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GENDER APPROACH ON FOOD SECURITY CHALLENGES IN NIGERIA; AN INDICATION OF WOMEN CONTRIBUTION TO RURAL FOOD SUPPLY

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Abstract

The study reveals women participation in agriculture for enhanced food security. The result thus revealed that majority of the women did not have their own farms and were undertaking their farming operations on farms belonging to their husbands or families. They were also utilizing household labour for farming operations. The majority of the women also attained non formal education. The result on the barriers affecting women food production in the study location revealed that they encountered very serious challenges with extension service delivery, agricultural credits, farm infrastructure and education. They also encountered serious problems with adopting innovations, early marriages, marginalization, their flexibility to accept change and irrigation. However, the respondents were of the view that land for food production, market for selling their farm produce did not constitute significant barriers to their operation. The correlation analysis suggests that farming income of women had significant impact on their crop productivity and household food provision.

Key words: Gender, Food Security, Subsistence, Rural

Introduction

The steady increasing population around the world has negatively impacted on household food security due to the less effective agricultural production capacity demonstrated in rural communities where most of the food especially in the developing countries is produced. More so, the subsistence nature of food production among many homes has put women at the centre of food crop production and animal rearing. In Africa, between 60-80% of agricultural labour is provided by women but the gender gap which exist in terms of resource control puts the future of food production and household food security in jeopardy (Palacios-Lopez et al. 2017). This is eminent in countries where the propensity to consume is not measured in commensurate terms with production growth. Food

crops yield has been estimated at 2.0% growth rate as against the population growth of 2.8% in Nigeria thus accounting for more food deficit homes (Mohammed & Abdulquadri, 2012). This implies that, for food and nutrition sufficiency to be achieved at the household level, they must depend on other food and nutrient sources to cushion the effect of shortages.

Household food insecurity is an increasing concern in Nigeria especially in the rural areas where bulk of the food production takes place (Olajide et al. 2013). Some scholars have argued that the household food challenge in the rural areas have been persistent due to the negligence of food crop production in the hands of women who barely have time to carry out these activities due to heavier time burden (Komatsu et al. 2018). Notwithstanding this norm, women still share equal farm activities with men which makes it more

frustrating (Theis et al. 2018). This underpins the assertion by Adewumi et al. (2015) that, 66% of global working hours have been allotted to women which are on the other hand poorly remunerated yet contributing immensely to their national economies and also directly involved with above 50% of food crops produced globally.

Rural household food production in Nigeria is mostly conducted by women who are either skilled or unskilled but very effective in utilizing their indigenous knowledge for enhanced output. Their yields are always still limited by innovation and technological deficits thus resulting to low household food provision and income (Nwaiwu & Okoroh 2017). Notwithstanding their efforts, it is still not enough for their food requirements which translates to poor nutrition and starvation (Srabonia and Quisumbingb, 2018). Over 70% of food produced in Nigeria is carried out by women (Adewumi et al. 2015); indicating that to optimized production, women need to be empowered with the right knowledge, innovations, and resources to help clamp down the negative effort of rural production on their food and nutritional needs (Srabonia & Quisumbingb, 2018). Some researchers have revealed that food sufficiency can only be achieved at the household level by bridging gender gap to diversify production of both cash and food crops which will in turn ensure consistent availability of food and income to famers to meet their household needs (Srabonia and Quisumbingb 2018; Theis *et al.* 2018). Since gender has not yet been mainstreamed in the Nigeria agriculture, the discrimination of women in accessing production resources, communication channels, sizeable farm lands for production persists and these hinders their effective participation in agricultural activities (Nwaiwu & Okoroh 2017). This study will examine rural women production resources exposure and how it affects their income and household food security.

Statement of Hypothesis

This study will test the following hypothesis;

H₀: Income of women does not have any impact on their crop productivity

H₀: Access to production resources does not have impact on household food provision

Methodology

Study Area

This study was carried out in Benue state. The state comprises of 23 Local Government Areas; According to Uker and Orkar (2019), Benue State is characterised by its fertile land that promote crop farming diversification and the prominence of the River Benue situated in the North Central region of Nigeria located longitude 7° 47' and 10° 0' East. Latitude 6° 25' and 8° 8' North with a total land area of 34,059km² and it is bounded by Nassarawa State to the North, Taraba State to the East, Cross River State to the South, Enugu State to the South-West and Kogi State to the West and also shares boundary with republic of Cameroon to the South-East.

Sampling Procedure

Primary data was used for the study. Primary data were collected using well-structured questionnaires which were distributed to 120 women farmers but only 100 of the questionnaires were retrieved in four Local Government Areas sampled for the study. The study thus sampled 100 women for the purpose of gathering realistic data and acceptable sample size for further analysis. Questionnaires were distributed to 25 female farmers in each of the Local Government Areas namely; Logo, Katsina-ala, Gwer West, and Guma due to the dominance of women participation in food crop agriculture in the areas. Secondary data was drawn from other literatures relevant to the scope of this study.

Analytical tool

Descriptive and inferential statistics were used to analyze data collected for the study. Analytical outputs were presented using frequencies, percentages. The excel package was also used for presentation of charts.

Results and Discussion

The study revealed that majority of the women do not have their private farms and were employed on their husband farmers (Figure 1.). This explains that, if agriculture is the only productive venture adopted by women, there is a likelihood that they will not have enough resources to meet their needs since they will be indirectly and completely dependent on their husbands and their involvement in agriculture will be primarily

for household food provision. Meinzen-Dick et al (2017) reveals that lack of women access to lands limits their decision making capacity and bargaining power on human capital investment, consumption and intergenerational transfers. This affirms why Theis *et al.* (2018) opines that exposing women to outcomes that will enhance their agricultural productivity and empowerment has the potential of increasing their economy independence and welfare. Furthermore, majority of the women in the study area were utilizing household labour for their farming activities (Figure 2.) This is closely linked to their subsistence nature of agricultural productivity which allows the dominant use of household labour for farming operation which collaborates with the assertions by Theis *et al.* (2018) as

a major attribute of subsistence agriculture. On a more general note, Palacios-Lopez et al. (2017) revealed that women directly contribute 37% to the Nigerian agriculture labour even though the percentage allotted varies with crops cultivated. The research also revealed that, majority of the women only attained non-formal education (Figure 3.), this explains why there is little or no awareness on the need for them to own their own farms besides those of their husband to help them acquire more income to transit from subsistence production to large scale agricultural production. This is at variance with the assertions by Kemi (2017) inferring that majority of the women who participate in agriculture attained primary education.

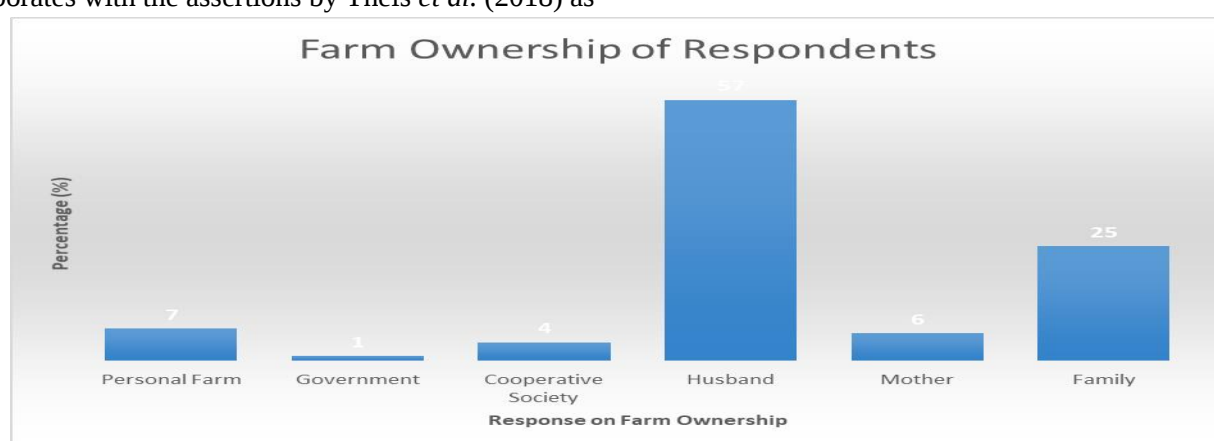


Figure 1. Women Response on their Farm Ownership

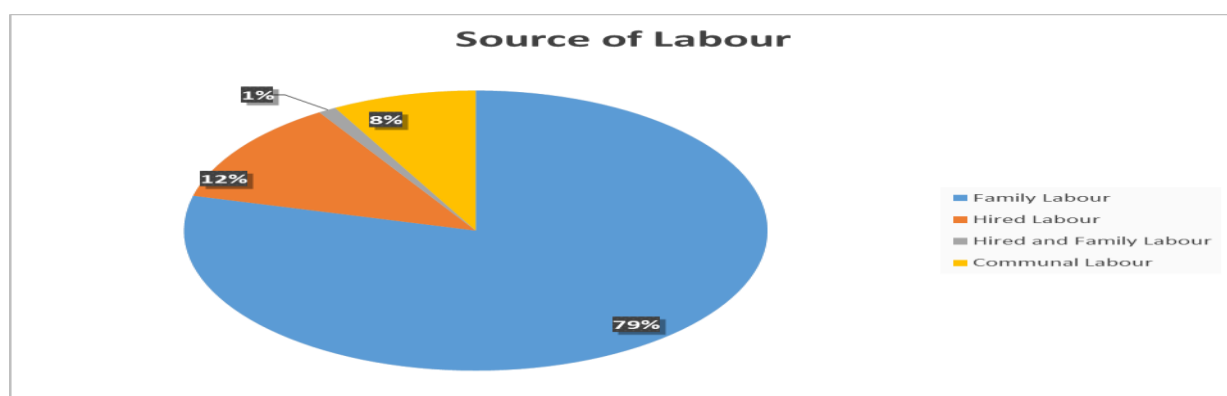


Figure 2. Women Response on their Sources of Labour

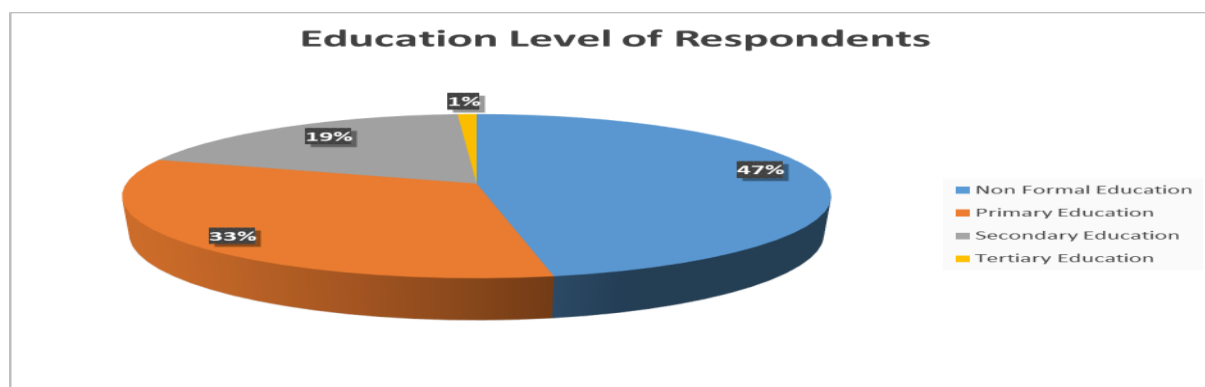


Figure 3. Women Response on their Educational Qualification

Barriers to Food Production among Women

The challenges to food production among women in the study area are numerous (Figure 4.) and this explains why food production among women is still subsistent. Majority of the respondent reported that extension services constituted a very serious barrier. The implication of this is that, they will be lacking innovations and new technologies for optimum yield and they will have to rely solely on their local potential for agricultural production. According to Barau and Oladeji (2017) developing a suitable extension service that embraces women is key to enhancing agricultural growth in developing countries. Further, the majority of the women do not have access to agricultural credits and were thus depending on income from their subsistence farming to enhance their production. Furthermore, Meinzen-Dick et al. (2017) opines that lack of production resource have a direct influence on women decision making in their agricultural production processes. The effect of this is that, their production capacity will be limited. This agrees with the findings of Kemi (2017) that, majority of the women in Ondo State do not have access to credit facilities for enhanced agricultural output. Majority of the respondents also pointed out infrastructural deficit on their farms was very serious. This implies that, the farmers had poor storage facilities as farm buildings and road access will also present a significant challenge amongst them. This will translate into waste and destruction of available outputs if proper sustainable measures are not considered.

The respondents also reported that the challenge of innovation was serious since they were only relying on their indigenous knowledge for agricultural production. This agrees to the assertions by

Embaye et al. (2018) that gender negatively affects adoption of agricultural technologies. Some of their practices could be less sustainable in an aggressive changing environment thus limiting their production potential. Furthermore, the women were facing a very serious problem with production resources and this explains why they were either working on their husbands or family farms. The challenge of land availability to women was not serious. This corroborates with the assertions by Barau and Olajide (2017) inferring that land does not constitute a major challenge in women's involvement in agriculture even in the urban areas. This implies that, the potential of women to participate in agriculture is still significantly high but their lack of awareness to seize this opportunity could be linked to their lack of economic will and spousal control or marginalisation. UN (2018) however pointed out that, economic or financial constrain is one of the major setback to women participating in agricultural production. Most of the respondents also revealed that, early marriage was seriously affecting their food production capacity. The logical explanation to this could be that, as they indulge in early marriage, they are directed to work on their husbands' farms. When they get use to this activity, they find it difficult to digress into having their private farms thinking it will be an act of rebellion in the household. Majority of the women also reported that they were serious marginalised in their agricultural operations and this explains why they have been lacking agricultural credits and production resources to effectively participate in farming. This relates with the assertions by Theis et al. (2018) that women are not favoured with access to certain innovations that can enhance their farming operation and output and as such

they only serve as a support to their husband to participate in the use of specific technologies. Furthermore, the result revealed that, the barrier of flexibility to challenge was serious and this also explains their inability to utilize innovations. The education attainment of women in the study area also posed a very serious challenge. This will significantly affect their food production awareness to meet both household and national food security. The respondents also revealed that the marketing of their produce was not a serious challenge as they have ready market to this regard. This disagrees with the findings of Kemi

(2017) that market constituted a serious barrier among women farmers in Ondo State. Availability of markets illustrates a good potential for agricultural intensification and income improvement among women. In spite of the availability of water bodies available in the study location Irrigation agriculture still posed as serious challenge. The women further opined that they were not seriously affected by social norms. This underpins the assertions by Barau and Olajide (2017) that cultural norms were not a serious barrier to women's agricultural participation.

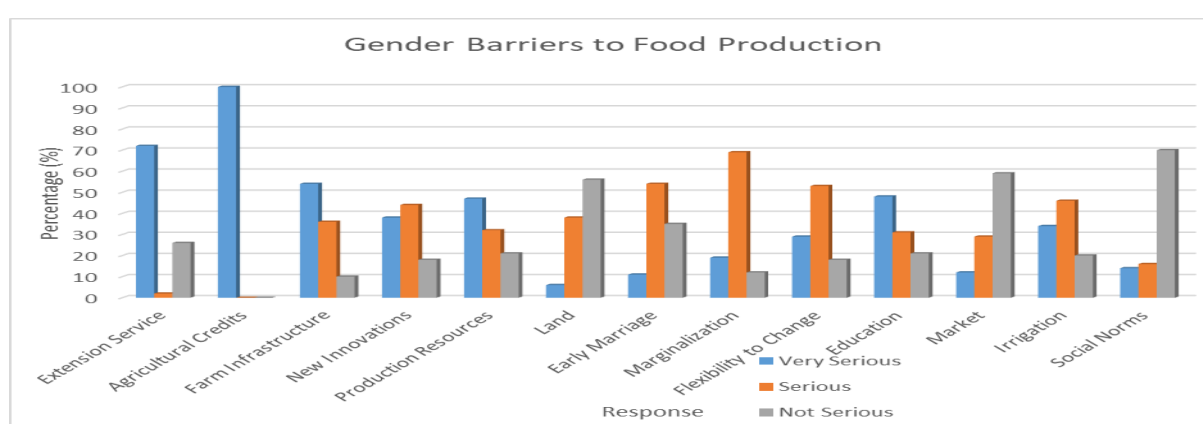


Figure 4. Women's Barrier to Agricultural Participation

The result in table 1 shows the relationship that exist between the farming income of women and other variables that influences their income. The correction analysis thus revealed that as women aim towards achieving higher educational status, their farming income will also increase; in the same manner, as their agricultural output increases, their yield also increase thus the null hypothesis is accepted. Furthermore, as their farming income increases their alternative sources of income decrease and vice versa. The implication of this result is that, as women become gainfully employed in other vocational jobs, their interest in agriculture will decrease thus affecting their farming income. All things being equal, if they are making significant profit from their farming activities, they are likely to lose interest in seeking for other jobs. On a more general note, farming income was significant with education level (0.217*) and other sources of income (-0.183*) at 5%; yield (0.981**) was significant with farming income at 10% and labour was not significant with the farming income of farmers.

The result in table 1 represents the relationship that exists between yield and the factors affecting it. The result reveals that, an increase in the use of farming agrochemical inputs including, fertilizers, herbicides, pesticides, and other socioeconomic factors like education of women in the study area will result to an increase in yield which translate to availability of food for farming household and income which also meets other household needs thus raising their quality of life. On the contrary as the cost of land increases, their yield also reduces thus impacting on their yield and household food availability. The implication of this results is that, as land becomes increasingly scarce or as they begin to hire land for their agricultural operation, their income will decrease and there will be less disposable income to take care of household needs and other lucrative farming operations. Agricultural crop yield of women was dependent on area of land cultivated than agricultural intensification and this explains the subsistent nature of agriculture by women in the study area. Furthermore, as the farming

experience of women increase, their yield decrease and vice versa, this means that, farming experience is no longer affecting agricultural yield of women as only the sustainable and appropriate combination of farming

inputs will bring about the desired output. In summary, the null hypothesis is rejected since access to production resources have significant impact on household food provision.

Table 1: The Impact of Income on Women's Crop Productivity

	Education level	Other income	Labour	Yield
Farming Income	0.217*	-0.183*	-0.089	0.981**

** Correlation is Significant at the 0.01 level (1-tailed)

* Correlation is Significant at the 0.05 level (1-tailed)

Table 2: Impact of Women's Production Resources on Household Food Provision

Variable	B	t	Sig.
(Constant)	19.556	0.716	0.476
Labour Cost	0.003	1.938	0.056
Fertilizer Cost	0.006	5.880	0.000
Pesticides Cost	0.013	4.091	0.000
Land Cost	-0.006	-1.786	0.077
Farming Experience	-2.520	-1.974	0.051
Educational Level	11.734	1.219	0.226

Dependent Variable: Yield

Conclusion and Recommendations

The study relates the perception of women participation in agriculture for enhanced food security. The result thus revealed that majority of the women did not have their own farms and were undertaking their farming operations on farms belonging to their husbands or families. They were also utilizing household labour to undertake their farming operations. The majority of the women also attained non formal education. The result on the barriers of women to food production in the study location revealed that they encountered very serious challenges with extension service delivery, agricultural credits, farm infrastructure, production resources and education. They also encountered serious problems with adopting innovations, early marriages, marginalization, their flexibility to accept change and irrigation. However, the respondents were of the view

that land for food production, market for selling their farm produce did not constitute a significant barrier to their operation. The correlation analysis suggests that farming income of women had significant impact on their crop productivity. Furthermore, the regression analysis implied that access to production resources had significant impact on household food provision in the study area.

Based on the findings from this study, it is important to recommend that, women should be educated on the need to have their private farms to help limit the effect of food insecurity on their household, their rural community and the nation at large. In achieving this, women should be granted access to credit facilities to improve their production resource base for optimum yield which will translate to their improved income and improved quality of life. Indigenous knowledge already in existence in the study

area should be married with new innovations to help improve the production knowledge base. By doing this, the economies of women to food production in the rural

area will be improved which will also have significant impact on the national food security and Gross Domestic Product.

Reference

- Adewumi, M. O., Memudu, I. J. B. and Amolegbe, K. B. (2015). Comparative Analysis of Women's Contribution to Food Crop Production in Kogi State, Nigeria. *Journal of Agriculture and Food Science* 13(1):17-28.
- Barau, A. A. and Oladeji, D. O (2017). Participation of Urban Women in Agricultural Production Activities in the Sokoto Metropolis, Nigeria. *Journal of Natural Resources and Development* 07 (2017): 84- 90.
- Embaye, W. T., Bergtold, J. S. Archer, D., Flora, C. Andrango, G. C. Odening, M., and Buysse, J. (2018). Examining Farmers' Willingness to Grow and Allocate Land for Oilseed Crops for Biofuel Production. *Energy Economics*, Elsevier 71:311-320.
- Komatsu, H., Malapit, H. J. L. and Theis, S. (2018). Does Women's Time in Domestic Work and Agriculture Affect Women's and Children's Dietary Diversity? Evidence from Bangladesh, Nepal, Cambodia, Ghana, and Mozambique. *Food Policy* 79 (2018) 256–270.
- Meinzen-Dick, R., Quisumbing, A., Doss, C. and Theis S. (2017). Women's Land Rights as a Pathway to Poverty Reduction: Framework and Review of Available Evidence. *Agricultural Systems* (2017) available at <http://dx.doi.org/10.1016/j.agsy.2017.10.009>
- Mohammed, B. T. and Abdulquadri, A. F. (2012). Comparative Analysis of Gender involvement in Agricultural Production in Nigeria. *Journal of Development and Agricultural Economics*. 4(8):240-244.
- Nchuchuwe, F. F. and Adejuwon, K. D. (2012). The Challenges of Agriculture and Rural Development in Africa: The Case of Nigeria. *International Journal of Academic Research in Progressive Education and Development*. 1(3):45-61.
- Nwaiwu J C. and Okoroh Juochi P. (2017). Analysis of the Constraint Facing Gender Participation in Agricultural Transformation Agenda (ATA) For Increased Agricultural Production in Orlu Agricultural Zone of Imo State, Nigeria. *Agricultural Science Research Journal*. 7(4): 163 – 170.
- Olajide, O. and Adeola, W. D. (2013). Perspectives on Food Security: A Gender based Comparison of Rural Households in South East Nigeria. *Global Journal of Human Social Science Sociology & Culture*. 13(7):13-19.
- Palacios-Lopez, A., Christiaensen, L. and Kilic, T. (2017). How Much of the Labour in African Agriculture is Provided by Women? *Food Policy* 67(2017):52-63.
- Peterman, A. Quisumbing, A. Behrman, J. and Nkonya, E. (2010). Understanding Gender Differences in Agricultural Productivity in Uganda and Nigeria. IFPRI Discussion Paper 01003. Poverty, Health, and Nutrition Division.
- Srabonia, E. and Quisumbing, A. (2018). Women's Empowerment in Agriculture and Dietary Quality across the Life course: Evidence from Bangladesh. *ELSEVIER. Food Policy* 81: 21–36.
- Theis, S., Lefore, N., Meinzen-Dick, R. and Bryan, E. (2018). What Happens after Technology Adoption? Gendered Aspects of Smallscale Irrigation Technologies in Ethiopia, Ghana, and Tanzania. *Agriculture and Human Values* (2018) 35:671–684.
- Uker, S. and Orkar M. O. (2019). Implication of Violent Conflict on Food Security in Nigeria: A Case of Farmers and Herdsmen Clashes in the Benue Valley. *International Journal of Science and Research (IJSR)* 8(8):627-631.