

Womens' participation in agribusiness: Potential for food security and poverty alleviation

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Abstract:

Strengthening women capacity to participate in agribusiness presents remarkable opportunities for improved food security and reduces poverty. This study examines the factors influencing women's decision to participate in agribusiness in Dekina Local Government Area of Kogi State. Using multi stage random sampling technique, 132 women were selected from three districts in the Local Government Area. Structured questionnaire was used to collect the required information. Data obtained were analyzed using descriptive statistics and probit regression model. Results shows that the mean age of the women was 43 years, with 69.17% of them married and a mean household size of 6 persons with an average monthly income of ₦18,258.33. Result of the probit model analysis indicated that the probability of women's decision to participate in agribusiness was influenced by age, marital status and membership of cooperative society. The major constraints faced by women's entrepreneur in the study area were high cost of technologies, inadequate credit facilities, labour intensive venture, inadequate capital and poor returns. Key recommendations of this study include government and other stakeholders should endeavour to provide adequate credit and capital to encourage the women and promote productivity and expansion of their business enterprises.

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1. Introduction

Agribusiness is the sum total of all operations involved in the manufacture and distribution of farm supplies, production activities on the farm, storage, processing and distribution of farm commodities and items made from them (Jnu, 2014). Rural women play a substantial role in the sustenance of family source of revenue and in communal life. African women play major in the agriculture sector. They represent up to 52% of the total population in the sector and are responsible for approximately 50% of the agricultural labour on farms in Sub Saharan Africa (SSA). According to Food and Agriculture Organization (FAO), the underperformance of agriculture in developing countries is attributable to women's limited access to productive resources and inability to take advantage of opportunities in the sector. Limited access in this regard is experienced more severely by women than their male counterparts, demonstrating a gender gap (FAO, 2011).

Women in Nigeria constitute more than 60% of the nation's population with about 50 - 90% of them contributing to agricultural labour, depending on the location (Auta, 2004). Many of them actively participated on-farm production (planting, weeding, harvesting and post-harvest handling), the processing and value addition (milling, smoking, drying etc) and supply chain of most crop value. This they do in addition to the fact that they perform

five multiple roles, which include: mother (child bearer), producer of agricultural crops, home manager, community organizer and social, cultural and political activity (Nwosu, 2012). To sustain the drive to achieve food security for the nation, alleviate poverty and enhance the rural livelihood, it becomes vital that the potentials of women as significant contributors to the agricultural industry be fully optimized (Omotesho *et al.*, 2019). Empirical study by Ojo and Obayelu (2025) reveals a positive and statistically significant relationship between women empowerment and lower incidence of food insecurity. World bank (2023) in another study estimated that closing gender gaps in access and productivity could substantially raise aggregate agricultural output and reduce poverty.

Self-help groups and other organizations often play major roles in building women's self-confidence, providing access to financial opportunities and training, and engaging in collective processing and marketing of agricultural and other value-added products. Agribusiness women entrepreneurs can also benefit from well-organized family farming groups or cooperatives. When women control the additional income from their multiple activities, they usually spend it on their children (education, health, and clothing) and improved nutrition and well-being for their families (Onwurafor and Enwelu, 2013; Babu *et al.*, 2016). Mustapha, *et al.* (2018), established that empowering women in agribusiness is essential; not only

for gender equity, but also for the economic sustainability of industries in Nigeria. Women make up half of the agricultural workforce and represent a large part of the next generation of workers, managers and decision makers. It is therefore necessary, as a matter of urgency and for the sake of the sustainable future of the agricultural industry, that women's empowerment in agribusiness is taken seriously.

Universally, women are not sufficiently recognized for their contributions to farming and agribusiness. Though, women play a key role in the agribusiness sub-sector, Nigeria is lagging behind the rest of the developed world in empowering women in agribusiness. In Nigeria women are underrepresented in agricultural politics and the decision-making processes of farm and agribusiness organizations (Mustapha *et. al.*, 2018). This is because their mode of production is essentially at the domestic and subsistence levels and indeed devalued (Employment and Support Allowance (ESA), 2011). Another reason is that women are faced more severe constraints than men in accessing productive resources, markets and services (www.united women.org, 2018). Women have been largely ignored when research priorities are set and their needs are therefore not addressed. The attitude of ignoring such essential resource limits the capacity of women to actively engage in productive and fruitful activities.

Growing attention is being given to women's entrepreneurship as part of the empowerment agenda and as a means to expand opportunities and benefit from their engagement in productive (self-) employment. According to available estimates, approximately one fourth to one third of the world's formal sector enterprises are owned and operated by women (United Nations Conference on Trade and Development (UNCTAD). However, Okoli and Okoli (2013) suggest that in some countries, women entrepreneurs experience more difficulties than men in starting and expanding their businesses, particularly due to cultural norms and social attitudes. He added that women are less likely than men to start businesses and grow their small firms into larger. This research seeks to bring to full understanding the forces that influence women's decision to participate in agribusiness particularly in the study area. The broad objective of this study is to analyse the factor that influence women's decision to participate in agribusiness activities in Dekina Local Government Area, Kogi State, Nigeria. The specific objectives are as follows;

- a. Identify the socio-economic characteristics of women in the study area;
- b. Identify the extent of involvement of women in agribusiness;
- c. To analyse the factors that determine women participation in agribusiness activities; their level of participation; and
- d. Identify the major constraints to women involvement in agribusiness activities and other enterprises in the study area.

2. Methodology

2.1 Area of the study

The study area is Dekina LGA, Kogi State which

consists of districts and wards. Dekina was created in 1976 with Dekina town as her administrative headquarter. Presently Dekina LGA one of the twenty-one local government areas in Kogi State is situated in the eastern part of the State. Dekina Local Government is about 2,337.5km² in size. Dekina LGA is divided into three districts namely; Dekina district, Biraidu district and Okura District. Dekina Local Government Area is located between latitude 8 degree, 43 degree and 91degree, 15'S of the equator and longitude 60 degree, 57'W of the Greenwich meridian (Kogi - Wikipedia, the free encyclopedia.htm).

2.2 Population of the study

The population for the study was the total women in Dekina Local Government which is 129,574 women as the projected population by 2016 (NBS). For this study, women were defined as anyone in the female gender, within the ages of 18- 74 years.

2.3 Sample size and sampling technique

A multistage random sampling technique was used in selecting the respondents in this study. Firstly, all the three (3) districts in Dekina Local Government Area were randomly selected. One council ward was randomly selected from each of the districts. The second stage involved the selection of two communities from each ward; giving a total of six (6) communities selected for the survey. Finally, twenty-two (22) women were randomly selected from each communities making a total of one hundred and twenty (132) respondents.

2.4 Model Specification

The probit regression model used to determine women's decision to participate in agribusiness assumes the underlying regression relationship. It can be represented in equation 1 to 3:

$$Y^* = \beta_0 + \beta_{Xi} + e_i \tag{1}$$

Where $Y_i = 0$ if $Y^* \leq 0$ and $Y_i = 1$ if $Y^* > 0$.

$$\begin{aligned} \text{That is } P(Y_i = 1) &= P(Y^* > 0) \geq \\ &= P(\beta_0 + \beta_{Xi} + e_i, >) \end{aligned} \tag{2}$$

$$Y_i + 1(Y^* > 0) \tag{3}$$

Where Y^* = Women's decision to participate in agribusiness activities or otherwise, X_1 = Age (Years), X_2 = Education (years spent schooling), X_3 = Training (attend training=1, no training =0), X_4 = Years of experience in business, X_5 = Household size, X_6 = Access to credit (access=1, no access=0) and X_7 = Membership of cooperative (member of cooperative=1 not member =0)

2.5 Likert Type of Scale

A three points Likert type of scale was used

Opinion	Point
Strongly agree	3
Agree	2
Disagree	1

3. Results and discussion

3.1 Socioeconomic characteristics of women

Table 1 shows the result of socioeconomic characteristics of women in the study area. The mean age of 43 in the study area indicates that the women were still in their active ages and were able to work to meet the needs of their families. This result was close to the findings of Damisa, *et al.* (2007) who reported that the mean age of Women who participated in agricultural production was 39 years. The finding of Haile (2016) also reveals that majority of the women who participate in extension services were middle aged and belonged to 31-40 years.

Table 1: Socioeconomic characteristics of respondent

Age	Frequency	Percentage
15-34	49	37.1
35-54	76	57.6
55-74	7	5.3
Total	132	100
Mean	43	
Marital status		
Single	35	26.5
Married	90	68.3
Widowed	5	3.7
Divorced	2	1.5
Total	132	100
Household size		
1-3	20	15.5
4-6	66	50
7-9	35	26
10-12	11	8.5
Total	132	100
Mean	6 persons	
Educational qualification		
non formal education	21	15.9
Primary	34	25.7
Secondary	53	40.2
Tertiary	24	18.2
Total	132	100
Experience in Business		
1-10	11	8.3
11-20	118	89.4
21-30	3	2.3
Total	132	100
Mean	10 years	
Access to credit		
No access to credit	75	56.8
Access to credit	57	43.2
Total	132	100
Membership of association		
Member of association	89	67.4
Not Member of association	43	32.6
Total	132	100
Attend Training		
No training	81	61.4
Attended Training	51	38.6
Total	132	100
Distribution of Monthly income		
1000-20000	85	64.4
21000-40000	31	23.4
41000-60000	16	12.2
Total	132	100
mean	18,258.33	

Also, majority (68.3%) of the respondents were married Enwelu, *et al.* (2013) in a survey on challenges and prospects of smallholder oil palm production in Awka, Anambra State, Nigeria reported that being married implied that the families provided part of the labour required to keep family activities running. The mean household size for this study was 6 persons. Ajani *et al.* (2012), noted that large family size constitutes the family labour relied upon to carry out activities. Chidinma and Joshua (2016) opined that increase in the number of people living in a household increases the pressure on women to carter for such a large family size and as such would involve more in entrepreneurship development in agribusiness sector.

About 40.2% of respondents had secondary education, 25.7% had primary education, 15.9% of respondents had non-formal education while 18.2% of them had tertiary education. This is in line with the findings of Koros (2017), who reported that women were less educated in the survey on determinants of women participation in agribusiness development project in Sotik Sub- County, Bomet County Kenya. Messay (2011) in a study on the assessment on the role of women in agriculture in *Ethiopia* revealed the educational level of the respondents was as follows; 38.4% were illiterate, 30% have formal education and 31.6% had non-formal education. Average business experience of respondents in the study area was 6 years. About 51.67% of the respondents had no access to credit, while 48.33% had access to credit facilities for their businesses. Mayoux (2005) in a survey opined that creation and accessibility for credit and micro finance is an entry point for women's economic and social empowering.

This study also reveals that 67.4% of the women were members of cooperatives, while 32.6% were not members of cooperative association. Kehinde, *et al.* (2009) noted that associations help to solve agricultural and non-agricultural problems. This result implies majority of the respondent received assistance to solve their problems. Also that about 61.67% of the women didn't attend any training before commencing their business, while 38.33% of them had some form of training before the commencement of their business enterprises. Majority of the respondents earn between ₦1000 to ₦10000 monthly with a mean monthly income of ₦18,258.33.

3.2 Women participation in agribusiness

Table 2 shows that majority (70.5%) of the women were involved in agribusiness activities while about 29.5% of the women were involved in non-agribusiness enterprises, The result of this research affirms that there is a high rate of women involvement and commitment in agricultural production. This implies that agriculture is a major source of employment among women in the study area. Many women were involved in agribusiness because they make up a significant portion of the global agriculture workforce, performing crucial tasks such as planting and harvesting to processing and marketing. According to Heifer International (2025) involvement of women in farming helps to promote gender equality for sustainability and advancement of rural communities.

3.3 Determinants of women's decision to participate in agribusiness activities

The result of the probit regression analysis on the factors that determines women's decision to participate in agribusiness activities is shown in Table 4. The probit regression estimation for the variables shows that age, marital status were significant at 5% while member of cooperative society was statistically significant at 1% level.

Table 2: Extent involvement of women's in Agribusiness

Type of Business	Freq.	Percentage
Agribusiness	93	70.5
Non-Agribusiness	39	29.5
Total	132	100

Age positively influenced women's decision to participate in agribusiness activities in the study area. This implies that older women are more likely to engage in agribusiness activities than non-agribusiness. This may be associated to the fact that women who are advance in age, are more likely to engage in rigorous farming activities. This is because they have more experience in various

agricultural techniques acquired due accumulated years of observation and experience. This result agrees with the finding of Etim, et al. (2020) in their research on application of probit analysis in the decision of youths to participate in vegetable production in Nigeria. Marital status was negatively significant to women's decision to participate in agribusiness activities. This indicates single women are less likely to engage in agribusiness than their married counterparts in the study area. Also, membership of cooperative society positively influenced women's decision to participate in agribusiness activities. This implies that women who were members of cooperative society were more likely to participate in agribusiness in the study area. Most of the persons who subscribe to membership of association did so to meet social and economic needs like access to extension services, bulk sale, gaining economies of scale, and credit facilities etc. The possible explanation for this result is that women in the study area who venture into agribusiness took advantage of collective action the benefit as cooperative member for their uttermost profit through value addition processes such as grading, packaging, processing etc. to get more money.

Table 3: Probit model analysis of the factors influencing decision to participate in agribusiness

Variables	Coefficient	Wald Chi-Square	Sig	Exp (B)
Constant	-.880	1.806	.179	.415
Age	.037**	3.244	.072	1.038
Marital status	-.394**	3.428	.064	.674
household size	.079	1.956	.162	1.082
Educational Qualification	-.017	.339	.560	.984
Work Experience	-.027	.928	.335	.973
Access to Credit	-.015	.003	.958	.985
member of cooperative	.767***	5.990	.014	2.153
Training	-.014	.003	.956	.986
Number of Observations = 132				
Chi2	21.500			
P-value	.006			

*** Sig at 1%. **Sig at 5%

3.4 Constraints affecting women entrepreneurs in the study area

Table 4 shows that the major constraints affecting women entrepreneurs in the study area were high cost of technologies/maintenance (65.8%), inadequate credit facilities (60.8%), inadequate capital (60.8%), labour intensive venture (66.7%) and poor returns (56.7%).

Mustapha et al. (2018) stated that women do not have access to useful information on issues such as access to technologies, rural credit and training materials. This in turn limits the capacity of women to participate in agribusiness activities and expand their enterprises. Poor access to financing is another major setback faced by women in agriculture.

Table 4: Constraints affecting Respondents in the study area

Constraints	VS	S	NS	Mean	Rank
High cost of technologies	79(65.8)	37(30.8)	2(1.7)	2.6	1
Inadequate credit Facilities	73(60.8)	24(20.0)	23(19.2)	2.4	2
Labour intensive venture	23(19.2)	80(66.7)	17(14.2)	2.1	3
Inadequate capital	24(20.0)	73(60.8)	23(19.2)	2.0	4
Poor returns	23(19.2)	68(56.7)	29(24.2)	2.0	5
High cost of Transportation	18(15.0)	74(61.7)	28(23.3)	1.9	6
Lack of training	13(10.8)	81(67.5)	26(21.7)	1.9	6
Poor storage facilities	18(15.0)	57(47.5)	45(37.5)	1.8	8
Inadequate modern equipment	25(20.8)	42(35.0)	53(44.2)	1.8	8
Inadequate land	7(5.8)	59(49.2)	52(43.3)	1.6	10
Age factor	6(5.0)	48(40.0)	66(55)	1.5	11

Credit is an extremely useful resource to farmers due to the fact that their production activities are most often seasonal in nature and a considerable lag occurs between the time they incur costs and the time that they are able to generate income from their produce (Bendelova, 2019). According to the information obtained from the study carried out by Messay (2011), women lack access to suitable and efficient agricultural technologies and inputs which would relieve them from taxing day to day chores and had low level of training opportunity in agricultural technology.

4. Conclusion

This study establishes that there were more women in agribusiness enterprises than in non-agricultural enterprises in the study area. The major problems to the smooth running of businesses were high cost of improved technologies, inadequate credit and capital and labour intensive venture. Investigation into the factors affecting women's participation in agribusiness activities revealed that age, marital status and memberships of cooperative society were the major determinant to participation in agribusiness in the study area.

Recommendations

Based on the findings from this study, it was recommended that: private and public interventions in credit scheme should be encouraged to ensure that the rural women have access to low interest rate loan facilities and grants which will enable them enhance their business activities by getting modern equipment and facilities: The rural women should engage in activities and associations that ensure that they have access to adequate information and existing opportunities: The Government should ensure that the cost of machineries and processing equipment are subsidized, so that the rural women may be able to purchase them.

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