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FARMER-HERDER CONFLICT AND RICE PRODUCTION IN EBONYI STATE

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ABSTRACT

The study assessed the effect of farmers' displacement due to farmers-herdsmen conflict on rice production in Ebonyi State. Specifically, it identified the causes of farmers-herdsmen conflict, ascertained the perceived effect of farmers-herdsmen conflict on rice production, and identified measures that can be adopted toward resolving the conflict. Multistage sampling procedure was adopted in selecting 60 rice farmers with the aid of a structured questionnaire. Means, frequency distribution, percentage, and ordinal least squares (OLS) regression analysis were used to analyze the data collected. Results showed that farmers perceived the destruction of cultivated farmland by the cattle ($\bar{x} = 4$), migration of herders ($\bar{x} = 3.9$), and ape ($\bar{x} = 3.66$), amongst others as the major causes of the conflict in the study area. The study revealed that the perceived effect was low productivity ($\bar{x} = 3.94$), increase in the price of rice ($\bar{x} = 3.94$), displacement of rice farmers ($\bar{x} = 3.92$), death of farmers ($\bar{x} = 3.94$) amongst others, were the major effects of the conflict. Results showed that the major measures to adopt in resolving the conflicts were an intensive system of cattle rearing ($\bar{x} = 3.79$), education of herders ($\bar{x} = 2.90$), provision of grants ($\bar{x} = 3.91$), provision of input ($\bar{x} = 3.91$) amongst others. the estimated regression result showed that household size (t-value =12.463) and membership of a cooperative (t-value = 3.516) significantly influenced rice farmers perceived effect of displacement due to farmers-herdsmen conflict on rice production have a significant influence on the perceived effect of farmers' displacement due to farmers-herdsmen conflict on rice production in Ebonyi State. It was, therefore, recommended that practicing intensive system of rearing cattle should be adopted in resolving the conflict in the study area.

Keywords: *Effects, Farmer-Herder conflict, Rice production and Ebonyi State*

INTRODUCTION

Conflicts and violent clashes between farmers and cattle herders have recently caused serious damage to economic livelihood in Nigeria (Mufutau, 2020). Farmers regularly compete with nomadic herders for farmland, pastures, water, trees, and the use of rangeland in general. There have been violent clashes between nomadic herdsmen and farmers in several parts of Nigeria for several years. The clashes are occasioned by the destruction of Agricultural farms of the farmers by the cattle of the nomadic herdsmen which have resulted in loss of lives and properties. The conflict between farmers and herders is one of the social problems that bestow serious security challenges and obstruct severe threats to agricultural production.

The issue of farmers and herdsmen conflict of recent has reached a disturbing level (Apenda, 2020). Farmers in Ebonyi state are known for huge rice production and earn their living from the proceeds accruing from their production. Large-scale rice production has long been reported in Ebonyi State especially in Abakaliki, Ikwo, Afikpo, Izza, and Izzi due to favorable soil suitable for rice production (Okonkwo, Ukaogo, Danie1, Nwashindu, and Okeagu 2021). The Fulani herdsmen-farmers conflict in Ebonyi State has been intractable, leading to an increase in food shortage, damage to farmlands, crops and crop yields destroyed, farm input very exorbitant, and farmers displacement, the peaceful co-existence of communities and their hosts strained, socio-economic activities of host communities affected, all leading to increase in the price of food items, commodities and persistent shortage of food available to consumers. It is also apparent to stress that the frequent clashes between herders and farmers have resulted in the destruction of lives and farmlands and have become a major threat to efforts to boost food security. This has also resulted in a drastic reduction in farm outputs especially rice production, a development that has heightened the fear of hunger.

This conflict escalated in January 2018 with an estimated 300,000 people fled their homes (Ogbomoh, 2022). There had also been large-scale displacement and insecurity in parts of Ebonyi State, hindering farming as well as herding and driving up food prices (Oghomoh, 2022). The major cause of the conflict identified is traceable to the issue of climate change (Adebayo and Olaniyi, 2008) which has resulted in the scarcity of pasture for animals, thereby forcing herders from the North to move South-West in search of grazing areas. Finding a resolution to this conflict is essential for the states and Nigeria at large on the economy and food production.

Despite all these, it is pertinent to ascertain the perceived effect of farmers' displacement due to farmers-herdsmen conflict on rice production in the study area and probably identify ways of resolving the conflict. It is against this backdrop that the study was geared towards bridging the knowledge gap. In view of this, the broad objective of the study was to assess the effect of farmers' displacement due to farmers-herdsmen conflict on rice production in Ebonyi State.

The specific objectives of the study included, to:

i. identify the causes of farmers-herdsmen conflicts;

ii. ascertain the perceived effect of farmers' displacement due to farmers-herdsmen conflict on rice production and
iii. identify measures that can be adopted towards resolving farmers and herdsmen conflict in Ebonyi State.

It was hypothesized that the socio-economic characteristics of rice farmers do not significantly influence the perceived effect of farmers' displacement due to farmers-herdsmen conflict on rice production in Ebonyi State.

METHODOLOGY

The study was carried out in Ebonyi State which is located in South East Nigeria Ebonyi State has a total of 13 Local Government Areas (LGAs. The State is primarily an agricultural region, it is a leading producer of rice, yam, potatoes, maize, beans, and cassava, and has a notable basket market in Nigeria. The population for the study comprised all the rice farmers in the affected area/conflict area of Ebonyi State. Multistage sampling procedure was adopted in the selection of the sample. First, the purposive selection of 2 LGAs from each of the three agricultural zones, Afikpo-south and Afikpo north, Izzi and Abakaliki, Ikwo and Ezza north based on the prevalence of conflict in the areas. The second stage also adopted purposive selection of 1 community from each of the (6) selected LGAs which were, Edda, Ukpa, Mgbalukwu, Amagu-enyim, Nsobo-ekpaomaka, Ndiagu-Amagu based on the existence of farmers-herdsmen conflict in the areas. The last stage involved the random selection of 10 rice farmers from the 6 selected communities using the list of rice farmers provided by the Agricultural Development Programme (ADP) staff which made a total sample size of 60 rice farmers.

Primary data were collected through administering of questionnaire. The questionnaire was supplemented with oral interviews for those who could neither read nor write. Objectives I, II & I11 were realized using descriptive statistics, such as frequency, and percentage. The various attributes were rated on a 4-point Likert-type scale of (4) Strongly agreed (3) Agreed (2) Disagreed (1) Strongly disagreed. The values of standard deviation (σ) denote the degree of variation in the responses of the farmers' felt causes of farmers-herdsmen conflict on rice production in the study area. Objective III was realized using mean score analyses which were achieved through a 4-point Likert-type scale of strongly agree (4) agree (3) disagree (2) and strongly disagree (1). The value of the Likert-type scale rating was summed and then divided by the number of scales to obtain the discriminating index (4+3+2+1 = 10/4 + 2.5). thus, any statement with a mean score greater than or equal to 2.5 was regarded as the perceived effect of farmers' displacement due to farmers-herdsmen conflict on rice production while a mean score less than 2.5 was not regarded as the perceived effect of farmers' displacement due to farmers-herdsmen conflict on rice production. The hypothesis was tested using ordinary least squares, a regression analysis.

RESULTS AND DISCUSSION

Causes of Farmers-herdsman conflict in Ebonyi State

The outcome of farmer's distribution based on causes of farmers-herdsmen conflict in Ebonyi State is shown in Table 1. Findings revealed that all the items were rated with an acceptable discriminatory mean. The respondents stated that destruction of cultivated farm land by cattle ($\bar{x} = 4; \sigma = 0.00$), migration of herders from north to southeast ($\bar{x} = 3.9; \sigma = 0.30$), drought and desertification ($\bar{x} = 3.15; \sigma = 0.48$), climate induced degradation of pasture ($\bar{x} = 3.13; \sigma = 0.50$), Rape ($\bar{x} = 3.66; \sigma = 0.27$), the incessant killing of rice farmers ($\bar{x} = 3.78; \sigma = 0.41$), non-access to pasture (forage) ($\bar{x} = 3.15; \sigma = 0.57$), Religious belief ($\bar{x} = 3.14; \sigma = 0.63$), disagreement ($\bar{x} = 3.13; \sigma = 0.72$), violence among northerners ($\bar{x} = 3.04; \sigma = 0.64$), discrimination ($\bar{x} = 2.9; \sigma = 0.86$), lack of access to land for grazing ($\bar{x} = 2.98; \sigma = 0.82$), and increase in population ($\bar{x} = 2.7; \sigma = 0.95$) were also the causes of farmers-herdsmen conflict in the study area. The result was shared view with the study of Okoro (2018) who reported that the key underlying causes of farmers-herdsmen conflict are the destruction of farmland, migration of herders from north to south, rape, incessant killing of rice farmers, drought and desertification, lack of grazing land. Addressing the challenges and creating a mutual environment for both the farmers and the herder to co-exist will bring an end to the conflict in the study area.

Table 1: Causes of farmers-herdsmen conflict in Ebonyi State

	Causes	SA 4	A 3	D 2	SD 1	$\bar{X}$	S.D
1	Destruction of cultivated farmland by cattle	60	-	-	-	4	0.00
2	Migration of herds from North to Southeast	54	6	-	-	3.9	0.30
3	Drought and desertification	12	45	3	-	3.15	0.48
4	Climate-induced degradation of pasture	12	44	4	-	3.13	0.50
5	Incessant killing of rice farmers	47	13	-	-	3.78	0.41
6	Religious belief	17	35	18	-	3.14	0.63
7	Violence among northerners	14	35	11	-	3.04	0.64
8	Non-access to pasture (forage)	15	39	6	-	3.15	0.57
9	lack of access to land for grazing	16	32	8	4	2.98	0.82
10	Disagreement	20	28	12	-	3.13	0.72
11	Rape	55	5	-	-	3.66	0.27
12	Discrimination	16	27	13	4	2.9	0.86
13	Increase population	16	16	23	5	2.7	0.95

Source: Field survey Data, 2022, Discriminating index = 2.5 and above, sample size 60, SD = standard deviation, = mean score ≥ 2.5 accepted as the causes, < 2.5 not a cause

Perceived Effect of Farmers' displacement due to Farmers-herdsmen conflict on rice production in Ebonyi State

The result of farmers' distribution based on the perceived effect of farmers-herdsmen conflict on rice production is displayed in Table.2. In the result, farmers stated that the conflict between them and the herders had resulted in low productivity, ($\bar{x} = 3.94; \sigma = 0.51$), scarcity of rice ($\bar{x} = 3.94; \sigma = 0.51$), death of farmers ($\bar{x} = 3.94; \sigma = 0.51$), the strained relationship between host and herders ($\bar{x} = 3.9; \sigma = 0.30$), lost of income ($\bar{x} = 3.92; \sigma = 0.53$), large scale displacement of rice farmers ($\bar{x} = 3.92; \sigma = 0.53$), increase in price of food items ($\bar{x} = 3.94; \sigma = 0.72$), destruction of lives & properties ($\bar{x} = 3.94; \sigma = 0.51$). This finding is in assertion with the study of Ofuoku and Isife (2010) that conflict among farmers-herdsmen led to a reduction in output and income of farmers as a result of the destruction of crops by the cattle, displacement of farmers as a result of herdsmen attack. Loss of life has reduced some women farmers to the status of widows.
Similarly, farmers identified insecurity ($\bar{x} = 3.89; \sigma = 0.55$), rape ($\bar{x} = 3.86; \sigma = 0.57$), kidnapping ($\bar{x} = 3.86; \sigma = 0.89$), and robbery ($\bar{x} = 3.86; \sigma = 0.57$) as some of the other perceived effects of farmers-herdsmen conflict on rice production in the area

Table 2Perceived effect of farmers-herdsmen conflict in Ebonyi State

	Perceived effect	SA 4	A 3	D 2	SD 1	$\bar{X}$	S.D
1	Low productivity (rice)	59	-	-	1	3.94	0.51
2	Scarcity of food (rice)	59	-	-	1	3.94	0.51
3	Death of farmers as a result of conflict	59			1	3.94	0.51
4	Strained relationship between host and herders	54	6	-	1	3.9	0.30
5	Discrimination	29	25	5	-	3.35	0.77
6	Disagreement	33	26		1	3.51	0.67
7	Clashes between herdsmen and rice farmers	57	-	2	1	3.87	0.62
9	Unemployment	27	19	13	1	3.19	0.89
10	Loss of income	58	1		1	3.92	0.53
11	Large scale displacement of rice farmers	58	1	-	1	3.92	0.53
12	Increase in price of food items	59	-	-	1	3.94	0.72
13	Destruction of lives and properties	59	-	-	1	3.94	0.51
14	Insecurity	56	3	-	1	3.89	0.55
15	Food security	56	3	-	1	3.89	0.55
16	Rape	54	5	-	1	3.86	0.57
17	Kidnapping	54	5	-	1	3.86	0.57
18	Robbery	54	5	-	1	3.86	0.57

Source: Field survey Data, 2022, Discriminating index = 2.5 and above, sample size 60, SD = standard deviation, = mean score ≥ 2.5 perceived effect, < 2.5 not regarded as perceived effect.

Resolving Farmers-herdsmen Conflict on Rice Production in Ebonyi State

The result is shown in Table 3. The result revealed that the provision of grants/subsidy to farmers ($\bar{x} = 3.91; \sigma = 0.69$), provision of relief materials to displaced farmers ($\bar{x} = 3.82; \sigma = 0.57$), intensive system of rearing cattle ($\bar{x} = 3.79; \sigma = 0.99$), provision of inputs for the affected farmers ($\bar{x} = 3.77; \sigma = 0.55$), restriction of cattle to farming area ($\bar{x} = 3.59; \sigma = 0.57$), use of enlightenment campaign ($\bar{x} = 2.94; \sigma = 0.60$), education of normadic herdsmen ($\bar{x} = 2.90; \sigma = 0.57$), legal means ($\bar{x} = 2.89; \sigma = 0.51$), use of traditional rulers ($\bar{x} = 2.76; \sigma = 0.55$), use of dialogue ($\bar{x} = 2.73; \sigma = 0.53$) were the measures farmers stated in resolving farmers-herdsmen conflict in the study area. This is in accordance with the study of Egbas (2018) and Yusuf and Safina (2018) who reported that education of nomadic herdsmen, an intensive system of rearing cattle, legal means, dialogue, and provision of grants/subsidies will to an extent reduce the farmers-herdsmen conflict. Farmers accepted the above items as the measures towards resolving farmers-herdsmen conflict except establishment of grazing area ($\bar{x} = 2.37; \sigma = 0.53$), which has index < 2.5which shows that the farmer does not accept establishment of grazing area as one of the measures to resolve farmers-herdsmen conflict. This result is in line with Egbas (2018) who asserted that many have kicked against the proposed bill to create grazing zones across the country, arguing that the decision is ill-advised, against the Land Use Act and overriding public interest.

Table 3: Resolving farmers-herdsmen conflict in Ebonyi State

	Control measures	SA 4	A 3	D 2	SD 1	$\bar{X}$	S.D
1	Establishment of grazing area	7	22	18	13	2.37	0.53
2	Use of dialogue	3	41	13	3	2.73	0.53
3	Legal means	2	42	15	1	2.89	0.51
4	Use of traditional rulers	3	41	15	1	2.76	0.55
5	Provision of inputs for the affected farmers	49	10	-	1	3.77	0.55
6	Education of nomadic herdsmen	7	42	10	1	2.90	0.57
7	Restriction of cattle to farming areas	38	21	-	1	3.59	0.57
8	Provision of relief materials to displaced farmers	52	7	-	1	3.82	0.57
9	Provision of grants/subsidy to farmers	57	2	-	1	3.91	0.69
10	Use of enlightenment campaign	5	48	6	1	2.94	0.60
11	Intensive system of rearing cattle	50	9	-	1	3.79	0.99

Source: Field survey Data, 2022, Discriminating index = 2.5 and above, sample size 60, SD = standard deviation, = mean score ≥ 2.5acceptance as measures of resolving conflict, < 2.5 not a measure.

Estimated Influence of Farmers' Socio-economic Characteristics on their Perceived Effect of Farmers-herdsmen Conflict on Rice Production

Table 4 shows the results of the analysis of the socio-economic factors that influence the effect of farmers' displacement due to farmers-herdsmen conflict on rice production. From the results of the double-log function of the multiple regression analysis, the variables of household size and membership of cooperatives significantly influenced rice farmers' perceived effect of displacement due to farmers-herdsmen conflict on rice production.

Household size (X^6) was positively and significantly related to the perceived effect of farmers' displacement due to farmers-herdsmen conflict on rice production with a t-value of 12.463 at (0.01%) probability level. This implied that the large number of households promotes the circulation of information relating to the perceived effect of farmers' displacement due to farmers-herdsmen conflict on rice production. This is in line with George &Adelaja (2021) who stated that displacement increases the reliance on male & female household labour but has no effect on hired labour. Membership of cooperative (x^8) was positively and significantly related to the perceived effect of farmers' displacement due to farmers-herdsmen conflict on rice production with a t-value of 3.516 at (5%) probability level. This implied that the more farmers are involved in a cooperative society they can get information on the causes of conflict and the best way to tackle the prevalence of farmers-herdsmen conflict for the common good of food security. This is in agreement with Okoli and Ogayi (2018) found that membership in a cooperative allows farmers to share knowledge, understanding, and financial resources and use dialogue in resolving conflict among the farmers and herders. Therefore, the hypothesis that the socio-economic characteristics of the respondents do not significantly influence the perceived effect of farmers' displacement due to farmers-herdsmen conflict on rice production in the study area was therefore rejected.

Table 4: Influence of farmers' socio-economic characteristics on their perceived effect of farmers-herdsmen conflict on rice production

Explanatory variables	Linear	Semi-log	Double-log ±	Exponential
Constant	40.594	24.074	3.936	4.008
	(3.459)**	(1.727)	(137.988)***	(177.53) ***
Age (X^1)	-223	392	.002	.000
	(-1.451)	(-148)	(462)	(.575)
Marital status (X^2)	.2.185	2.162	.005	.004
	(.813)	(1.154)	(1.238)	(.819)
Sex (X^3)	-1.361	1.106	.007	007
	(-6353)	(.522)	(1.580)	(1.239)
Educational level (X^4)	-2.876	-506	.000	.002
	(1.571)	(-395)	(.176)	(486)
Farming experience (X^5)	.343	3.338	.003	000
	(2.046)*	(1.081)	(.441)	(.382)
Household size (X^6)	.664	13.605	0.98 (12.463)***	.015
	(.708)	(3.562) **		(8.530)***
Farm size (X^7)	-326	-1.166	003	.001
	(-396)	(623)	(.834)	(.327)
Membership of cooperative (X^8)	14.157	5.508	.024	.040
	(3.22)**	(1.608)	(3.516)**	(4.512)***
Extension access (X^9)	2.876	-551	.004	.006
	(1.571)	(-280)	(1.073)	(1.207)
Income (X^{10})	-2.005	-013	.000	-1.269
	(-9.14)	(-029)	(286)	(-304)
R^2	58.5	62.0	93.0	87.3
f-ratio	6.897	7.659	61.243	32.188

Figures in parenthesis are t-ratios
t-ratios*significant at %, **significant at 5%, and *significant at 10% level**
Source: Field survey Data, 2022

CONCLUSION AND RECOMMENDATIONS

The study identified that the farmers perceived the destruction of cultivated farmland by the herders' cattle, killing of rice farmers, raping of the female rice farmers, drought and desertification, migration of herders, and lack of grazing area amongst others as the major causes of farms-herdsmen conflict in the study area.

Also, they perceived that the conflict had resulted in low production of rice, death of rice farmers which has led to rice scarcity, and displacement of rice farmers which has made families unable to produce or buy enough food, which renders them food insecure, destruction of lives and properties among others. The farmers also perceived that the measures that can be adopted in resolving the conflict between farmers-herdsmen are the intensive system of cattle rearing where the cattle will be confined at a place like the establishment of ranches, educating the nomadic herders, providing input for the affected farmers, providing grants, use of dialogue, among other can go a long way in resolving the conflict among farmers and herders.

Based on the findings of the study, herdmen should be encouraged to practice an intensive system of cattle rearing to drastically reduce conflict between herders and farmers. No herdsmen should be allowed to carry guns. Establishing or strengthening conflict mediation and peace building mechanisms should be done within rural communities particularly in areas that have been most affected by conflict in Ebonyi State and Government should strengthen security arrangements for herders and farming communities in Ebonyi State.

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