International Journal of Trend in Scientific Research and Development (IJTSRD)
Volume 5 Issue 6, September-October 2021 Available Online: www.ijtsrd.com e-ISSN: 2456 – 6470

Socioeconomic Effect of Cattle Grazing on Agricultural Output of Members of Farmers Cooperative Societies in Anambra State

Anigbogu, Theresa Ukamaka (Ph.D), Ekwunife, Uzoamaka Blessing

Department of Cooperative Economics and Management, Nnamdi Azikiwe University (NAU), Awka, Nigeria

ABSTRACT

This study examined the socioeconomic effect of cattle grazing on agricultural output of members farmers cooperative societies in Anambra State. The study specifically, examined the social, economic and demographic effect of cattle grazing on the output of members of farmers cooperative societies in Anambra State. This study is anchored on the Malthusian theory. The study was a survey research on a sample of 290 respondents that are drawn from members of selected cooperative societies. Data for the study obtained with the use of structured questionnaire were analyzed using descriptive and inferential statistics. Findings revealed cattle grazing has significant negative social effect on output of members of farmers cooperative societies in Anambra State. Cattle grazing has significant negative economic effect on output of members of farmers cooperative societies in Anambra State. Cattle grazing has no significant negative demographic effect on output of members of farmers cooperative societies in Anambra State. All the three coefficients (social, economic and demographic effect of cattle grazing) are significant determinant of output of members of farmers cooperative societies in Anambra State. In general, the joint effect of the explanatory variables-independent variables-in the model account for 0.860 or 86.0% of the variations in the output of members of farmers cooperative societies in Anambra State. Based on the findings of this study, the following recommendations are made: The government should address current security challenges in the country particularly as it affects the farmers and herders across the region. To avoid serious economic loss among farmers and herders, the government should encourage indigenous and commercial cattle ranching in each state. This will allay the fear of farmer on herders encroachment on their land. Open cattle grazing should be banned to avoid the demographic damages it causes to both farmers and herders.

KEYWORDS: *Cattle Grazing, Agricultural Output, Cooperative Societies*

How to cite this paper: Anigbogu, Theresa Ukamaka | Ekwunife, Uzoamaka Blessing "Socioeconomic Effect of Cattle Grazing on Agricultural Output of Members of Farmers Cooperative Societies in Anambra State" Published in International Journal of Trend in Scientific Research and Development (ijtsrd), ISSN: 2456-6470, Volume-5 | Issue-6, October 2021, pp.1008-1016, URL: www.ijtsrd.com/papers/ijtsrd47562.pdf

IJTSRD47562

1. INTRODUCTION

As the gap between food production and population growth widens, nomadic and crop farming remains critical components of food security in Nigeria. The food production and population gap is orchestrated by the present demographic expansion in Nigeria and a spectacular change in food habits. National Population Commission (NPC) as cited by Imo (2017) noted that with a population growth nearing 2.8% per year, the country's own domestic food production is far from being able to meet demand. Nigeria is however expected to have a population of over 398 million which will be more than the population of Pakistan and Brazil by 2050 (PRB, 2016). Therefore, in order to close the perceived for food demand gap, herders and farmers had to intensify efforts in animal rearing and crop production so as to bridge the gap. In an effort to be food sufficient and secure, crop farmers have

reportedly cried out that herders destroy their crops by grazing on their un-harvested crops thus undermining their productivity. This situation has resulted in several clashes between the farmers and herders in farming communities across the country.

Olayoku (2014) reported that the Nigeria Watch database June 2006 to May 2014 has recorded 615 violent deaths related to cattle grazing, out of a total of 61,314 violent fatalities in Nigeria. The analysis that follows was undertaken with 111 relevant cases, which were reported by the press across the 36 states of Nigeria from June 2006 to May 2014. It seeks to understand the frequency, the intensity, the patterns, and the geography of such violence, based on a study of 7 incidents in 2006, 9 in 2007, 6 in 2008, 13 in 2009, 9 in 2010, 15 in 2011, 17 in 2012, 27 in 2013, and 8 as at May 2014. From 2014 to date scores of other deaths have been recorded resulting from farmers and herders crisis (Olayoku, 2014).

Arguably, cattle grazing in Nigeria have resulted in severe environmental degradation which has affected agricultural production, health standard and engendered some security risks including socio-cultural conflicts between the original inhabitants of the area and the nomadic cattle rearers (Taiye, Dauda & Emmanuel, 2017; Tarawali & Pamo, 1992). The people of Nigeria are mainly farmers producing food crops such as rice, yams, maize, millet, cassava and beans among many crops, in large quantities due to the favorable biophysical conditions of the landscape. Perceptibly, the vast arable land and the land tenure system practiced in the country empowers ownership of land by individuals and families for the purpose of food production thus each family or individual strives to conserve some portions of its/his land for cultivation and ensure the security of the farms from domestic animals. To this extent, during planting seasons, grazing of animals is restricted to certain agreed areas different from crop fields so as to avoid the damage of the latter by the animals. In most areas strict rules exist to check this practice (Tarawali & Pamo, (1992).

It has been argued by some researchers that grazing improves soil fertility and farm productivity while some other researchers insist that grazing has adverse effect on vegetations thus subjecting the effect of cattle grazing on vegetation and soil dynamics to much controversy due to conflicting results or limitations of small-scale experiments ((Briske et al 2008; Holechek et al 2006; Schieltz & Rubenstein, 2016). Schieltz and Rubenstein (2016) noted that recent reviews have concluded that, in general, managed livestock grazing to moderate intensities can have positive impacts on rangeland vegetation compared with grazing exclusion, though uncertainties remain concerning how spatial movements of livestock influence these processes (Briske et al 2008; Holechek et al 2006; Schieltz & Rubenstein, 2016).

Statement of the Problem

This study was informed by the perceived rising food security challenges in the country as a result of the alleged farmers outcry that herdsmen destroy their farm lands and crops through grazing of cattle. Cattle grazing has become topical because of the various dimensions it has taken. In recent time farmers have been assaulted, maimed and killed by herders for preventing them from grazing on their farm land. This situation has raised a lot of security concerns across the country as herders known as Fulani herdsmen continue to lunch attacks on the farmers and even displacing some farming communities. The social and economic effects, the magnitude and dimensions of the menace of herdsmen in the farming communities are yet to be properly ascertained because their havoc differs in various farming communities. According to Ndubuisi (2018), the frequent attacks on the farmers and citizens of Nigeria these days by the herdsmen is terribly alarming. Attesting to this fact, Adetula as cited in Ndubuisi (2018) averred that previously the herdsmen were known to wreak havoc in certain communities in Nigeria, but now the rate at which they are committing these crimes has increased exponentially. Arguably, their activities threatens farmers output and poses a serious food security challenge in the country despite the country's food production capacity potentials. It is therefore imperative to ascertain the socioeconomic effect of the cattle grazing on the farmers output to enable stakeholders and policy makers come up with lasting solutions to the farmers and herders clashes that is increasingly becoming a threat to Nigeria food security. This study will therefore examine the socioeconomic effect of cattle grazing on agricultural output of members farmers cooperative societies in Anambra State.

Objectives of the Study

The main objective of this study is to examine the socioeconomic effect of cattle grazing on agricultural output of members farmers cooperative societies in Anambra State. Specifically the study intends to:

1. Ascertain the social effect of cattle grazing on farmers output.
2. Examine the economic effect of cattle grazing on farmers output.
3. Determine the demographic effect of cattle grazing on farmers output.

Statement of Hypotheses

Hypothesis One

Ho_1: Cattle grazing has no significant social effect on output of members of farmers cooperative societies in Anambra State.

Hypothesis Two

Ho_2: Cattle grazing has no significant economic effect on output of members of farmers cooperative societies in Anambra State.

Hypothesis Three

Ho_3: Demographic effect of cattle grazing has no significant effect on output of members of farmers cooperative societies in Anambra State.

2. METHODOLOGY

Research Design

This study is a descriptive survey which aims to examine the socioeconomic effect of cattle grazing on agricultural output of members farmers cooperative societies in Anambra State. Survey research consists of asking questions, collecting and analyzing data from a supposedly representative members of the population at a single point in time with a view to determine the current situation of that population with respect to one or more variable under investigation (Okeke, Olise & Eze, 2008).

Area of the Study

The study will be carried out in Anambra State of Nigeria. Anambra state is one of the five states that make up the South East geopolitical Zones of Nigeria. It has inter-state boundaries with Delta state to the west, Imo and Rivers states to the south, Enugu State to the west and Kogi State to the North. It derives its name from the Anambra River (a tributary of the River Niger) its capital is Awka. Anambra State covers an area of 4,816.2 square kilometers and lies at latitude 6^0 20" north and longitude 7^0 00" east it has a population of 4,177,828 (2009 census figures) with a population density of 860 people per square kilometer. The state is located within the tropical humid climate characterized by wet and dry seasons. The average annual rainfall ranges between 1200m and 1800m and the temperature ranges between 20^0c and 36^0c. The state has a large arable and fertile land which support the cultivation of cash and food crops such as Maize, Rice, Yam, Plantain, Cassava, Cocoyam, Cocoa, Palm and kola nut. The state has three senatorial districts; Anambra North, Anambra central and Anambra south**.**

Sources of Data

The study will explore mainly the primary source of data. The study will rely more on primary data which will be gathered through the use of a structured questionnaire that will be administered to the respondents in the study areas. The information to be obtain will include the socio economic status of respondents and data relating to socioeconomic effect of cattle grazing on farmers output.

Population of the Study

The population of the study consist of members of selected farmers cooperative societies in the four agricultural zones in Anambra state. Data obtained from the Cooperative Department Revealed that about Two Hundred and Twenty-One (221) Cooperative Societies were affected by Open grazing in the four agricultural zones in the state. The Two Hundred and Twenty-One (221) Cooperative Societies have a membership strength of 3715. This formed the population of the study (Ministry of Trade, Commerce, Market & Wealth Creation**,** Anambra State, 2020).

Sample size and Sampling Techniques

To determine the sample size of the study, adopted a simple random techniques. The first stage was the selection of five cooperative societies each from the affected cooperative in each of the agricultural zones in the state making a total of twenty cooperative societies with membership strength of 1995. The second stage was the application of Taro Yamani formula to obtain the desired sample size for the study. The formula is as stated as below:

$$n = \frac{N}{1+N(e)^2}$$

Where n is the desired sample size

N= Population

I = Mathematical constant

e= Sampling error (5% in this case).

In this case, n =? (Unknown), N=359, e = 0.05 and I= constant

Substituting the above values into the formula we have;

$$n = \frac{N}{1+N(e)^2}$$

$$n = \frac{N}{1+1995(5\%)^2}$$

$$n = \frac{1995}{1 + (1995 \times 0.0025)}$$

$$n = \frac{1995}{1+4.9875}$$

$$n = \frac{1995}{5.9875}$$

$$n = 333.2$$

$$n = 333$$

Therefore, the required sample size for the study is 333. To ensure that each society is proportionately represented, the researcher determined the sample size for each of the society using the Bowlers formulae:

$$Nh = \frac{n \times Nh}{N}$$

Where: nh is the desired sample size of each society

Nh = Population of each society

n = Overall sample size =333

N = Total population =1995

Instruments for Data Collection

Data will be collected through structured questionnaire. The questionnaire has both open ended and closed ended questions. Appropriate forms of questions will be explored depending on the information needed to be sought, the sampled respondents and the kind of analysis intended. The questions were simple and logical. The questions will focus on collecting information relating to socioeconomic impact of cattle grazing on farmers output. Also such socio-economic characteristics of the farmer-respondents shall be obtained.

Method of Data Administration and Collection

The study explored mainly the primary data which was obtained with the use structured questionnaire which was administered to members of farmers cooperative societies in affected cooperative societies in the four agricultural zones in the state.

Method of Data Analysis

Data collected were analyzed using descriptive statistics (frequencies, percentages, mean, and standard deviation) independent t-test statistics and the linear regression model. The demographic profile were processed using descriptive statistics. Hypothesis one, two and three were tested using t-test statistics and the regression model of the ordinary least square (OLS) approach. All the analysis were done using SPSS version 23. Linear regression model of the ordinary least square (OLS) approach were used to analyse the objectives in order to ascertain the socioeconomic impact of cattle grazing on farmers output.

Model Specification

Thus, the model of this study, is stated as follows:

Implicit Model

$$Y = f(X_1, X_2, X_3, X_4) \quad \text{..... eq(1)}$$

The explicit form of the model is

$$Y = \beta_0+\beta_1 X_1 +\beta_2 X_2 +\beta_3 X_3 \quad \text{.....eq(2)}$$

The double log form of the model is specified thus:

$$\text{Log } Y = \beta_0+\beta_1 \log X_1 +\beta_2 \log X_2 +\beta_3 \log X_3 \ldots\ldots \quad \text{.....eq(3)}$$

The econometric form of the model is

$$\text{Log ED} = \beta_0+\beta_1 \log X_1 +\beta_2 \log X_2 +\beta_3 \log X_3 +\alpha_i \quad \text{..... eq(4)}$$

Where:

α = intercept

Y = Famers output (in naira).

β_1-β_3 =Regression coefficient

ei = Error term designed to capture the effects of unspecified variables in the model

X_1 = Social effect (weighed mean)

X_2 = Economic effect (weighed mean)

X_3 = Demographic effect (weighed mean)

α = Constant term

The α and β_S are the parameters for estimation and these are the error terms s.

The regression analysis will be run using SPSS package so as to determine the order of importance of the explanatory variables in explaining the variation observed in the dependent variables.

Criteria for Acceptance or Rejection of Hypotheses

The t-test were performed to test the significance of each of the explanatory variables at the alpha levels of 5% therefore, if the probability value of the coefficient of any variable is above 5% we reject the null hypothesis and accept the alternate. However, if the probability value of the coefficient of any of the variable is less than 5% we fall to reject the null hypothesis

3. PRESENTATION AND ANALYSIS OF DATA

This chapter deals with the presentation and analysis of data collected from the field of study. The aim is to present the data in an interpretable form so that the variables of the study can be well understood.

Questionnaire Distribution and Response Rate

Table 1: Questionnaire Distribution and Response Rate

Options	Frequency	Percentage (%)	Cumulative (%)
No Distributed	290	87.1	87.1
No Returned	43	12.9	100
Total	333	100	

Source: Computation from field survey, 2021

Out of the 333 questionnaires distributed only 290 were dully completed and returned. This shows that only 87.1% of the questionnaires were dully completed and returned for the study.

Demographic Profile of the Respondents

Table 2: Distribution of Respondents According to Gender

Variable	Frequency	Percent (%)	Cumulative (%)
Gender			
Male	258	89.0	89.0
Female	32	11.0	100
Total	**290**	100	
Age			
18-32	14	4.8	4.8
31-40	46	15.9	20.7
41-50	84	29.0	49.7
51-60	88	30.3	80.0
61-70	58	20.0	100.0
Total	**290**	100.0	
Educational Qualification			
Primary	11	3.8	3.8
Secondary	157	54.1	57.9
Tertiary	122	42.1	100.0
Total	**290**	100.0	
Farming Experience			
1-5	43	14.8	14.8
6-10	58	20.0	34.8
11-15	78	26.9	61.7
15-30	111	38.3	100.0
Total	**290**	100.0	
Marital Status			
Married	237	81.7	81.7
Single	42	14.5	96.2
Widow/ Widower	11	3.8	100.0
Total	**290**	100.0	
Farm Size			
1-5plots	111	38.3	38.3
6-10plots	78	26.9	65.2
11-15plots	58	20.0	85.2
15-30plots	43	14.8	100.0
Total	**290**	100.0	
Farmers Output			
10,000 - 50,000 naira	110	37.9	37.9
51,000 - 100,000 naira	79	27.3	65.2
101,000- 150,000 naira	58	20.0	85.2
151,000 - 200,000 naira	43	14.8	100.0
Total	**290**	100.0	

Source: Field Survey, 2021

Table 2 shows that 89.0% respondents are males while 11.0% of the respondents are females. As shown in table 2, 4.8% of the respondents are between the ages of 18-32. 15.9% of the respondents, are between the ages of 31-40. 29.0% of the respondents, are between the ages of 41-50. 30.3% of the respondents, between the ages of 51-60, while 20.0% of the respondents, are between the ages of 61-70. From table 4.2, all the respondents had formal education. 3.8% of the respondents had primary education. 54.1% had secondary education while 42.1% had tertiary education. With respect to farming experience, table 4.5 reveals that 14.8% of the respondents had 1-5years farming experience. 20.0% of the respondents had 6-10years farming experience. 26.9% of the respondents had 11-15years farming experience, while 38.3% of the respondents had 15-30years farming experience.

From table 2, 81.7% of the respondents are married. 14.5% of the respondents are single, while 3.8% of the respondents are widow/widower. With respect to farm size, table 4.2 revealed that 38.3% of the respondents farm on 1-5plots of land. 26.9% of the respondents farm on 6-10plots of land. 20.0% of the respondents farm on 11-15plots of land, while 14.8% of the respondents farm on 15-30plots of land. With respect to farmers output, table 4.2 reveals that 37.9% of the respondents had 10,000 - 50,000 naira as monthly farm output. 27.3% of the respondents had 51,000 - 100,000 naira as farm output. 20.0% of the respondents had 101,000- 150,000 naira as monthly farm output, while 14.8% of the respondents had 151,000 - 200,000 naira as monthly farm output.

Analysis and Presentation of Data Based on the Questionnaire

Table 3: Social effect of cattle grazing on farmers output

Variables	Mean	Std Dev	Remark
Sexual harassment of women	4.22	0.027	Accepted
Reduction in social activities	4.31	0.036	Accepted
Increase in Cult related activities	4.11	0.041	Accepted
Acquiring of Weapons/Arms	4.02	0.041	Accepted
Reduction in quality of social relationship	4.13	0.001	Accepted
Reduction of social support	4.02	0.015	Accepted
High drugs intake	4.12	0.027	Accepted
Loss of human life	4.41	0.036	Accepted
High cases of rape	4.11	0.041	Accepted
Disruption of social groups	4.02	0.041	Accepted
Grand Mean	4.24	0.834	Accepted

Source: Field Survey, 2021

All the variables met the theoretical mean threshold of 3.0 which is the established mean cut-off. Thus, the descriptive statistics shows that cattle grazing has social effect on output of members of farmers cooperative societies in Anambra State with a grand mean of 4.24.

Table 4: Economic effect of cattle grazing on farmers output

Variables	Mean	Std Dev	Remark
Loss of produce in storage	3.11	0.721	Accepted
Displacement of farmers	3.43	1.382	Accepted
Reduction in output and income of farmers/ nomads	3.76	1.172	Accepted
Scarcity of Agricultural products	3.12	1.055	Accepted
Loss of house and properties	3.22	1.066	Accepted
Low revenue generation by Government	4.05	1.113	Accepted
Reduction in household resources	4.32	0.027	Accepted
Infrastructural damages	4.11	0.036	Accepted
Low national GDP	4.01	0.041	Accepted
Diversion of national income to fight the menace	4.22	0.041	Accepted
Grand Mean	3.85	1.085	Accepted

Source: Field Survey, 2021

As shown in table 4.10, all the variables in the economic effect of cattle grazing on farmers output construct met the theoretical mean threshold of 3.0. We, therefore, conclude that that cattle grazing has economic effect on output of members of farmers cooperative societies in Anambra State with a grand mean of 3.85.

Table 5: Demographic effect of cattle grazing on farmers output

Variables	Mean	Std Dev	Remark
Destruction of crops	4.54	0.042	Accepted
Over- grazing of fallow land	4.54	0.042	Accepted
Harassment of farmers by nomads	3.33	0.229	Accepted
Contamination of stream by cattle	4.45	0.065	Accepted
Disregard for traditional authority	4.02	0.076	Accepted
Sexual harassment of women by nomads	4.22	0.077	Accepted
Indiscriminate bush burning	4.02	0.076	Accepted
Indiscriminate defecation by cattle on roads	4.22	0.077	Accepted
Grand Mean	4.33	0.710	Accepted

Source: Field Survey, 2021

From Table 4.5, it is observed that all the variables construct that examine the demographic effect of cattle grazing on farmers output met the theoretical mean threshold of 3.0. Thus, the descriptive statistics cattle grazing has demographic effect on output of members of farmers cooperative societies in Anambra State.

Regression Analysis Result

Table 6: Regression Result on socioeconomic effect of cattle grazing on agricultural output of members farmers cooperative societies in Anambra State

Model	B	Std. error	T	Sig.
Constant(C)	0.075	0.041	1.829	0.240
Social effect	-0.399	0.078	-5.098	0.001
Economic effect	-0.356	0.088	-4.055	0.002
Demographic effect	-0.330	0.067	-4.925	0.003
R	0.929			
R^2	0.893			
Adj. R^2	0.860			
F-statistic	221.210			0.000

Source: Field Survey, 2021

Dependent Variable: Farmers Output

To ascertain the socioeconomic effect of cattle grazing on agricultural output of members farmers cooperative societies in Anambra State, the weighted mean of the three independent variables were regressed on the dependent variable to enable us determine the nature of relationship between the dependent and independent variables, effect of the three independent variables on the dependent variable, the overall fitness of the model using the F-statistics and probability value and the level of significance of the independent variables in influencing the dependent variables using the t-test and probability value. The table above shows the regression result. it also shows the precision of the model which was analyzed using economic a priori criteria and statistical criteria.

As showed in the table 4.6, it is observed that the regression line has a positive intercept as presented by the constant (c) = 0.075. This means that if all the variables are held constant or fixed (zero), the farmers output increases by 7.5%. The result also conforms to the a priori expectation. Social effect has an inverse relationship with on agricultural output of members farmers cooperative societies in Anambra State. This implies that social effect of cattle grazing and agricultural output of members farmers cooperative societies in Anambra State increase in the opposite direction. In other words, 1% increase in social effect of cattle grazing will bring about 39.9% a reduction in the agricultural output of members farmers cooperative societies in Anambra State. Economic effect has an inverse relationship with agricultural output of members farmers cooperative societies in Anambra State. In other words, 1% increase economic effect of cattle grazing will bring about 35.6% increase in agricultural output of members farmers cooperative societies in Anambra State. Demographic effect also has an inverse and negative relationship with agricultural output of members farmers cooperative societies in Anambra State. As the demographic effect increases it negatively affect agricultural output of members farmers cooperative societies in Anambra State. In other words, 1% increase in demographic effect will bring about 33.0% decrease on agricultural output of members farmers cooperative societies in Anambra State.

Test of Hypotheses

The t-test was used to know the statistical significance of the individual parameters at 5% significance level. The result is showed on table 7 below.

Table 7: Summary of t-statistic

Variables	t-cal (t_{cal})	Sig.	Conclusion
Constant(C)	1.829	0.240	Statistically Insignificance
Social effect	-5.098	0.001	Statistically Significance
Economic effect	-4.055	0.002	Statistically Significance
Demographic effect	-4.925	0.003	Statistically Significance
F-statistic	221.210	0.000	Statistically Significance

Source: Researchers computation

We begin by bringing our working hypothesis to focus in considering the individual hypothesis. From table 7, the t-test result is interpreted below:

Hypothesis One

Ho_1: Cattle grazing has no significant social effect on output of members of farmers cooperative societies in Anambra State.

Ha_1: Cattle grazing has significant social effect on output of members of farmers cooperative societies in Anambra State.

From table 7, the t-test value of social effect of cattle grazing on output of members of farmers cooperative societies in Anambra State is significant. We, therefore, reject the null hypothesis and conclude that cattle grazing has significant social effect on output of members of farmers cooperative societies in Anambra State.

Hypothesis Two

Ho_2: Cattle grazing has no significant economic effect on output of members of farmers cooperative societies in Anambra State.

Ha_2: Cattle grazing has significant economic effect on output of members of farmers cooperative societies in Anambra State.

From table 7, the t-test value of economic effect on output of members of farmers cooperative societies in Anambra State is significant at 0.000 level of significant. We, therefore, reject the null hypothesis and accept the alternate by concluding that cattle grazing has significant economic effect on output of members of farmers cooperative societies in Anambra State.

Hypothesis Three

Ho_3: Cattle grazing has no significant demographic effect on output of members of farmers cooperative societies in Anambra State.

Ha_3: Cattle grazing has no significant demographic effect on output of members of farmers cooperative societies in Anambra State.

From table 7, the t-test value of demographic effect on output of members of farmers cooperative societies in Anambra State is significant at 0.047 level of significant. We, therefore, reject the null hypothesis and accept the alternate by concluding that cattle grazing has no significant demographic effect on output of members of farmers cooperative societies in Anambra State.

4. CONCLUSION AND RECOMMENDATIONS

1. Cattle grazing has significant negative social effect on output of members of farmers cooperative societies in Anambra State.
2. Cattle grazing has significant negative economic effect on output of members of farmers cooperative societies in Anambra State.
3. Cattle grazing has no significant negative demographic effect on output of members of farmers cooperative societies in Anambra State.

This study concludes that cattle grazing have social, economic and demographic effect on output of members of farmers cooperative societies in Anambra State. The study posits that cattle grazing has in recent time created a challenge like sexual harassment of women, reduction in social activities, increase in cult, related activities, acquiring of weapons/arms, reduction in quality of social relationship, reduction of social support, high drugs intake, loss of human life, high cases of rape and disruption of social groups. It has also led to loss of produce in storage, displacement of farmers, reduction in output and income of farmers/ nomads, scarcity of agricultural products, loss of house and properties, low revenue generation by government, reduction in household resources, infrastructural damages, low national GDP. Demographically, cattle grazing in the state has lead to destruction of crops, over- grazing of fallow land, harassment of farmers by nomads, contamination of stream by cattle, disregard for traditional authority, sexual harassment of women by nomads, indiscriminate bush burning, indiscriminate defecation by cattle on roads.

In general, the joint effect of the explanatory variables-independent variables-in the model account for 0.860 or 86.0% of the variations in the output of members of farmers cooperative societies in Anambra State. This implies that 86.0% of the variations in the output of members of farmers cooperative societies in Anambra State are being accounted for or explained by the variations in social, economic and demographic effect of cattle grazing. While other independent variables not captured in the model explain just 14% of the variations in output of members of farmers cooperative societies in Anambra State. Al the three coefficients (social, economic and demographic effect of cattle grazing) are significant determinant of output of members of farmers cooperative societies in Anambra State.

Based on the findings of this study, the following recommendations are made:

1. The government should address current security challenges in the country particularly as it affects the farmers and herders across the region by deploying adequate community policing to protect boarder communities from possible herdsmen attack.
2. To avoid serious economic loss among farmers and herders, the government should encourage indigenous and commercial cattle ranching through public private partnership in the state. The ranches should be built in recommended areas by the ministry of agriculture. This will allay the fear of farmer on herders encroachment on their land.
3. An agency should be set up by the government to enforce the already made legislation on banned open cattle grazing in the state to avoid the demographic damages it causes to both farmers and herders.

REFERENCES

[1] Imo, C. K. (2017). The demographic implications of nomadic herdsmen and farmers clashes in Nigeria. *International Journal of Development and Management Review*, 2(1), 45-58.

[2] Ndubuisi, C.I., 2018, 'A critical analysis of conflicts between herdsmen and farmers in Nigeria: Causes and socio-religious and political effects on national development', *HTS Teologiese Studies/Theological Studies* 74(1), 1-6. a5065. https://doi.org/ 10.4102/hts.v74i1.5065

[3] Okeke, T.C., Olisa, M.C. and Eze, G.A. (2008), *Research Methods in Business and Management Sciences.* Enugu- Nigeria. lyke Ventures Production.

[4] Olayoku, P. A. (2014). Trends and patterns of cattle grazing and rural violence in Nigeria (2006 – 2014). *IFRA-Nigeria epapers series, 2014, n°34*

[5] Schieltz, J. M. and Rubenstein, D. I. (2016). Evidence based review: positive versus negative effects of livestock grazing on wildlife. What do we really know? *Environ. Res. Lett*. 11, 1-19.

[6] Taiye, O.A., Dauda, M.M and Emmanuel, A.O. (2017). Assessment of the effects of emerging grazing policies on land degradation in Nigeria. *Journal of Applied Science and Environmental Management*, 21(6), 1183-1187.