

THE EFFECT OF HERDSMEN AND FARMERS CONFLICT ON AGRICULTURAL OUTPUT AND POVERTY RATE IN TARABA STATE

AMADI KINGSLEY WOBILOR

Department of Economics
Federal University Wukari
Taraba State Nigeria
E-mail: parkinsaga@yahoo.com

AGYA ATABANI ADI

Department of Economics
Federal University Wukari.
Taraba State Nigeria

YUNISA BINTU

Department of Economics
Federal University Wukari.
Taraba State Nigeria

ABSTRACT : *The study assessed the effect of farmers and herdsmen conflict on agricultural output and poverty rate in Taraba State. Quasi-experimental research design was adopted.. The study also employed Yero Yamene method to obtain sample size of 154 respondents drawn from 104 heads of farming households and 50 herdsmen in the area. Self-designed questionnaires were used to gather relevant information from the study respondents. Hypotheses were tested to measure the relationships between the research variables. The data collected were analyzed using simple percentage method. The hypotheses were tested by using Pearson product moment correlation coefficient (PPMC) a parametric statistical tool. The study revealed that agricultural output has reduced significantly as a result of farmers and herdsmen conflict in Taraba State. It was also discovered that poverty rate has increased significantly in the area. The research recommended that Government, non-governmental agencies as well as religious body should enlighten and sensitized the farmers and herders the need for peace among them. The traditional open grassing should be proscribed totally and ranches should be encouraged in other to foster peace and advance economic growth and development and guarantee food security in the area. Government should stop perceiving the conflict as political, and should deploy the necessary security machineries and architecture in other to tackle this menace once and for all.*

Key Word: Herdsmen, Farmers, Conflict, Output, Poverty.

INTRODUCTION

The topic farmers and herdsmen conflict inevitably attracts a feverish attention and usually hold a strong view on its effect on the growth and development of any society. The mayhem across the country has attracted a lot of condemnations because of its rampant occurrence and the way it has affected individuals, communities, and business activities as well the resources and economic activities of the nation.

This socio economic malady between the herdsmen and farmers has spread across the six geo-political zones in the country. The zones have tested the bitter pills of the murderous instincts of the conflict between herders and farmers. **The increasing clashes between farmers and pastoralists have recently become worrisome, especially in wetland areas of the Middle Belt, North Central Nigeria.** The continuing conflict between farmers and pastoralists is costing Nigeria economy at least \$20 billion in potential revenues annually (Ciboh 2016).

The practice of crops and animal husbandry is as old as man. Nigeria is highly endowed with, huge fertile land, Streams, lakes, grassland and forest as well as huge energetic population that can maintain a productive and profitable crop and animal husbandry.

This vast resource base is capable of guarantying food security and providing raw material for the industrial sector as well as providing gainful employment and income for the teaming population and improving their well-being.

The genesis of this heinous act in Nigeria is a date long issue which is not traced clearly from any source, but the most popular one is the bloody one dated back to the 9th July 2012 in Plateau state where numerous attacks and ambush were laid against each other. This conflict is linked to disagreement or clashes of interest over possession, or over resources or value of interest (Rashed 2012).

The farmers and herdsmen crises in Nigeria are associated to competition or space over scare natural resources which include fertile land, availability of water supply and healthy pastures. This crisis has guzzled over 30,000 persons since 2012 to date and have negatively affected the income, standard of living of both parties as well as the economic growth and development of Nigeria.

The consequence of the crises is quite severe and cannot be underestimated, because Nigeria is basically an agrarian state. Farmers cannot access their farms. Farm produce has being abandoned in the farm with no person to harvest them thereby creating shortages in the supply of farm produce in the market which translated to higher prices in the market as currently observe in our economy.

Also in the same reasoning, the herdsmen are frustrated; they cannot easily access the grazing land and water for their animals because of the phobia of being attacked by the farmers thereby reducing the supply of meat production and other bye product from the animal in the market. The effect is hike in prices of animal product and in general result to inflation.

The study is aimed at determining the extent to which herdsmen and farmers conflict has on agricultural output in Taraba State. And determine the relationship between these conflicts and poverty rate in Taraba State. Based on the objectives of the study, research questions were drawn thus, to what extent does herdsmen and farmer's conflict affect agricultural output in Taraba State. And what is the relationship between herdsmen and farmers conflicts on poverty rate in Taraba State. The study will be analyze by the following hypothesis

- i. **Ho:** Herdsmen and farmers conflict does not significantly affect agricultural output in Taraba State negatively.
- ii. **Ho:** there is no negative and significant relationship between herdsmen and farmers conflicts on poverty in Taraba state.

Theoretical and Empirical Literature:

Several theoretical elucidations have been put together by scholars to explicate the issues related to conflicts.

Marx and Engel (1968) sees conflict as the existence of disagreement or clashes of interest between two or more actors in their interaction over issues of interests, values goals belief, practices, competition, space, position and as well as use of scarce natural resources etc. This study will anchor its theory on the social conflict theory by Karl-Marx. Karl-Marx (1883) saw social conflict as the struggle between segments of society over valued resources.

Evidently, the conflict between farmers and herders in Nigeria are associated with the competition of spaces over scarce natural resources which include fertile land, availability of water supply and healthy pastures.

Many researchers have identified the remote and immediate causes of this bloody conflict and the challenges facing herders and farmers, these factors are thus, urbanization and population explosion as in the case of many cities and town in Nigeria has led to dislocation of herdsmen from their normal sources of grasses and waters leading them to permanent dislocation. This led the Nomadic to forcefully design their own grazing corridors and or to acquire temporary sites which inevitably are farm lands of farmers (Alhasan 2013).

Other challenges facing the herdsmen in Nigeria are environmental challenges. Environmental challenges known as climate changes in addition to urbanization, desert encroachment and population explosion of both the human and livestock have added to factors challenging peaceful co-habitation between farmers and herders.

The herder who ultimately has become expressively attached to his cattle and in the face of the above factors cannot have reliable access to grazing lands and water for his animals were forced to wander and live in the wild tied with lack of both formal and Islamic education becomes frustrated and transfer his frustrations and anger to his perceived competitor (farmers) thereby forcing him to be hostile and deadly.

Sanusi (2018) added that the effect of desertification had led to increase in competition for resources. He stated that grazing routes have been taken away by politicians, demographic implosion in the north, reduction in water resources, failure of political authority, the cynical manipulation of ethnic identity and the impotence of our security machinery are factors promoting herdsmen and farmers conflicts.

Adisa & Adekunle (2017) investigates the variables associated with farmer-herdsmen conflicts from the perspectives of farmers in Kwara State, Nigeria. Using a four-stage random sampling technique to select 300 farmers in communities contiguous with herdsmen's stock routes, data were collected with the aid of structured questionnaire and subjected to factor analysis and descriptive statistical procedures.

Data analysis revealed that respondents generally experienced 'losses' in nine out of ten identified material and non-material resources, and 'gains' in three. Factor analysis showed that socioeconomic, production, institutional, and situational factors among farmers, with Eigen values of 2.6412, 1.6103, 1.2456, and 1.0348 respectively, accounted for their conflict with herdsmen. Awareness of and compliance with designated stock routes (situational variables), having coefficients -0.741 and -0.662 respectively were particularly crucial farmer variables of conflict. They recommend regular review of stock routes and educational campaigns to increase their awareness and compliance rates among conflict actors.

Musa, Shabu and Igbawua (2014) evaluated the conflict between herdsmen and farmers in Guma local government area of Benue State. The study sampled a total of 160 heads of farming households and 40 herdsmen from study areas. Data were analyzed using percentage count. Their study revealed that, both farmers and herdsmen agreed that herdsmen were not accepted by their host communities.

The destruction of crops/farmland, contamination of rivers and harassment of herdsmen by host communities were the major causes of conflict between farmers and herdsmen. Displacement of both farmers and herdsmen, loss of lives and properties and decrease in output were the major effects of conflicts between farmers and herdsmen in the area.

RESEARCH METHODOLOGY

The design of this work was descriptive survey method which enables the researchers to gather data using questionnaire. The populations of the study consist of 250 farmers and herders all residing in Taraba state.

The sampling technique used in this study was probability sampling techniques. The Yaro Yemene formula was used to decide the sample size. The formula is given as follows

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

Where

n = sample size

N = population size

1 = theoretical constant

e = level of significance (0.05)

Therefore using the formula above, we have the following

$$n = \frac{250}{1+250(0.05)^2}$$

$$n = \frac{250}{1+250(0.0025)}$$

$$n = \frac{250}{1+0.625}$$

$$n = \frac{250}{1.0625}$$

$$n = 154$$

The instrument employed for this work was a self-designed questionnaire. It was designed in such a way that the respondents answered the questions without assistance from the researchers. The Likert 4-point scale was used. It includes:

- (1) Strongly agreed
- (2) Agreed
- (3) Somehow disagreed
- (4) Disagreed.

An instrument is reliable when it shows consistency and stability in measuring what it is supposed to measure (Okeke and Nwabueze 2016).

In the same gesture, a test-retest was adopted and Spearman Brown prophecy formula was adopted.

A total of 154 copies of the self-designed questionnaire were personally distributed by the researchers to the study respondents. A total of 104 copies were given to farmers and 50 copies were given to herders. The researchers retrieved all the 154 copies of the questionnaire distributed. The data collected was analyzed using a descriptive statistical tool of simple percentage and a parametric statistical tool of Pearson Product Moment Correlation Coefficient (PPMC).

The simple percentage is used to answer research questions. While PPMC statistical tool was used to test the hypotheses.

The formula for PPMC is stated as follows

$$r = \frac{N\sum xy - \sum x \sum y}{\sqrt{N\sum x^2 - [\sum x]^2} \sqrt{N\sum y^2 - (\sum y)^2}}$$

Results:

Table I: Questionnaire Distributed and Retrieved

Respondent	No. Distributed	No' Retrieved	% retrieved
Farmers	104	104	68
Herders	50	50	32
Total	154	154	100

Source survey data 2018

Research question I: Does farmers/herdsmen conflict affects agricultural output negatively.

$$SA = \frac{109}{154} \times \frac{100}{1} = 70.7\%$$

$$A = \frac{30}{154} \times \frac{100}{1} = 19.5\%$$

$$SHA = \frac{12}{154} \times \frac{100}{1} = 7.8\%$$

$$DA = \frac{3}{154} \times \frac{100}{1} = 2\%$$

From the figure above it indicated that out of 154 respondents, 109 which represent 70.7% strongly agreed that farmer/herdsmen conflict has affected agricultural output negatively in Taraba State. 30 which represent 19.5 percent said that they agreed, 12 which represent 7.8 percent said that they some-how agreed while 3 which represent 2 percent disagreed that farmers herdsmen conflict does not affects agricultural output in Taraba State negatively.

Research question 2: The extent herdsmen/farmer conflict affects poverty in Taraba State

The figure below shows the extent herdsmen/ farmers conflict affects poverty rate in the survey area from 154 respondents sampled. 102 which represent 66.23 percent strongly agreed that farmers/herdsmen conflict has increase poverty rate in Taraba State. 32 which represent 20.77 percent agreed while 15 which represent 9.74 percent some-how agreed and 3 which represent 1.94 percent disagreed that herdsmen and farmers’ conflict have not increased poverty rate in Taraba State.

$$SA = \frac{102}{154} \times \frac{100}{1} = 66.23\%$$

$$A = \frac{32}{154} \times \frac{100}{1} = 20.77\%$$

$$SHA = \frac{15}{154} \times \frac{100}{1} = 9,74\%$$

$$DA = \frac{5}{154} \times \frac{100}{1} = 1.74$$

TEST OF HYPOTHESIS:

Null hypothesis (Ho₁): Herdsmen and farmers conflict does not significantly affect agricultural output in Taraba State negatively.

Alternative hypothesis (HA₁): Herdsmen and farmers conflict does significantly affect agricultural output in Taraba State negatively.

Statistical Tool: Pearson product movement correlation coefficient

Level of significance 0.05

Degree of freedom n-2

Rejection region: Reject Ho, if t-calculated is greater than t-critical value.

Table 2: Correlation Coefficient between herdsmen/farmers conflict on agricultural output.

S/N	Farmers(x)	Herders (y)	xy	x ²	y ²
1	35	15	525	1225	225
2	22	10	220	484	100
3	12	4	72	144	36
4	10	5	50	100	25
5	8	5	40	64	25
6	6	4	24	36	16
7	6	3	18	36	9
	5	2	10	25	4
	104	50	959	2114	440

Source Survey Data 2018:

n = 8

$$\begin{aligned}\Sigma x &= 104 \\ \Sigma y &= 50 \\ \Sigma xy &= 959 \\ \Sigma x^2 &= 2114 \\ \Sigma y^2 &= 440\end{aligned}$$

$$r = \frac{N\Sigma xy - \Sigma x \Sigma y}{\sqrt{N\Sigma x^2 - [(\Sigma x)^2][n(\Sigma y^2) - (\Sigma y)^2]}}$$

$$r = \frac{8(959) - 104(50)}{\sqrt{8[(2114) - (104)^2][8(440) - (50)^2]}}$$

$$r = \frac{7672 - 5200}{\sqrt{(16912 - 10816)(3320 - 2500)}}$$

$$r = \frac{2472}{\sqrt{6217920}}$$

$$r = \frac{2472}{2495.576} = 0.99$$

$$\begin{aligned}t &= \frac{\sqrt{n-2}}{1-(r)^2} = \frac{\sqrt{8-2}}{1-(0.99)^2} \\ &= \frac{\sqrt{8-2}}{1-0.9801} \\ &= \frac{\sqrt{6}}{0.0199} \\ &= \sqrt{301.51} \\ &= 17.36\end{aligned}$$

At degree of freedom of 6 and at 0.05 level of significance, t-critical is 2.4469 and t-calculated is 17.36

Decision Rule

Reject H_0 , if t-calculated is greater than t-critical value.

Conclusion: since, t-calculated is greater than t-critical value, we therefore reject the Null hypothesis and accept the alternative which states that herdsmen and farmers conflict does significantly affect agricultural output in Taraba State negatively.

Null hypothesis (H_{02}).

There is no negative and significant relationship between herdsmen/farmers conflict on poverty increase in Taraba State.

Alternative (H_{A2}) There is significant relationship between herdsmen/farmers conflict on poverty rate increase in Taraba State.

Statistical Tool: Pearson product moment correlation coefficient.

Level of significant 0.05

Degree of freedom: n-2

Rejection region: Reject H_0 if t-calculated is greater than t-critical value.

Table 2: Correlation Coefficient Between Herdsmen/Farmers Conflict on Poverty in Taraba State.

S/N	Farmers(x)	Herdsmen (y)	xy	x ²	y ²
1	34	17	578	1156	289
2	20	9	180	400	81
3	14	6	84	196	36
4	12	6	72	144	36
5	9	4	36	81	16
6	6	3	18	36	9
7	5	3	15	25	9
8	4	2	8	16	4
	104	50	991	2054	480

Source survey data 2018:

$$n = 8$$

$$\Sigma x = 104$$

$$\Sigma y = 50$$

$$\Sigma xy = 991$$

$$\Sigma x^2 = 2054$$

$$\Sigma y^2 = 480$$

$$r = \frac{N\Sigma xy - \Sigma x \Sigma y}{\sqrt{N\Sigma x^2 - [(\Sigma x)^2/n][n(\Sigma y^2) - (\Sigma y)^2]}}$$

$$r = \frac{8(991) - 104(50)}{\sqrt{8[(2054) - (104)^2/8][8(480) - (50)^2]}}$$

$$r = \frac{7928 - 5200}{\sqrt{(16432 - 10816)(3840 - 2500)}}$$

$$\frac{2728}{\sqrt{7525440}}$$

$$r = \frac{2728}{2743.2535} = 0.81$$

$$t = \frac{\sqrt{n-2}}{1-(r)^2} = \frac{\sqrt{8-2}}{1-(0.81)^2}$$

$$= \frac{\sqrt{8-2}}{1-0.6561}$$

$$= \frac{\sqrt{6}}{0.3439}$$

$$= \sqrt{17.441}$$

$$t = 4.17$$

At degree of freedom of 6 and at 0.05 level of significance, t-critical is 2.4469 and t-calculated is 4.17

Decision rule:

Reject H_0 , if t -calculated is greater than t -critical value.

Conclusion: Since, t -calculated is greater than t -critical value; we therefore reject the Null hypothesis and accept the alternative which states that there is negative and significant relationship between herdsmen/farmers conflict on poverty Taraba State.

Discussion of Findings

Based on the analysis of data gathered it was found that the conflict between herdsmen and farmers has significantly reduced agricultural output in Taraba State. This reduction in output has affected the price of food in the market. The study also revealed that the conflict has increase poverty rate in Taraba State.

Since the farmers and herders cannot produce at their optimum capacity, their incomes and wellbeing has been reduced drastically. It was also found that desertification, urbanization, population explosion; grazing routs taken away by politicians as well as impotence of our security machinery are factors promoting herdsmen and farmers conflicts.

CONCLUSION

The continue search for scarce resources such as water, quality grasses as well as ecological factors such as desertification and flooding were the major factors leading to farmers and herdsmen conflict. The conflict has affected the agricultural output and poverty level of both farmers and herders and the Nigerian's economy at large.

RECOMMENDATIONS

With reference to the results and conclusion of the study, the following were recommended

1. Government, non-governmental agencies as well as religious body should enlighten and sensitized the farmers and herders the need for peace among them.
2. The traditional open grassing should be proscribed and ranches should be encouraged in other to foster peace and advance economic growth and development and guarantee food security in the area.
3. Government should stop perceiving the conflict as political, and should deploy the necessary security machineries and architecture in other to tackle this menace once and for all.
4. Cattle rearing should be seen as a huge business, government and real private investor both international and local should be encourage to invest in the sector. And the business should not be left to the Fulani alone.

REFERENCES

- Alhasan U. B (2013) "Herdsmen and Farmers Conflict in Northern-Eastern Nigeria.Causes, Repercussions and Resolutions". Academic Journal of Interdisciplinary Studies MCSER-CEMAS- Sapireza University Rome. Vol.2 No.5 July 201
- Ahmed, G. (2002). "The Role of the Nigerian State in Promoting Ethnic Conflict and the Writer in Nigeria".A Book of Readings (pp.123-128). Kano: Mubin Publishers.
- Aho, M. (2004). "Media's Role in Peace-Building: United Nations Peace Support Operations" Virginia: George Mason University.
- Ajibefun M.B (2018) "Social and Economic effects of the Menace of Fulani Herdsmen Crises in Nigeria". Journal of educational and social research. Vol.8 No.2, pp133-139, May 2018.

- Fikii C.D and Lee B (2005) "A Conflict Management, Local Capacity Governance, and Inclusive Human Security in North East Nigeria: A Case Study of Regional Development Dialogue"- A Journal of UNRISD, Nagoya Japan.
- Fuyinka F.A (2004) "Food Security in Nigeria: Challenges under Democratic Dispensation" A Paper Presented at 9th ARMTI Annual Lecture March 24, 2004.
- Greg Odogwu (2018)** "Climate change and Fulani herdsmen-farmers clashes". Punch newspaper, February 4, 2018
- Musa S.A, Shabu T, I Gbawua M.I (2014) "Resource Use Conflict Between Farmers And Fulani Herdsmen In Guma Local Government Area Of Benue State, Nigeria" [International Journal Of Sciences: Basic And Applied Research \(Ijsbar\)](#) · December 2014
- Ofuoke A.U and Isife B.I (2009). "Causes, Effects and Resolution of Farmers-Nomadic Cattle Herders Conflict in Delta State, Nigeria". *International Journal of Sociology and Anthropology* 1(2) pp47-54).
- Okere I, Nwobueze C.C and Kalagbor K.G (2016) "Importance of Time Management for Improved Performance and Productivity in Nigerian Brewery Industry". *The business Master, Ignatuis Ajuru University of Education* Vol.4 NO.1 Dec, 2016.
- Rashid S.A (2012) "Land Use Conflict Between Farmers and Herdsmen – Implication for Agricultural and Rural Development". Department of Agriculture Extension and Rural Development, University of Ilorin.
- Rashid A and Adekunle O (2010) "Farmer-Herdsmen Conflicts: A Factor Analysis of Socio-economic Conflict Variables among Arable Crop Farmers in North Central Nigeria" [Journal of human ecology \(Delhi, India\)](#) 30(1):1-9 · April 2010
- Rodney Ciboh (2016) "Framing The Herdsmen-Farmers' Conflicts And Peace Building In Nigeria". *Mkar Journal of Media and Culture* Vol.2 No.2
- Sanusi L.S (2018) "Farmers and Herdsmen Conflict in Nigeria" Punch Newspaper June 5, 2018.