



## ASSESSMENT OF FEMALE YOUTH PARTICIPATION IN AGRICULTURAL LIVELIHOOD GENERATING ACTIVITIES IN GWAGWALADA AREA COUNCIL, ABUJA, NIGERIA

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### ABSTRACT

*This study examines female youth participation in agricultural livelihood generating activities in Gwagwalada Area Council, Abuja. The objectives of the study were to: examine the extent of female youth participation in agricultural livelihood generating activities and the income generated, determine factors influencing female youth participation in agricultural livelihood generating activities, and identify major constraints faced by female youth participating in agricultural livelihood generating activities. A multistage sampling procedure was used to select 133 female youths from 13 registered youth associations with 10 from each group in (4) peri-urban communities of the study area. Structured questionnaire was used to collect data while descriptive statistics and Logit regression model were used to analyze the data. The results showed that 30.1% and 14.3% of the respondents were engaged in crop and poultry production and generated an average income of ₦420,093.02 and ₦216,000.00 respectively while 3.0% and 4.5% only were engaged in crop produce processing and poultry meat and egg marketing and generated ₦29,250.74 and ₦14,166.67, respectively. The logit regression results indicated that factors influencing female youth participation in agricultural livelihood generating activities include age, education status, household size, income, occupation, and distance. Also, the major constraints hindering participation were inadequate access to land (43.6%), inadequate access to finance (41.6%) and high cost of production (16%). While the study indicates that a significant portion of female youths is engaged in crop and poultry production, their overall participation in agricultural activities is limited. The study provides critical insights into the potential of agriculture as a viable solution to youth unemployment in Nigeria. The study recommends implementing policies to improve land access for female youths, including land reform initiatives that prioritize youth ownership and leasing options. Additionally, it suggests exploring strategies to reduce production costs through input subsidies, partnerships with agricultural suppliers, and community-based resource-sharing initiatives.*

**Keywords:** Youth participation, Agricultural livelihood, Income generating activities

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### INTRODUCTION

Agriculture has been recognized and described as an engine of growth and poverty reduction, particularly in countries where it is the main occupation of the larger proportion of the people. The agricultural sector is entirely on activities generating venture, giving the players an ample opportunity to explore its potentials for their well being and that of the society in general. Therefore, countries such as Nigeria with such disposition must brace up to the challenges because agricultural sector is becoming more technologically sophisticated, commercially oriented and globally integrated. The country must thrive to utilize its human resources fully in order to take advantage of the global opportunities for all agricultural producers, including improving women participation in agriculture (Food and Agriculture Organization [FAO], 2017).

McKinsey Global Institute estimated that agriculture in Africa will grow by 6% per year up to 2030 (FAO, 2020). This estimate is realistic because more females (youth and women) are engaging in agricultural ventures, and are playing very important roles in all aspects of agriculture, undertaking a wide range of activities relating to food production, poultry, livestock, fishery production, processing, marketing among others. This is aside their role in labor supply in most agricultural operations such as ridging, planting, weeding, fertilizer application, harvesting, poultry management (WFP and WHO, 2020).

The 2006 national population census, gazetted in 2009 by the National Population Commission, put the population of youth between the ages of 20 to 40 years at 47% (ladies inclusive), thus, constituting a significant segment of the population (Adisa, 2019). This provides a window of opportunities for higher growth and poverty reduction, given the critical role of women in strengthening the nation's economy. Also, given the level of poverty, unemployment and lack of social protection, the need for female youth to engage in agricultural livelihood generating activities is paramount (Abiala and Ojo, 2019).

By agricultural livelihood generating activities, it refers to the openings in the agricultural sector through which the youth are inspired to venture into or participate in any aspect of agriculture to earn their living. It includes both the economic (on-farm and off-farm) and noneconomic activities which people indulge in to earn their daily income and for the future (IYET, 2020). Female youth are getting more involved in multiple agricultural livelihood generating activities to increase incomes and to reduce their vulnerability. They are doing so amidst the declining returns to commercial agricultural investment in Nigeria. This is predicated on the fact that the female youth possess innovative features, a fast-learning rate, and greater physical energy, knowledge acquisition propensity, love for adventure and preference for boldness, minimal risk aversion, less fear of failure, capacity and ability to produce an excellent source of ideas in the agricultural sector (International Labour Organization [ILO], 2020). Hence, female youth are endowed with the resilience to engage themselves both in on-farm and offfarm activities to generate income and to take care of themselves and even for their families at large, providing education, medical care, nutritious food, clothing among others (Hovorka *et al.*, 2009).

Despite their contribution to the agricultural sector, female youth and women globally experience more challenges than their male counterparts, as they face more restricted access to productive resources and assets, financial services and social protection (Fuhrman and Rhodes, 2020; ILO, 2020). At the same time, social norms and laws limit their involvement in profitable work (Initiative for Youth Empowerment and Transformation [IYET], 2020). Data from the

ILO shows that female youth/young rural women (aged 15 to 24) globally are at a greater disadvantage than young men in terms of their participation in employment, education or training (ILO, 2020). This shows that gendered social norms have detrimental effects on female youth who are interested in participating in agricultural income generating activities and even in paid jobs (Hovorka *et al.*, 2009). Thus, constituting serious setback to female youth and women empowerment in general. It is on this note that the study was conceived to specifically achieve the following objectives:

- i. determine the extent of female youth participation in agricultural livelihood generating activities and the amount of income generated;
- ii. determine the factors influencing female youth participation in agricultural livelihood generating activities;
- iii. identify the major constraints faced by female youth in participating in agricultural livelihood generating activities in the study area.

## MATERIALS AND METHODS

**Study Area** The study was conducted in Gwagwalada Area Council of the Federal Capital Territory, Abuja. The area council lies in coordinates 8°57'2.9988" N and 7°4'36.2532' E and it is bordered by the Kwali Area Council in the north, by Niger State and Kuje Area Council in the east and Abuja Municipal Area Council in the north-east. Gwagwalada Area Council has a population of 507,000 people, a 6.74% increase from 2022 (United Nations, 2023). The area has ten wards which include: Zuba, Ibwa, Dobi, Kutunku, Tungan Maje, Gwako, Paiko, Ikwa, Staff Quarters and Gwagwalada Center. It has an alternate wet and dry season, with a mean annual rainfall of around 1500 mm and an average annual temperature which ranges from 30°C to 37°C, with the highest temperature in March. Because of the ideal climate and soil conditions, agriculture is the main economic activity in Gwagwalada Area Council. The occupation of most of the indigenous people is agriculture, including animal husbandry, fishing, logging, and small-scale farming. The primary food crops grown include Yam, maize, millet, groundnut, rice, beans, melon, sweet potato, cassava, guinea corn, and vegetables like pepper and tomato.

### Sampling Procedure and Sample Size

This study was conducted in Gwagwalada Area Council of Federal Capital Territory, Abuja. A multi-stage sampling procedure was used selecting the respondents. In the first stage, 4 periurban communities having the highest registered female youth groups engaged in agricultural ventures in the Area Council were purposively selected. These are Dobi, Zuba, Paikonkore and Tunga maje Central. In the second stage, 5 official members and 5 other non-official members of each female youth groups/associations were also purposively selected from 13 youth groups, with additional 3 members selected from the largest group, giving a total sample size of 133 female youth. The selection was done based on the lists of registered female youth groups obtained from the ADP's office of the area council. A Structured questionnaire instrument was used to obtain responses from the respondents.

## Method of Data Analysis

Descriptive statistics such as frequency distribution, percentages and mean were used to describe the livelihood activities engaged by the respondents and the income generated. Income generated was measured based on averages per year, season, weeks and days respectively.

Also, Logit regression model was used as the inferential component to analyze the data. The cumulative logistic probability function is stated as:

$$P_i = F(Y_i) = F(\alpha) + \sum \beta_t X_{ti} = \left( \frac{1}{1 + e^{-(\alpha + \sum \beta_t X_{ti})}} \right) \quad (1)$$

Where:

$e$  is the base of natural logarithms;  $X_{ti}$  denotes the  $t$ th explanatory variable ( $t=1,2, 3, \dots, k$ ) for the  $i$ th individual;  $P_i$  is the probability that  $i$ th individual will make a certain choice (in this case participate or do not participate in agricultural livelihood generating activities) given  $k$  explanatory variables;  $\alpha$  and  $\beta_t$  are parameters to be estimated ( $t=1,2, 3, \dots, k$ ;  $k$  is number of explanatory variables). Stating the logistic model in terms of odds and log of odds will make the interpretation of the coefficients clearer (Sperandei, 2014). The odds ratio indicates the ratio of the probability that an individual would select an option ( $P_i$ ) to the probability that he or she would not select it ( $1-P_i$ ). When expressed in terms of odds ratio, the logit model has the following form:

$$Y_i = \ln \left( \frac{P_i}{1-P_i} \right) = \alpha + \beta_1 X_{1i} + \beta_2 X_{2i} + \dots + \beta_k X_{ki} + \varepsilon_i \quad (2)$$

Consequently, equation (2) was applied in this study and was treated against potential variables assumed to influence participation in agricultural livelihood generating activities. The model was estimated using the iterative maximum likelihood estimation procedure which yields unbiased and asymptotically efficient and consistent parameter estimate (Ketema *et al.*, 2021).

The explanatory variables used in the regression analysis were measured as:

$X_1$  = Age (in years)

$X_2$  = Marital Status (Married = 1, Otherwise = 0)

$X_3$  = Years of formal education (in years)

$X_4$  = Household size (Numbers)

$X_5$  = Income of respondents (Naira)

$X_6$  = Poverty status (poor=1, non-poor=0)

$X_7$  = Primary occupation (Farming = 1, Non-Farming = 0)

$X_8$  = Location/Distance to Local or State Headquarters (Km)

$X_9$  = Access to credit facility (No=1,

Yes=0)  $X_{10}$  = cooperative membership (in

years)  $\varepsilon_i$  = Error Term

## RESULTS AND DISCUSSION Extent of Female Youth Participation in Agricultural Livelihood Income Generating Activities and Income Generated

Results from Table 1 shows the various activities from which the respondents derived their agricultural livelihood. It indicates that 30.1% of the respondents were involved in crop farming, with an average income of ₦420,093.02 and 14.3% of them were into poultry

production and earned an average income of ₦216,000.00 while only 3.5% and 4.5% were engaged in crop product processing and poultry product marketing and earned ₦29,250.74 and ₦14,166.67 respectively. Crop farming and poultry production have traditionally been the dominant agricultural activities engaged by farmers even in areas surrounding urban cities perhaps because there is always a ready market for such ventures as a result of consistent food demand, thus considered as a very potential income-generating activity that people can be more interested. This result is in conformity with findings of Osabohien *et al.* (2020) and Abiala and Ojo (2019), who reported that crop farming and processing are the major agricultural livelihood generating activities engaged by female farmers in rural communities in Osun State.

**Table 1: Extent of Participation in Agricultural Livelihood Income Generating Activities and Income Generated by Respondents Variable**

Variable	Percentage	Average income (₦)	Frequency*
Crop farming	40	30.1	420,093.02(per yr)
Poultry production	19	14.3	216,000.00(per yr)
Livestock rearing	11	8.3	420,000.00(per yr)
Poultry marketing- meat or egg	6	4.5	14,166.67(per day)
Farm product processing	4	3.0	29,250.74(per day)
Meat marketing	11	8.3	145,050.12(per wk)
Marketing of products	9	6.8	294,444.45(per wk)
Farm labour	8	6.0	20,000.00(per season)
Food vendors/restaurants	7	5.3	22,909.09(per day)
Brokers/market agents	9	6.8	4,550,500.51(per yr)
Fruit juice making	14	10.6	116,020.43(quarterly)
Frying of eatables	16	12.0	296,486.13(per yr)

\*Multiple responses allowed

Source: Field Survey, 2023

Poultry product marketing (meat or egg) offers moderate but significant income. Poultry marketing is a source of income diversification within the poultry sector, which can contribute to overall financial stability. This result is in line with FAOSTAT (2019) who stated that livestock poultry business is a lucrative business amongst young women in developing community.

Also, the result shows that only a few (6.8%) of the respondents were brokers or marketing agents but they realized an average income of ₦4,550,500.51. This activity stands out with an exceptional high income earnings, because of high cost of livestock meat encountering from low supply of livestock meat demand.

### Factors Influencing Female Youth Participation in Agricultural Livelihood Generating Activities

The result of Logit regression analysis in Table 2 revealed the Chi-square value ( $P < 0.01$ ) to be highly significant at 1 % level of probability, indicating that the parameters included in the model taken jointly are significantly different from zero and predict participation in agricultural livelihood generating activities. Six variables, out of the ten explanatory variables hypothesized

to influence participation in agricultural livelihood generating activities were found to be statistically significant at different levels of probability. These variables include age, income, household size, primary occupation and distance.

Age had a positive and significant effect on participation in agricultural livelihood generating activities. As age increases by one year, the odds in favor of participating in agricultural livelihood generating activities increases by a factor of 1.106 (equivalent to an increase of about 10.6%). This is because age is can serve as a proxy for experience and evidence of human capital acquisition. Thus, as age increases farmers accumulate experience and become more willing to participate in agricultural livelihood generating activities. This result agrees with the findings of Daudu *et al.* (2023) and Etim *et al.* (2018) for Nigeria and Ketema *et al.* (2021) for Eastern Ethiopia, who reported a positive and significant relationship of farmers' age on participation in agricultural activities.

**Table 2: Logit Model Estimate of the Factors Influencing Female Youth Participation in Agricultural Livelihood Generating Activities**

Variables	Coefficients	Standard error	P> z	Odds ratio
Age	0.101***	0.025	0.000	1.106
Sex	0.053	0.475	0.907	1.054
Marital status	0.277	0.470	0.437	1.319
Education	0.419*	0.382	0.096	1.520
Household size	0.148*	0.097	0.078	1.159
Income	0.233***	0.077	0.000	1.263
Primary occupation	-0.129***	0.023	0.000	0.879
Location/Distance	-0.073***	0.025	0.007	0.930
Access to credit	-0.057	0.042	0.209	0.945
Years of cooperative	0.010	0.035	0.760	1.010
Constant	-5.521***	0.008	0.002	0.004
Observations	133			
LR Chi2 (10)	104.660			
Prob>Chi2	0.000			
Log likelihood	-76.477			
Pseudo R <sup>2</sup>	0.406			

Note: \*\*\* and \* significant at 1 percent and 10 percent levels of probability

The results show that education status had positive and significant effect on t participation in agricultural livelihood generating activities. Relative to illiterates, educated female youths had 52% higher odds of participation. This result is in line with that of Nnadi and Akwiwu (2008) and Daudu *et al.* (2023) who reported that average education positively affected participation in agricultural activities. This is because of the fact that education enables farmers to obtain and analyze relevant farm information from different sources for engaging in agricultural livelihood activities. This implies that educating farmers would improve participation and increase crop productivity and thereby improve food security situation.

The result of this study also revealed that engaging in farming as a primary occupation had a negative and significant influence on participating in agricultural livelihood generating

activities. The odds-ratio in favour of participating in agricultural livelihood generating activities indicates that, with other factors being kept constant, the odds of female youth whose primary occupation is farming participating in agricultural livelihood generating activities is lesser by a factor of 0.88 relative to female youth who have other primary occupations. Primary occupation is the potential source of a starting and supportive capital for other livelihood generating activities to thrive and sustained and when it is lost it affects the entire livelihood chain.

Household size had a positive and significant influence participation in agricultural livelihood generating activities. This suggests that, relative to smaller households, having a larger household increases participation in agricultural livelihood generating activities. As the household size increases by one person, the odds of participating in agricultural livelihood generating activities increases by about 15.9%. Thus, there is the tendency of female youth with larger household size to have a higher likelihood of participating in agricultural livelihood generating activities than smaller household size because of increased responsibilities. Increase in household size may also increase labour availability and quality, which will make it easier for the female youth to participate in agricultural livelihood generating activities. This result is in consonance with the findings of Samuel and Sylvia (2019) who reported that relatively larger household size enhances the availability of labor for increased efficiency in production among farmers. This result also corroborates the argument that many farmers give birth to more children in order to augment their labour force (Agyeman-Boaten *et al.*, 2022).

Income had a positive and significant relation with participation in agricultural livelihood generating activities. This implies that participation is likely to increase as income increases. The odds-ratio suggests that participation in agricultural livelihood generating activities is likely to increase by 26.3% if income increase. Increased income is a crucial factor when deciding to engage in a livelihood activity. A possible explanation for these results may be that increased income may help to alleviate the problem of low access to credit. Thus, it can provide the necessary input and can allow the adoption of improved technologies to enhance productivity (Fasakin *et al.*, 2022). Rationally, as income increases, the chances of increasing agricultural investments becomes eminent and through which individuals are able to acquire basic necessity of life and build assets, for future investment, acquire livelihood asset on their own (Tesfaye, 2022). This finding is in line with those obtained by Twumasi *et al.* (2019) and Magagula and Tsvakirai (2020) for Ghana and South Africa, respectively.

Similarly, location and distance had a negative and significant relationship with the probability of participation in agricultural livelihood generating activities. The result revealed that for each additional distance from the area of participation in livelihood generating activities, the odds of participation decrease by 93%. This implies that the further the location of residence to the area of activities, the more it discourages participation in agricultural livelihood activities. This result is in consonance with findings of Beriso *et al.* (2023) which reported that women living closer to the place of their livelihood activities were more likely to be empowered and participate than those living farther away. Similar findings were reported by Ketema *et al.* (2021).

**Constraints Faced by Female Youth in Participating in Agricultural Livelihood Generating Activities Table 3: Constraints Faced by Female Youth in Participating in Agricultural Livelihood Generating Activities**

Variables	Frequency	Percent	Ranking
Inadequate access to land/space	58	43.6	1 <sup>st</sup>
Inadequate access to finance	54	41.6	2 <sup>nd</sup>
Gender discrimination	19	14.3	4 <sup>th</sup>
High cost of production	20	16.0	3 <sup>rd</sup>
Low patronage of goods	13	9.8	5 <sup>th</sup>
Others	9	5.5	6 <sup>th</sup>

\*Multiple responses allowed

Source: Field Survey, 2023

The result in Table 3 shows that inadequate access to land is ranked 1<sup>st</sup> (43.6%) as the most common constraint confronting the respondents in participating in agricultural livelihood income generating activities. Limited access to land can hinder the ability of female youths to engage in agricultural activities and maximize their productivity, potentially impacting their income and livelihoods.

Inadequate access to finance was ranked 2<sup>nd</sup> (41.6%) followed by high cost of production (16%) constituting the major constraints affecting female youths. Inadequate access to financial resources can limit or destroy the investments potentials of the female youth in terms of deployment of inputs, equipment, and technology, thus, affecting the sustainability of agricultural ventures. High production costs significantly deter female youths from engaging in agriculture altogether, as they may prioritize other income-generating activities that require less investment and risk. This results in a lower overall participation rate in agricultural livelihoods among young women (van der Meulen Rodgers and Akram-Lodhi, 2018; Kadzamira *et al.*, 2024).

Low patronage of goods and services was ranked least (9.8%) among the constraints confronting the female youth in participating in agricultural livelihood income generating activities. The implication of this findings unveils the effects of the removal of the petroleum subsidy in the first quarter of 2023 which is having its detrimental effects on the economy generally and agricultural businesses in particular. Thus, Limited market demand can negatively impact the income-generating potential of agricultural activities, potentially affecting the economic viability. The results are in agreement with the report of LeonHimmelstine *et al.* (2021) who identified some of the impediments such as inadequate access to land, gender discrimination, high cost of production and problems of tenure system as the major constraints faced by women in agriculture livelihood income generating activities in Uganda. Similar findings have been reported by Osabohien *et al.* (2020), Apeh *et al.* (2023), and Fashogbon *et al.* (2023) among young women participating in agricultural income generating activities in Nigeria.

## CONCLUSION AND RECOMMENDATIONS

The findings demonstrates that female youths in Gwagwalada are actively engaged in agricultural activities, particularly in crop and poultry production, which contributes to their income. However, the overall engagement remains low, with just a small proportion involved



in processing and marketing. The Logit regression analysis highlights that factors such as age, education, household size, income, occupation, and location significantly influence participation levels. The key constraints identified include limited access to land and finance, along with high production cost, which pose considerable challenges to enhancing female youth involvement in agriculture. The study, therefore, recommends the implementation of policies that facilitate easier access to land for female youths. This could involve land reform initiatives that prioritize youth ownership and leasing arrangements, ensuring that young women can secure land for agricultural activities. Also, strategies to reduce the high cost of production through subsidies for inputs, partnerships with agricultural suppliers, and the promotion of community-based resource-sharing initiatives could be explored. Also, engaging youth as brokers or marketing agents should be encouraged through institutional support by establishing, for instance, government and private organization modern marketing facilities such as the animal stalls and slaughter houses to attract more female youth in the venture for further exploration.

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