IOSR Journal of Agriculture and Veterinary Science (IOSR-JAVS)
e-ISSN: 2319-2380, p-ISSN: 2319-2372. Volume 13, Issue 2 Ser. I (February 2020), PP 01-06
www.iosrjournals.org

Effect of Communal Conflict on Yam Production in Agatu Local Government Area of Benue State, Nigeria

Ajayi, O. J., Y. Muhammed*, J. H. Tsado, H. U. Muhammad and V. M. Akpata
Department of Agricultural Economic and Extension Technology,
Federal University of Technology, P. M. B. 65, Minna, Niger State.

Abstract
This study assessed the effect of communal conflict on yam production in Agatu Local Government Area of Benue State, Nigeria. Two-stage random sampling technique was used to select 75 respondents for the study. Primary data were collected with the aid of structured questionnaire complemented with an interview schedules. Both descriptive and inferential statistics was used to analyze the data collected. The results shows that majority (69.34%) of the farmers were within the age range of 21–50 years with mean age of 43.7 years. Majority (86.67%) of the farmers were males and 90.67% were married in the study area. More so, the mean education and household size of the farmers was 10 years and 12 people, respectively. The major causes of communal conflicts as identified by the respondents include straying of cattle into neighbouring farm (100.00%), destruction of crops (93.33%), over-grazing of land (92.00%) and indiscriminate bush burning (87.84%) ranked 1st, 2nd, 3rd and 4th respectively. However, the result of the regression analysis shows that frequency of communal conflicts was found to be statistically significant at 1% level of probability, thus, had negative effect on yam production. Major constraints faced by farmer were Lack of well-trained extension staff ($\bar{X}$= 2.92) and Problem of farmers/herdsmen ($\bar{X}$= 2.80) ranked 1st and 2nd, respectively, among the constraints. In conclusion, communal conflicts had negative and significant effect on yam production in the study area. It was recommended that, there is need for educational intervention in farmer-herdsmen conflict. This could be achieved by creating better awareness of land use regulations among farmers and herdsmen.

Keywords: *Communal conflict, farmers, effect, yam production.*

Date of Submission: 17-01-2020 Date of Acceptance: 05-02-2020

I. Introduction

Nigeria depends largely on its agricultural capacity for the production of food (crops and live stocks) for its teaming population. Flores (2004) reported that agriculture dominates the economies of most West African countries, being the key employer and major source of income and exports. Agriculture is an important sector of the Nigeria's economy with high potentials for employment generation, food security and poverty reduction. Agriculture is the single largest contributor to the well-being of the rural poor in Nigeria, sustaining 90% and 70% of the rural and total workforce respectively and contributes over 40% of the Gross Domestic product (GDP) (Federal Ministry of Agriculture and Rural Development (FMARD), 2010).

Farmer-herdsmen conflict has remained the most preponderant resource-use conflict in Nigeria (Fasona and Omojola, 2005). The necessity to provide food of crop and animal origin, as well as raw materials for industry and export in order to meet ever-growing demands, has led to the intensification of land use (Nyong and Fiki, 2005). The competition between these two agricultural land user-groups, however, has often times turned into serious overt and covert manifestation of hostilities and social friction in many parts of Nigeria (Rashid, 2012). The conflicts have demonstrated high potential to exacerbate the insecurity and food crisis particularly in rural communities where most of the conflicts are localized, with reverberating consequences nationwide.

According to Tanah (2006), conflict is as an activity which takes place when conscious beings (individuals or groups) wish to carry out mutually inconsistent acts concerning their wants, needs or obligations. Conflict is an escalation of a disagreement which is characterized by the existence of conflict behaviour, in which people are actively trying to damage one another. There is an ongoing grassroots war in the central and southern states of Nigeria between Fulani herdsmen and farming communities. It is an old age problem, but it has escalated in the last decade and has assumed a very deadly dimension (Okeke, 2014). The conflicts occur when Fulani herders move into non-Fulani homelands with their cattle usually leading to destruction of farmers' crops. Thus, the herders provoke their victims to acts of resistance (preventing entry into farms, killing or stealing cattle, or poisoning fields). In response, the herders wage deadly attacks on farming communities. These

action and counter-action had led to loss of several lives and properties (farm land, houses and animals), thereby reducing the production level of the affected communities (Adelakun*et al.*, 2015).

Increasing frustration and impoverishment of farmers occasioned by perennial and extensive farm plot destruction, and the ensuing bitter conflicts are eroding the gains of agricultural and rural development interventions. It is against this backdrop that this study was conceived to evaluate the effect of communal conflict on yam production in one of the affected LGAs of Benue State. The following objectives were set out to:

i. describe the socio-economic characteristics of the yam farmers in the study area;
ii. ascertain the causes of communal conflict;
iii. determine the effect of communal conflict on yam production, and
iv. examine the constraints faced by yam farmers in the study area.

II. Methodology

Study area

This study was conducted in Agatu local Government of Benue state, Nigeria, known as the food basket of the Nation found within the lower Benue River. The State lies between longitude 6^o 35′E and 10^o E and between latitude 6^o 30′N and 8^o 10′N (Benue Agricultural and Rural Development Authority (BNARDA), 2005). Agatu LGA is one of the 23 Local Government Areas of the state with a population of 4,219,244 people (National Population Census (NPC), 2006). The climate is tropical manifesting two distinct seasons – the raining season from April to October, and the dry season from November to March. Annual average rainfall varies from 1750mm in the Southern part of the State to 1250mm in the Northern part with a mean temperature of 35^oC. The State has a total land mass of $34,095Km^2$ composed of about 413,159 farm families that are basically rural with dispersed settlement engaged in rain-fed subsistent agriculture as the major occupation (BNARDA, 2005). The major languages spoken by the people are Tiv, Idoma and Igde. Tropical climate of the State favours a wide range of crops such as cereal grains (rice sorghum and millet), oil seeds (soy bean, pigeon pea and groundnuts), tree crops (mango, cashew, guava, pear, oil palm Avengia spp. cocoa) and roots and tubers (cassava, yams, sweet potato and cocoyam).

Sampling procedure and sample size

Two-stage random sampling technique was used to select respondents for the study. Stage one involved random selection of 5 villages (Ogbagaji-Agatu, Aila-Agatu, Egba-agatu, Akwu-Agatu and Olochologba-Agatu) from Agatu Local Government Area. The second stage involved random selection of fifteen yam farmers from each of the village to give a total of 75 yam farmers.

Data collection

Primary data for the study was generated from the respondents through structured questionnaire complemented with an interview schedule.

Data analysis

The data collected were analyzed using descriptive statistic (such as frequency counts, percentages and mean) and inferential statistics (such as Ordinary Least Square (OLS) regression) to achieve the objectives. Attitudinal measuring scale such as 3-point Likert rating scale was also used to categorize the severity of the constraints identified by the respondents. Mean score value of 2.0 was derived from the 3-point Likert rating scale (3 + 2 + 1 = 6 divided by 3) for decision making.

Model specification

Ordinary Least Square (OLS) model

Ordinary least square (OLS) multiple regression model the relationship between the dependent variable and a collection of independent variables.

The implicit form of the OLS regression model was expressed as:

$Y = f(X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9, X_{10})$

The model in its explicit form is presented as:

$$Y = \beta_o + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \beta_7X_7 + \beta_8X_8 + \beta_9X_9 + \beta_{10}X_{10} + e$$

Where;

Y = Yam output measured in kg per hectare
X_1 = Farm size (hectare)
X_2 = Fertilizer (kg)
X_3 = Income (₦)
X_4 = Age of farmer (years)

X_5 = Education (years)
X_6 = Household size (number of members)
X_7 = Frequency of conflict (number of occurrence)
X_8 = Cooperative membership (years)
X_9 = Credit (amount in ₦)
X_{10} = Extension visit (number of visits).
$X_1 – X_{10}$ = Independent variables
β_o = constant
$\beta_1 – \beta_{10}$ = coefficients of the independent variables
e = error term

III. Results And Discussion

Socio-economic characteristics of the respondents

The results in Table 1 revealed that majority (69.34%) of the farmers were within the age of 21 – 50 years with mean age of 43.7 years. This implies that the respondents werestill in their active and productive age with capacity to carry out yam production process. This finding agrees with the result of Rashid (2012) who asserted that majority of yam producers in his study area were young. More so, majority (86.67%) of the respondents were male farmers, while 13.33% were female farmer. The dominance of male in yam production could be as a result of the strenuous nature demand much physical energy. This agrees with the finding of Olaleye*et al.* (2010) who reported that males were more involved in farming activities compared to females.

Majority (90.67%) of the farmer were married, implying that supply of family labour in the near future is guaranteed since majority of them engage in farming as their primary occupation. This agrees with the work of Adebo (2014) who reported that high proportion of married people enhance the supply of farm labour and commitment in working to enhance their productivity. In terms of educational status, majority (81.33%) of the farmers had one form of formal education or the other with mean of 10 years in formal schooling. This implies that the respondents were educated with high level of literacy in the study area.

Furthermore, the result in Table 1 shows that majority (62.67%) of the farmers had household size between 6 – 15 people with mean household size of 12 people. This implies that the respondents in the study area had relatively large family member. This finding is in agreement with the work of Aliyu (2015) who reported that yam farmers in his study area had large household size.

Table 1: Distribution of respondents based on their socio-economic characteristics (n = 75)

Variables	Frequency	Percentage	Mean
Age (years)			
20-30	14	18.67	43.7
31-40	27	36.00	
41-50	11	14.67	
>50	23	30.67	
Gender			
Female	10	13.33	
Male	65	86.67	
Marital Status			
Single	6	8.00	
Married	68	90.67	
Separated	1	1.33	
Educational level			
Non-formal	14	18.67	10
Primary	13	17.33	
Secondary	29	38.67	
Tertiary	19	25.33	
Household size (number)			
< 6	11	14.67	12
6 – 10	27	36.00	
11 – 15	20	26.67	
> 15	17	22.66	

Source: Field Survey, 2017

Causes of communal conflicts

The result in Table 2 shows the distribution of the respondents based on causes of conflict in the study area. Straying of cattle into neighbouring farms as indicated by all (100%) the respondents, followed by destruction of crops (93.33%) and over-grazing of land (92.00%) ranked 1st, 2nd and 3rd, respectively, were the major causes of the conflict among all the identified causes. This finding is in agreement with Olaleye*et al.* (2010) who reported that the pastoralists do encounter problems with the local people because farmers' crops were being destroyed by their cattle. Others include indiscriminate burning of bush (87.84%), contamination of

stream by cattle (86.67%) and disregard for local authority by the pastoralist (72.00%) ranked 4th, 5th and 6th, respectively, among the causes of conflict identified.

However, the least causes of conflict as presented in Table 2 was destruction of stored produce and stealing of livestock belonging to farmers (4.00%), and burning of farmers houses (2.67%) ranked 13th and 15th, respectively. Adisa (2011) highlighted the causes of communal conflicts (between pastoralist and farmers) to include one or more of inequitable access to land, diminishing land resources, antagonistic values among user groups, policy contradictions and non-recognition of rights of indigenous people.

Table 2: Distribution of the respondents based on causes of communal conflict

Causes of conflict	**Frequency***	**Percentage**	**Rank**
Destruction of crop	70	93.33	2nd
Contamination of streams by cattle	65	86.67	5th
Over-grazing of land	69	92.00	3rd
Indiscriminate bush burning	65	87.84	4th
Disregard for local traditional authority	54	72.00	6th
Cattle rustling	13	17.33	10th
Harassment of nomadic youth by youth of host	15	20.00	9th
Defecation of cattle on the road	35	46.67	7th
Straying of cattle into neighbouring farms	75	100.00	1st
Burning of the farmer houses	2	2.67	15th
Destruction of stored produce	3	4.00	13th
Stealing of livestock belonging to farmer	3	4.00	13th
Insufficient grazing land	13	17.33	10th
Revenge/Retaliation	8	10.67	12th
Raping of women	17	22.67	8th

Source: Field Survey, 2017 ***Multiple response**

Effects of communal conflict on yam production

Ordinary Least Square (OLS) regression analysis was used to determine the factors influencing communal conflict on yam production in the study area. From the regression analysis in Table 3, the F-statistic value was found to be 10.75 at 1% level of significance indicating the goodness of fit of the model. The R^2 value was 0.627 which implies that 62.7% variation in the dependent variable which was yam output was explained by the independent variables included in the model, while unaccounted 37.31% could be due to non-inclusion of some explanatory variables and errors due to estimation. The regression reveals that the coefficient of income was positive (0.005) and significant at 1% level of probability, this implies that as the famers' income increases, the output of yam will also increases (that is the more the yield, the more they have to sales which in return more profit). The coefficient of household size was negative (-5.729) and was significant at 5% level of probably, this implies that as household size increases there is a corresponding decrease in output of yam. This could be due to frequent conflict leading to loss of family members and farm land thereby reducing production.

However, the coefficient of frequency of conflict was negative (-0.822) and significant at 5% of level of probability, which implies that an increase in frequency of conflict will leads to a corresponding decrease in the output of yam. Conflict usually leads to a lot of destruction including lives, properties and farm produce. This have a strong effect on production especially yam as farmers will not have time to carry out the required cultural practices on the farm during the period of conflict such as weeding, stalking of the yam vine, and application of chemicals and fertilizer at the required time. Cooperative has a positive coefficient and was statistically significant at 5% level probability, implying that as farmers participate in cooperative society their output of yam increases due to benefit derived from cooperative society such as the provision of input materials, agrochemicals, extension services and credit facilities to farmers for production purposes. The extension coefficient was positive (31.665) and statistically significant at 1% level of probability, this implies that as more extension services are provided to the farmers, their output of yam increases. This is because, better knowledge is acquired by the farmers on new techniques of cultivation, and new innovation or technology is also disseminated to the farmers.

Table 3: Regression estimates on the effect of communal conflict on yam production

Variables	**Coefficient**	**Standard error**	**t-value**
Constant	127.9399	92.23317	1.39
Farm size	-3.285565	5.387274	-0.61
Fertilize	-.3207692	.4988756	-0.64
Income	.0005274	.0001914	2.76***
Age	.8896163	1.465341	0.61
Education	-3.937805	3.407601	-1.16
Household	-5.729194	2.440927	-2.35**
Conflict	-.8223071	.2938588	-2.80***
Cooperative	83.78394	41.00342	2.04**
Credit access	130.2749	42.87266	3.04***

extension	31.66586	11.94331	2.65***
R-squared	0.6269		
Adjusted R-squared	0.5686		
F-statistics	10.75***		

Source: Field Survey, 2017

*** implies statistically significant at 0.01%and 0.05% probability level, ^{ns} implies statistically not significant.

Constraints faced by the respondents

Table 5 shows the constraints faced by the yam farmers in the study area. This was achieved by using a 3- point Likert rating scales with a mean of 2.0, indicating the severe or not severe nature of the constraints. The constraints in the study area were all severe and ranks as follows: lack of well trained staff (M=2.92), problem of farmers/herds men (M=2.80), inadequate and instability in funding (M=2.76), poor budget allocation to extension unit (M=2.76), poor incentives to extension agents (M=2.72), Insufficient agricultural technology (M=2.64) Ineffective agricultural research and extension linkages (M=2.56), Poor institutional framework (M=2.52), Poor logistic support for field staffs (M=2.48), Poor evaluation of extension policy(M=2.44), Lack of development programmes (M=2.40), Lack of effective communication channels (M=2.12).

Table 4: Constraints faced by the respondents

Variable	S (3)	UD (2)	NS (1)	WS	WM	Rank	Remark
Lack of well trained staff	23	2	-	73	2.92	1^{ST}	Severe
Problem of farmers/herdsmen	22	1	2	70	2.80	2^{ND}	Severe
Inadequate and instability in funding	20	4	1	69	2.76	3^{RD}	Severe
Poor incentives to extension agents	20	3	2	68	2.72	4^{TH}	Severe
Insufficient agricultural technology	20	1	4	66	2.64	5^{TH}	Severe
Ineffective agricultural research & extension linkages	18	3	4	64	2.56	6^{TH}	Severe
Poor institutional framework	17	4	4	63	2.52	7^{TH}	Severe
Poor logistic support for field staffs	18	1	6	62	2.48	8^{TH}	Severe
Poor evaluation of extension policy	14	8	3	61	2.44	9^{TH}	Severe
Lack of development programmes	15	5	5	60	2.40	10^{TH}	Severe
Lack of effective communication channels	11	6	8	53	2.12	11^{TH}	Severe

Source: Field Survey, 2017

Note: S=Severe, UD=Undecided, NS=Not Severe, WS=Weighted Sum and WM=Weighted mean

IV. Conclusion And Recommendations

In conclusion, several conflicts were identified as a major cause of decline in yam output of the respondents in the study area. Many farms were abandoned during conflict period, there was less man power due to loss of family members and the farm is either destroyed by the cattle pastoralist. Income, household size, co-operative society, credit access and extension training were factors that significantly influence yam production output in the study area, as there was significant effect of frequency of conflicts on yam output.This study therefore recommended that the bill in support of creating grazing reserves in each State of the Federal Republic of Nigeria should be discouraged as this could lead to further crisis thereby affecting agricultural production including yam production. The campaign for reforestation that is ongoing in all parts of Nigeria particularly in the drought prone areas of North East Nigeria needs to be boosted. When this is done, it will create a lasting solution to the problem of Southwards movement of the Fulani cattle herdsmen. The borders should be properly manned to prevent the influx of herdsmen from neighbouring countries. Most of these herdsmen have little or no idea about the laws of the country and are only interested in the pasture. Cattle breeding in Nigeria must become a sedentary occupation. The option of sedentary is to control the frequency of North-South movement. This can be done in collaboration with traditional rulers and the herder's famous association Miyetti Allah Cattle Breeders Association of Nigeria (MACBAN).

References

[1]. Adelakun O.E, Adurogbangba, B. and Akinbile, L.A. (2015). Socio-economic Effects of Farmer-Pastoralist Conflict on Agricultural Extension Service Delivery in Oyo State, Nigeria

[2]. Blench R. M. (2003). The transformation of conflict between pastoralists and cultivators in Nigeria. Retrieved in December 19, 2012. Fromhttp://www.rogerblench.infor/Development/Nigeria Livestock survey.pdf

[3]. FAO, (2003) "The State of Food and Agriculture", Conference, 32nd Session, 29 November- 10 December, Rome. (C/23/)

[4]. National Bureau of Statistics (2011) Yam Consumption and Production in Nigeria

[5]. Olaleye, R. S., Odutola,J. O., Ojo, M. A., Umar, I. S. and Ndanitsa, M. A. (2010). Perceived effectiveness of conflict resolution methods for improved Farmer-Pastoralist relationship in Chikun Local Government Area of Kaduna State, Nigeria. The Nigerian Journal of Rural Extension and Development, 3, 54 – 58.

[6]. Okeke, A. (2014). Conflicts between Fulani Herders and Farmers in Central and Southern Nigeria: Discourse on Proposed Establishment of Grazing Routes and Reserves, Okechukwu Edward, Ph.D. Senior Lecturer in History Department of Humanities Federal University, Otuoke, Bayelsa State, Nigeria

[7]. Rashid, S. (2012) Land Use Conflict between Farmers and Herdsmen – Implications for Agricultural and Rural Development in Nigeria
[8]. Samuel, A. (2015). Agricultural Practice in Benue State and Its Implications on Food Security
[9]. Shemyakina, O. (2006). "The Effect of Armed Conflict on Accumulation of Schooling: Results from Tajikistan." Households in Conflict Network Working Paper No. 12
[10]. Sungsup, R. (2005). Measuring the economic costs of conflict the effect of declining development expenditures on Nepal's economic growth
[11]. Njuguna, I. M., Munyna, C. N. and Makal, S. K. (2015). Influence of demographic Characteristics on adoption of improved Potato varieties by small holder farmers in Mumberes Division Baringo Country, Kenya. Journal of agricultural Extension and Rural Development, 7 (4), 114 – 121.
[12]. World Bank (2008). World Development report "Agriculture for development". http:/web.worldbank.org.

Ajayi, O. J., Y. Muhammed, et.al. "Effect of Communal Conflict on Yam Production in Agatu Local Government Area of Benue State, Nigeria." *IOSR Journal of Agriculture and Veterinary Science (IOSR-JAVS)*, 13(2), 2020, pp. 01-06.