



Original Research Article

Large-scale Farmland Acquisition Outcome on Displaced Farmers' Livelihoods in Edo State, Nigeria

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Abstract

The study investigated the outcome of large-scale farmland acquisition on the livelihoods of displaced farmers in Edo State, Nigeria. To choose 250 farmers, a multi-stage sampling procedure was employed. Descriptive statistics such as frequencies, percentages and means were used to summarize the data, while inferential statistics such as Binary logistic regression analysis was used for data analysis. The result showed that large-scale farmland acquisition made women (57%) more vulnerable than men (43%) in the study area. The farmers in the area had a mean age of 45, which implicated more adults or older people than youth in farming. The Nagelkerke R² of 33% indicated that 33% of the variation in farmland acquisition was explained by variables like permanent contract (PC), wage rate (WR), unionization (UN), use of local suppliers (ULS), consultation period (CP), training for skilled positions (TSP), and *duly agreed* (DA). The probabilities of the new case of explanatory variables such as CP (0.515), DA (0.657), WR (0.635), and FSA (0.523) were above 0.5, and classified as "yes," which signified "landgrab." Variables that were statistically significant with an odd ratio (OR) as to the outcome of large-scale farmland acquisition included unionism ($p = 0.00$, OR = 1.363), permanent contracts ($p = 0.017$, OR = 1.136), and the use of local suppliers ($P = 0.030$, OR = 1.178). Suggested interventions include encouraging farmers to belong to formidable unions and their affiliates that can help to check irregularities and excesses in land deals so as to protect their rights and livelihoods. Investors should be encouraged to prioritize local content by engaging local suppliers and granting permanent contracts to indigenous companies.

Keywords: Farmland acquisition, Large-scale, Farmers, Landgrab, Livelihoods

Introduction

Farming on a large scale, as an investment opportunity, promotes massive capital development, technical know-how, and market access for economic growth. On the other hand, the future

livelihoods of our present-day original small-scale farmers may be negatively affected by the dominance of agribusinesses (Obikeze, 2020; Garrido and Zhang, 2020). Amidst these opportunities and challenges, there is a likelihood of an imbalance between the parties acquiring the land, the community, and the displaced farmers.

Large-scale investments in land have been carefully and thoroughly examined by researchers, civil society bodies, and other organizations on the basis of land insecurity, local consultation, displacement, compensation for land, employment, the procedure for negotiations between government and investors, and the environmental outcome of large-scale agriculture. Based on these issues, the shortfalls of the investors have contributed to critics' characterization of much large-scale investment since 2007 as "land grab" and not development opportunity (Pelenc and Ballet, 2021). According to Montessoro and Vizzarri (2019), the "land grab" narrative has overshadowed the potential development benefits of some large-scale investments.

Most countries lack adequate procedural or legal reforms to protect and take into account local farmers rights, welfare, interests, and livelihoods. Even in the few countries where legal mechanisms needed for community consultation are present, there is still an unsatisfactory process of land access negotiation with communities. A lack of checks and balances and transparency has given ground to corruption and personal aggrandizement in contract negotiations. The livelihood of resource-poor people is undermined by a number of factors, including unclear standards for productive use, statutory loopholes, difficult registration procedures, an undefined right of use of state-owned land, and compensation limited to the loss of crops and trees (Deininger and Xia, 2019).

Livelihood refers to the means by which a person or household earns the resources necessary for their basic needs and standard of living. It encompasses the assets, activities, and capabilities required to secure the necessities of life, such as water, food, clothing, and shelter (Scoones, 2019). In a similar context, livelihood is defined as the assets (natural, financial, physical, social, and human capital), the activities, and the accesses to these (mediated by social and institutional relations) that together determine the living gained by the individual or household (Bebbington, 2021).

In developmental studies, the concept of livelihood gives one an understanding of complex issues pertaining to factors that influence an individual's or group's ability to make a living and keep it. The key goal of developmental policies and programs is to improve livelihoods aimed at promoting the fitness of impoverished persons in society.

Many recent large-scale commercial investments have failed to deliver on promises or even to become operational (Shlomo, 2021). One significant question, Girma *et al.* (2021) argued, is whether the investment promotes the production of food for trade in the local market, which could be beneficial to communities with food insecurity problems. Smalley (2014) recounted that commercial farming in sub-Saharan Africa is noted to be characterized by instability, change, and unexpected outcomes. The above issues become worrisome when Oxfam (2010) equates large-scale land acquisition with land grabs when they violate human rights, fail to consult affected people, do not get proper consent, and happen in secret. Therefore, this work takes into account the outcomes of large-scale farmland acquisition, whether it is a development opportunity for the people or a land grab by investors. As far as the authors are concerned, no

work has been done on large-scale farmland acquisition outcome on displace farmers' livelihood in Edo State.

Methodology

The area of study

The study was conducted in Edo State, Nigeria. The state capital, Benin City, lies on a geographical coordinates of latitude 6.6342⁰N and longitude 5.9304⁰ E. The state occupies a land area of about 19, 559Km², with a population of 10,233,366; which is equivalent to 523 persons per square kilometer (NPC, 2006). Edo state is an economic hub for agriculture, manufacturing and tourism.

Sampling Procedure

The study applied a multi-stage sampling procedure. The first stage was the purposeful selection of communities with the presence of large-scale commercial farms that are 200 hectares or more in land area. The second stage involved the random selection of fifteen communities where these farms are situated. With the help of local land agents, names of displaced farmers and concerned family heads of the selected communities were compiled, and these comprised the sampling frame. The sampling frame was made up of 435 displaced farmers. From this, a sample size of 250 displaced farmers was chosen using a simple random sampling technique. The formula given by Kothari (2004) to estimate sample size was adopted in determining the sample size, as it makes provision for the control of sampling error (specific margin of error size for the variables that are considered as vital to the survey) and the calculation of the sample size. The formula for estimating sample size is given as:

$$n = \frac{Z^2 \cdot r \cdot s \cdot N}{e^2 (N-1) + Z^2 \cdot r \cdot s} \dots\dots\dots 1$$

Where

n = sample size

Z is the value of the standard deviation at a confident level taken from the table of the normal curve at variants (Z) for 95% confidence, which is 1.96.

r = sample proportion (s = r-1), which in this study will be taken as 50% (0.5).

N is the sample frame.

e = error margin estimated at 5% (0.05),

Primary data for the study were obtained with the aid of a semi-structured interview schedule that was administered to the displaced farmers. Key informant interviews were held with staff from investor institutions, consultants, lawyers, and agents facilitating land deals. In addition, information was sourced from the state's Ministry of Lands and Survey (MLS) and the Ministry of Agriculture and Natural Resources (MANR).

Binary logistic regression was used to ascertain whether large-scale farmland acquisition is a land grab or a development opportunity. The advantage of this method is its probabilistic tendency to decide between two competing dependent variables. The classification of large-scale farmland acquisition (LSFA) was conducted by collecting data on the nature of the job,

consultation period, wage rate, local supply, training for skilled positions, unionization, and acceptance of land sales by displaced farmers.

Following Gujarati (2005), the probability of large-scale land acquisition can be expressed as Land grab = 1, no land grab = 1-L, or land grab = $1+e^{z_i}$, no land grab = e^{z_i} (2)

Where:

e is the base of the natural logarithms.

Z_i is the linear combination of the independent variables written as

$$Z = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n \dots \dots \dots (3)$$

Taking the logarithm of equation (3)

$$\text{Log}(e^{z_i}) = L_i = Z_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n \dots \dots \dots (4)$$

Equation (4) represents the cumulative logistic distribution function and varies between 0 and 1 as Z varies from positive infinity to negative infinity. The Logit model was specified as follows:

$$\text{FLA} = \beta_0 + \beta_1 \text{PC} + \beta_2 \text{UN} + \beta_3 \text{AFP} + \beta_4 \text{DW} + \beta_5 \text{TSP} + \beta_6 \text{HSP} + \beta_7 \text{PC} + \beta_8 \text{KM} + \beta_9 \text{FRM} + \beta_{10} \text{DA} + \beta_{11} \text{GR} + \beta_{12} \text{ULS} + \beta_{13} \text{PIT} + U_i \dots \dots \dots (5)$$

Where:

- β_0 = constant or intercept
- FLA = farmland acquired (landgrab = 1, no landgrab = 0).
- PC = permanent contract (1 if the response is yes, 0 if the response is no).
- UN=Unionization (1 if the response is yes, 0 if the response is no)
- FSA = farm size accessed by farmers Access as long-term workers (Ha)
- DW = wage rate (Naira per day)
- TSP=Training for Skilled Position (1 if the response is yes, 1 if the response is no).
- HSP=Hired for Skilled Position (1 if the response is yes, 0 if the response is no).
- CP = consultation period (months)
- ULS = use of local supplies (1 if the response is yes, 0 if the response is no).
- DA = duly agree (1 if the response is yes, 0 if the response is no).
- U_i = error term

Results and Discussion

Socio-economic characteristics of respondents

The result in Table 1 shows that there were more females (57%) than males (43%) involved in farming in the study area. This is an indication that women were more vulnerable to LSFA in the study area than men were. This result contradicts the assertion by Atoma *et al.* (2023) that socio-cultural advantages such as the right to land and institutional support services like extension, credit, etc. are all skewed in favour of men, and encourage more males to farm than females. Analysis of the age of respondents in Table 1 revealed that about 75% of the farmers exceeded the youthful age bracket (18–35 years). The mean age (48 years) for farmers exceeded the

youthful age range. This age gap clearly explains that there were fewer youth than older people farming in the study area probably as a result of the drift of energetic youths from rural to urban areas in search of a better life. This is an indication that the youths are dissatisfied with farming and would rather prefer white-collar jobs in urban areas where social amenities are readily available. With the drift of such an age group from the rural agricultural workforce, agricultural output is likely to be low. This finding supports the findings of Adaigho *et al.* (2023) that the movement of young active people from rural to urban regions also contributes to the age differences among farmers. This outcome largely corroborates the report of Kiriti and Tisdell (2003) that age is inversely proportional to subsistence. Thus, unlike youths, as a farmer grows older, he gravitates towards subsistence agriculture. The drift from rural to urban areas in search of white collar jobs, according to Ewododhe *et al.* (2023), could be addressed by engaging these youths in competitive, government-established farms localized in rural areas, where they are well paid compared to what urban jobs or other government institutions can offer. The result in Table 1 further shows that a high proportion of the respondents, represented by 68%, were married. Studies have also shown in this regard that married women engage more in cash crop production than unmarried women, since their husbands support them with more land. This is a pointer to why the large farms in the study area were predominantly cash crops like oil palm and rubber. Though increasing commercialization exposes married women to more working hours compared to their unmarried counterparts (Kiriti and Tisdell, 2003), the sale of these lands poses a disadvantage to the women

Table 1: Distribution of respondents according to their socio-economic characteristics

Socio-economic Characteristic	Frequency	Mean	Socio-economic Characteristic	Frequency	Mean
Gender			Farming Activities		
Male	106(43)		Crop Production	94(37.6)	Mixed
Female	144(57)	Female	Mixed Farming	156(62.4)	Farming
Age (Years)			Income (₦)		
25 – 35	63(25)		580,000 – 660,000	59(24)	
36 – 46	66(26)		662,000 – 742,000	66(26)	756,100
47 – 57	56(23)	48	743,000 – 824,000	53(21)	
58 – 68	34(14)		825,000 – 906,000	50(20)	
69 – 79	31(13)		907,000 – 988,000	22(9)	
Marital Status			Farm Size (Ha)		
Single	58(23)		0.07 – 0.19	149(59.6)	
Married	170(68)	Married	0.20 – 0.32	75(30)	0.3
Divorced	13(5)		0.33 – 0.45	16(64)	
Widow	9(4)		0.48 – 0.58	10(6)	
Educational Level			Household size		
No Formal Education	38(15)		1-3	58(23)	
Primary	94(38)	Primary	4-6	132(52.8)	
Secondary	106(42)		7-9	41(16.4)	
Tertiary	12(4)		10 and above	19(38)	

Source: Survey data, 2022

who have put many years of effort into the cultivation of such lands, as they offer little or no resistance to contesting the sale of their lands. Table 1 also shows, as represented by less than 38% of the respondents who had non-formal education, that most of the farmers in the study area attended at least a primary school (42%) and could read, speak, and write. The result therefore shows that the average farmer in the study area was educated. Obioha *et al.* (2020) see education as a key factor in the transfer of knowledge to farmers. Mean farm size in the study area was 0.3 ha (4.5 plots), with 59.6% of the respondents owning farms smaller than this size. This implies that most of the farmers in the area were subsistence farmers, with about 6% of them operating large farms. According to Kiriti and Tisdell (2003), there is an inverse relationship between farm size and crop type. The result in Table 1 further revealed that the income realized annually from sales of farm produce was moderately high. More than 50% of the respondents earned less than the mean of ₦756,100 per annum (that is, ₦2,071 per day). This implies that more than 50% of the respondents earned less than \$2.25 per day, thereby living only marginally above the international poverty line of \$2.15 per day, as recommended. This result corroborates reports by the IMF (2021) and the AfDB (2021) that in some particular developing countries, more than 50% of inhabitants live below the poverty line.

Outcome of Large-Scale Farmland Acquisition

The outcome of large-scale farmland acquisition, as shown in Table 2, is that 86.4% of the respondents had no access to permanent job slots either as workers or contractors. This is equivalent to about six times the number of those who were opportune to have permanent employment as regular contractors or staff. This result compared to Ewododhe (2017), who demonstrated some level of improvement on the part of the investors. Investors' promises of employment to displaced farmers are usually unfulfilled, and if fulfilled, are usually seasonal with low pay and poor working conditions. This result corroborates the findings of GRAIN (2020) that MFC investments displaced farmers without creating the promised employment benefits. The study also uncovered that 62% of the respondents indicated that the period of consultation before their lands were acquired did not exceed 3 months. This contravenes the international standard of 4 months as specified by Cotula *et al.* (2009).

Table 2: Determinants of LSFA outcome

Variable	Option	Frequency	Mean
Permanent employment	Yes	18 (7.3)	No
	No	556 (92.7)	
Training for skilled position	Yes	132 (47.5)	No
	No	118 (52.5)	
Hired for skilled position	Yes	18 (16.0)	No
	No	232 (84.0)	
Use of local supplier	Yes	121 (40.8)	No
	No	129 (59.2)	
Consultation period	1 – 3	145 (62.0)	3.7
	4 – 6	74 (23.0)	
	7 – 9	35 (10.8)	
	10-12	22 (4.2)	
Wage rate	0 – 500	47 (20.0)	₦745
	600 – 1100	79(27.8)	
	1200 – 1700	97(35.6)	
	1800 – 2300	28 (16.6)	
Duly agree	Yes	186 (67.8)	Yes
	No	64 (32.2)	

Source: Data Survey, 2023

Most respondents, representing 68%, who duly agreed, said they had prior, free, and informed consent (PFIC) for their land sale, while 32% said that they were not properly informed. This is in line with Kachika (2010), who emphasized that land deals are indeed negotiated in secrecy and in a non-transparent way, as the affected populations, even when they are consulted, are not properly disposed due to insufficient resources and the inability of their counterparts (investors) to negotiate fair terms. Another study conducted on a group of key informants showed that the displaced farmers were not consulted directly, but instead their traditional rulers and representatives were consulted. This is not in line with the true spirit of consultation as required by international standards, which demand every farmer's input during consultation before the final memorandum of understanding is signed.

The processing summary cases show that 247 cases were included in the analysis, with 3 cases missing. The outcome variable was encoded “1” for “yes” and “0” for “no.”. To check if there was an improvement in the new model with the explanatory variable included, the Omnibus test of model coefficient was used. The new model, including the explanatory variable as in Table 3, with chi-square = 32.645, df = 18, $p < 0.001$, has a statistically significantly reduced -2 log likelihood compared to the baseline. This indicates that there was an improvement in the new model as it explained more of the variance in the model compared to a null model (a model void of predictor). Significantly, the new model was a better fit for the data. Also, the significant Omnibus test suggested that the independent variables included in the model significantly had predictive power in explaining the independent variable. In other words, the model was able to significantly predict the outcome or the dependent variable better than a model without predictors.

Table 3: Omnibus test of model classification of variance

		Chi-square	Df	Sig
Step 1	Step	44.390	18	0.001
	Block	44.390	18	0.001
	Model	44.390	18	0.001

The model summary (Table 4) provided for -2log likelihood statistic was 121.28. The statistic measured how poorly the model predicts the decisions. The result also unveiled that the explained variation in the dependent variables based on Nagelkerke R^2 was 0.33. The R^2 of 0.33, or 33%, indicated that only 33% of the variations in farmland acquisition had been explained by the variables (wage rate, permanent contract, unionization, use of a local supplier, training for skilled positions, consultation period, and duly agreed). This low value signified that the predictive variables in the model inadequately explained the underlying factors that determined MFC.

The Horner and Lemeshow test (Table 5) of the goodness of fit revealed that the model was a good fit for the data, as $P = 0.505 (> 0.05)$.

Table 4: Model summary

STEP	-2LOG LIKELIHOOD	COX & SNELL R SQUARE	NAGELKERKE R SQUARE
1	121.275	0.28	0.33

Table 5: Horner and Lemeshow goodness of fit

STEP	CHI-SQUARE	DF	SIGNIFICANCE
1	36.578	18	0.505

The results in Table 6 provide the regression coefficient (B), the Wald statistics (to test the statistical significance), and the all-important odds ratio (Exp. B) for each variable category. The (B) coefficients of all the variables were negative, indicating that increasing landgrab was associated with decreasing odd variables. The Wald test (Wald column) was used to determine the statistical significance of each of the independent variables. This means that if unionization was increased, landgrabs would be reduced. Also, if the use of local supply and training for skilled positions was increased, it would lead to development opportunities. From the result in Table 6, the significant and odd ratios (B) of unionization, UN ($p = 0.00$, OR = 1.363), permanent contract, PC ($p = 0.017$, OR = 1.136), and use of local supply, ULS (0.030; OR = 1.178) added significantly to the model. Thus, there was a positive relationship between MFC and landgrabs. It was noted that all other variables were not significant. This implied that there was a risk of landgrabs in the study area. Most incidences of landgrabs often lead to the displacement of local farmers, who earn their living from the land they occupy. This could cause a loss of livelihood, home, and traditional heritage. Some authors such as Bous and Far (2019), Ansoms and Bisoka (2020) and the Oakland Institute (2021) argue that the same foreign investors who do not make adequate consultations are, by their actions, not only engaged in abuse of human rights but also guilty of intimidation and molestation. Such practices patronize gains over farmers’ interests and could amount to hunger, poverty, social imbalance, and land deterioration.

The final outcome of MFC from the results of binary logit regression analysis, indicates that the estimated probability of the event was greater than 0.5, thus classifying the event as occurring. Examining the probability of all the new cases of the explanatory variables as shown in Table 6 of the classification block, such as consultation period, CP (0.515), farm size accessed, FSA (0.523), training for skilled positions, TSP (0.537), wage rate (0.635), and duly agreed, DA (0.647), one observes that they were all above the cut-off value of 0.5. The listed cases were, therefore, all classified as "yes," signifying landgrabs.

Table 6: Regression results of determinant of large scale farmland Acquisition

Variables	B	SE	Pro>/t/	Wald	Df	Sig	Exp(B)	Lower	Upper
UN	-0.803	0.410	0.323	12.394	1	.000***	1.363	0.240	0.582
PC	-0.524	0.324	0.372	3.592	1	0.017**	1.136	0.703	0.969
FSA	-0.300	0.367	0.537	0.248	1	0.523	0.033	0.243	1.536
ULS	-0.200	0.286	0.411	6.007	1	0.012**	1.178	0.472	1.025
CP	-0.940	0.339	0.515	0.970	1	0.415	0.118	0.742	2.970
DA	-0.076	0.304	0.637	0.106	1	0.645	0.234	1.026	1.211
WR	-0.574	1.286	0.635	0.315	1	0.675	1.343	0.201	6.290
TSP	-0.720	0.422	0.537	1.341	1	0.437	0.285	0.276	2.158
Constant	2.630	0.619	0.623	5.647	1	0.179	3.278		

Significant @ 0.1***(1%), 0.05**(5%), 0.10*(10%)

The result in Table 7 unveiled that the model correctly classified the outcome for 75.7% of the cases as compared to the null model. This is a marked improvement, signifying a landgrab,

because all the estimated probabilities of the event occurring were greater than or equal to 0.5 (better than even chances).

Table 7: Classification table (block1)

OBSERVED			PREDICTED		
			FLA		PERCENTAGE
Step 1	FLA	No	Yes	No	CORRECT
				Yes	36
		No	22	255	91.5
Overall Percentage					75.7

Conclusion

The outcome determinant of LSFA showed clearly that large-scale farmland acquisition is not development-driven exercise, but is rather landgrab-driven. The variation in Nagelkerke R2 could only cater for 35% variation at explaining other possible variables such as wage rate, use of local supplies, consultation period, hiring for skilled positions, training for skilled positions, and due consent. Variables such as unionism, use of local suppliers, and permanent contracts were significant variables in determining the outcome of large-scale farmland acquisition in the study area.

In order to protect farmers’ rights and livelihoods, farmers are encouraged to belong to formidable unions and their affiliates that can help to check irregularities and excesses in land deals. Investors should be encouraged to prioritize local contents such as local suppliers and permanent contracts. As an alternative livelihood option to farming, vulnerable groups should be encouraged to undertake training in non-farm income-generating programs such as entrepreneurship and vocation. Also, there is a need for policy intervention to control land deals and act as buffers in some specific areas in the interest of the farmers in the sale contractual agreement. Therefore, there is a concern about bridging collaboration with local stakeholders, community leaders, non-governmental organizations (NGO), and the government for strict adherence to implementation.

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