women in ONELGA. Although, there was neither gender nor cultural barrier that is restricting both men or women from cultivating any of the tuber crops of their choice in the area, meaning, that cultivation of tuber crops is gender neutral in ONELGA. This finding gained the support of Akor (1990) who acknowledged that the certified definition of a farmer in Nigeria has been corrected to be gender neutral as in most other countries, and that what determines the choice of any farming enterprises is the socio economic interest of the farmer.

Table 1: Gender Differentials in Tuber Crops Production in ONELGA

TUBER CROPS	MEN N = 60		FEMALE N = 60		GRAND N = 120		MEAN DIFF. M - F
	SCORE	MEAN	SCORE	MEAN	SCORE	MEAN	
CASSAVA	169	2.82	287	4.81	456	3.80	-1.99
YAM	176	2.93	106	1.76	282	2.35	1.17
SWEET POTATO	143	2.39	206	3.44	349	2.91	-1.05
CARROT	23	0.39	08	0.13	31	0.26	0.26
COCOYAM	127	2.11	188	3.14	315	2.63	-1.03
CUMULATIVE MEAN		2.60		2.65		2.39	-0.05

Decision Mean = 3.00

Source: Field Survey, 2014

Z-test result (Table 2) showed a (Z-cal = -1.15) and a (Z-tabulated = 1.86) at P > 0.05%; this lead to the acceptance of the null hypothesis which states that 'There is no significant

difference in the gender differentials of tuber crops farmers in ONELGA'. This means that the attitude of both men and women as regards tuber crops production in the area are the same that women dominate in cassava, sweet potato and cocoyam production while men dominate in yam production.

Table 2: Z-test Result on Gender Differentials in Tuber Crops Production in ONELGA

Source	N	Mean	df	Variance/Sd	z-cal	z- tab	Remark
Male	60	2.13	118	1.05/1.03			
Female	60	2.66		3.17/1.78			
Total	120				-1.15	1.86	NS

S - Significant at $P > 0.05\%$

Source: Field Survey, 2018

Reason for Gender Differentials in Tuber Crops Production in ONELGA

The result (Table 3) shows in decreasing order of strength that the reasons for gender differentials in tuber crops productions in the area include that: The said – rich syndrome in the society has made most able bodied male farmers in the area to abandon agriculture (GM = 4.58); Yam production is seen as strenuous, so female farmers in the area prefer to grow cassava and cocoyam that are less strenuous (GM = 4.53), Theft of tuber crops' produce especially, yams from the farm by thieves discourages both men and women from tuber crop production (GM = 4.48), Tuber crop farming is viewed as farming for lazy and poor people in the area (GM = 4.15); The capital intensive nature of yam production influences female involvement in the area (GM = 3.76); Profit from tuber crops enterprise does not encourage male farmers in their production (GM = 3.73), Yam is more soil specific and such soil (land) is not given to women in the area (GM = 3.48); and Oil exploration in the area has made most of the male tuber crop farmers to abandon farming activities to female farmers (GM = 3.38) among other reasons. These findings are critical and supports the observations of Manyong *et al* (2001), Nweke *et al* (1991), Timothy and Bassey (2009) that insufficiency and high cost of staking materials, which are time consuming and labour intensive reduce the profit margins of farmers engaged in yam production and finally declared that yam production is a non-profitable enterprise for men even though it has been considered mainly as man's crop.

However, the result recorded that: unavailability of agricultural land for the production of tuber crops like yam has made male farmers to go into other business in the area (GM = 2.85); no market for tuber crops in ONELGA (GM = 2.79); capital intensive nature of yam production does not influence male involvement in the area (GM = 2.55), Production process in tuber crops is tedious for men to do (GM = 2.18) and Custom of the people demands that yam production is for male farmers and other tuber crops for the females (GM = 2.06) were not reasons for gender differentials in tuber crops productions in ONELGA. This finding portrays that there are lands, appreciable demands for tuber crops products and absence of gender barrier for entry into tuber crops cultivation in the area. It then means that apart from few technical and environmental hitches, it is complete lose of interest in agriculture that is playing for not advancing in rigorous tuber crops production in ONELGA, but not gender conflict.

Table 3: Reason for Gender Differentials in Tuber Crops Production in ONELGA.

TUBER CROPS	MEN MEAN N = 60	FEMALE MEAN N = 60	GRAND MEAN N = 120	REMARK
CUSTOM OF THE PEOPLE DEMANDS THAT YAM PRODUCTION IS FOR MALE FARMERS AND OTHER TUBER CROPS FOR FEMALE.	1.90	2.21	2.06	REJECTED
UNAVAILABILITY OF AGRICULTURAL LAND FOR THE PRODUCTION OF TUBER CROPS LIKE YAM HAS MADE MALE FARMERS TO GO INTO OTHER BUSINESS IN THE AREA.	2.75	2.95	2.85	REJECTED
THE SAID – RICH SYNDROME IN THE SOCIETY HAS MADE MOST ABLE – BODIED MALE FARMERS IN THE AREA TO ABANDON AGRICULTURE	4.53	4.63	4.58	ACCEPTED
OIL EXPLORATION IN THE AREA HAS MADE MOST OF THE MALE TUBER CROP FARMERS TO ABANDON FARMING ACTIVITIES TO FEMALE FARMERS.	3.22	3.53	3.38	ACCEPTED
YAM PRODUCTION IS STRENUOUS, SO FEMALE FARMERS IN THE AREA PREFER TO GROW CASSAVA AND OTHER TUBER CROPS.	4.44	4.63	4.53	ACCEPTED
THE CAPITAL INTENSIVE NATURE OF YAM PRODUCTION INFLUENCES FEMALE INVOLVEMENT IN THE AREA .	3.50	4.01	3.76	ACCEPTED
THE CAPITAL INTENSIVE NATURE OF YAM PRODUCTION DOES NOT INFLUENCE MALE INVOLVEMENT IN THE AREA	2.37	2.73	2.55	REJECTED
TUBER CROP FARMING IS SEEN AS FARMING FOR LAZY AND POOR PEOPLE IN THE AREA.	4.30	4.00	4.15	ACCEPTED
LONG GESTATION PERIOD OF TUBER CROPS DISCOURAGE MEN FROM EMBARKING ON THEIR PRODUCTION.	3.40	3.44	3.42	ACCEPTED
THERE IS NO MARKET FOR TUBER CROPS IN ONELGA.	2.78	2.80	2.79	REJECTED
PROFIT FROM TUBER CROPS DOES NOT ENCOURAGE MALE FARMERS IN THEIR PRODUCTION.	3.23	4.37	3.73	ACCEPTED
THEFT OF TUBER CROPS ESP. YAM FROM THE FARM BY THIEVES DISCOURAGES BOTH GROUPS FROM FARMING .	4.63	4.33	4.48	ACCEPTED
YAM IS MORE SOIL SPECIFIC AND SUCH LAND IS NOT GIVEN TO WOMEN	3.13	3.82	3.48	ACCEPTED
PRODUCTION PROCESS IN TUBER CROPS IS TEDIOUS FOR MEN TO DO.	1.70	2.67	2.18	REJECTED

Decision Mean = 3.00

Source: Field survey, 2014

Test of significance (Table 4) showed a (z-cal = -1.82) and a (z-tab = 1.64), leading to the acceptance of the null hypothesis which affirms that 'The reasons for gender differentials in tuber crops production do not differ significantly between the male and female farmers in ONELGA'. This implies that no significant difference exists between the views of men and women on the reasons for gender differentials in tuber crops productions in the area, meaning that both groups are on the same page in this subject.

Table 4: Z-test Result on Gender Differentials in Tuber Crops Production in ONELGA

Source	N	Mean	df	Variance/Sd	z-cal	z- tab	Remark
Male	60	3.28	118	0.89/0.95			
Female	60	3.58		0.64/0.80			
Total	120				-1.82	1.64	NS

S - Significant at P > 0.05%

Source: Field Survey, 2018

Conclusion

The study showed in ranking order that cassava, sweet potato, yam and cocoyam are the dominant tuber crops grown in subsistence scales in ONELGA. It showed that women major more on cassava, sweet potato and cocoyam productions while men dominate in yam production. It also showed in decreasing order of potency that the reasons for gender differentials in tuber crops productions in the area were that: the said – rich syndrome in the society has made most able bodied male farmers in the area to abandon agriculture; yam production is strenuous, so female farmers in the area prefer to grow cassava and cocoyam that are less strenuous; theft of tuber crops' produce especially, yams from the farm by thieves discourages both men and women from tuber crop production; tuber crop farming is viewed as farming for lazy and poor people in the area; the capital intensive nature of yam production influences female involvement in the area; profit from tuber crops enterprise does not encourage male farmers in their production; yam is more soil specific and such soil (land) is not given to women in the area; and oil exploration in the area has made most of the male tuber crop farmers to abandon farming activities to female farmers among other reasons. Yet, there was no custom or law of the people that confined yam production to only male farmers and other tuber crops to the females, rather, it is complete lose of interest in agriculture that is playing for not advancing in tuber crops productions in Ogba/Egbema/Ndoni local government area of Rivers State.

Recommendations

Base on the findings of this study, the following recommendations were made:

1. A massive call to return to agriculture should be enforced to encourage tuber crops production in ONELGA.
2. Mono economic activity around oil and gas should be practically deemphasized by the three tiers of government.
3. Incentives should be given publicly to performing tuber crop farmers of the year in the area
4. Community policing should be engaged to discourage theft of tuber crops products especially yam from the farmers' farms.

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