

Effect of Farmers-Herders' Conflicts on Activities of Extension Field Workers of Agricultural Development Programmes (ADPs) in Benue and Nasarawa States, Nigeria

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Abstract

The study examined the effect of farmers-herders' conflicts on the activities of field extension workers in Benue and Nasarawa States of Nigeria. The specific objectives were to: describe socio-economic characteristics of field extension workers of ADPs in the study area and determine the effect of conflicts on their activities. A total of 121 extension personnel were selected through stratified sampling technique for the study. Data were collected with structured questionnaire and analyzed using both descriptive and inferential statistics. The results indicated that the mean age of extension field workers in the study area was 41.5years and majority (75.2%) of them were male. Most (88.4%) of the extension field workers were married, while 62.8% of the extension workers had Higher National Diploma. The result also showed that the mean years of extension experience in the study area was 13.8 years. Test of difference on the effect of communal conflicts on the activities of field extension workers before and during occurrence of conflicts in the study area revealed significant differences in most of their activities like field trips ($t=4.05, p=0.000$), trainings ($t=5.18, p=0.000$), field days ($t=3.29, p=0.001$), demonstrations ($t=4.78, p=0.000$) among others. It was concluded that the occurrences of communal conflicts in the two States hindered the activities of extension workers. Thus, the study recommends the use of combination of Information and Communication Technologies (ICTs) components by extension service providers as a means of disseminating agricultural information to farmers during insecure situations.

Keywords: Activities, Effect, Conflicts, Extension Workers, Farmers-Herders

Introduction

Over the years, increased attention has been given to agricultural development in Nigeria with interventions such as Operation Feed the Nation (OFN), Green Revolution (GR), and Agricultural Development Programmes (ADPs) among others obviously reflecting this attention. The concern is purely justified because for a developing country like Nigeria, agriculture remains the requisite foundation for social and economic progress as well as rural transformation. Agricultural extension is a science of social change with the basic purpose of increasing farmer's productivity through efficient production (Meludu, 2006).

The agricultural extension service delivery has played a significant role in improving agricultural production in Nigeria through provision of information on improved techniques of production. Agricultural extension plays a pivotal role in ensuring the awareness and subsequent adoption of improved technologies using various extension teaching methods. This will improve productivity and raise the living standards of the farmers who are the major beneficiaries (Chukwuone and Agu, 2005). Even though there remains a preponderance of small-scale farmers in Nigeria, the adoption of improved techniques of farming continues to impact positively on agriculture. Over the last three decades for instance, investments in agricultural extension activities by governments and foreign partners have yielded notable dividends for the farmers and the nation at large (Saliu *et al.*, 2009). In spite of all the positive impact recorded by agricultural extension over the years, all is not well with agricultural production and, indeed, extension service delivery in Nigeria. In fact, farming and extension continue to face daunting challenges that require urgent attention.

An important but somewhat overlooked challenge of extension is the problem associated with farmers-herders' conflicts. Increasing frustration and impoverishment of farmers occasioned by perennial and extensive farm plot destruction and the ensuing bitter conflicts are eroding the gains of extension efforts. This is a problem for agricultural extension service delivery because the ultimate objective of agricultural extension is the enhancement of living standards of farming households (Adisa, 2011).

Farmers-herders' conflict refers to conflicts between crop production farmers and pastoralists. Farmers-herders' conflicts can take different forms, and in order to understand the different dynamics of farmers-herders' conflicts; it is useful to analyse their underlying causes and the issue over which the conflict is fought. These causes can be categorized under economic, social and ecological factors. Economic factors manifest in the forms of competition for inadequate resources such as land and its content as well as problems of distribution of available resources. Disputes over land and resources are an important source of deadly conflict. They may stem from land grabs, boundary disputes, government resettlement policies, climate change or other factors. They are often made more complex by the multiplicity of economic interests involved. Social factor has to do with issues that border on deprivation, envy, jealousy, marginalization and exploitation of people. In fact, fear of domination by major groups is equally a social factor that attracts farmers-herders' conflicts. Ecological factor manifests in the forms of encroachment problem, deforestation and bush burning. Farmers-herders' conflict creates room for people to drift from place to place as a survival mechanism and in search of livelihood (Adisa, 2011).

Farmers-herders' conflicts hinder the smooth operation of extension personnel who transfer the knowledge to farmers. Extension agents are hindered by conflicts of various magnitudes, which make it difficult to carry out extension services. Agricultural extension remains the only way through which agriculture could be beneficial to the smallholder farmers. The laudable objectives and targets set for the weeks, months and year for each operation by extension agents can only be achieved in a peaceful environment. In a situation where individuals or groups seek to prevent each other from attainment of their goals through violent means, farmer's level of adoption of improved technology and effective dissemination of information by the extension agents may be adversely affected (Bolarinwa and Oyeyinka, 2005).

Agricultural extension institutions like the Agricultural Development Programmes (ADPs) and research institutes that support the agricultural sector are also affected during the conflict situations. Conflicts have forced most of these institutions to reduce their activities like field trials and monitoring among others to the minimal functions, relocate to areas where attacks are less or cancelled some activities (Kimenyi *et al.*, 2014). Robertson and Steve (2012) also confirmed that extension agents working in communities affected by conflict face challenges beyond those normally associated with their jobs. Conflicts may have prevented them from acquiring the necessary motivation needed to do their job well in order to make agricultural improvements. The societal dividing lines created by conflict may also limit the cooperative activities on which extension is based. Therefore, the aim of this study is to assess the effects of communal conflicts on the activities of field extension workers of Agricultural Development Programmes (ADPs) in Benue and Nasarawa States, Nigeria. The specific objectives of the study were to:

- i. describe the socio-economic characteristics of the respondents (field extension workers) in the study area, and;
- ii. determine the effect of communal conflicts on the activities of field extension workers of ADPs in the study area.

Theoretical framework of the study

Systems theory

Systems theory was proposed by Ludwig Von Bertalanffy in 1928 and is found to be relevant to this study. System theory is the trans-disciplinary study of the abstract organization of phenomena, independent of their substance, type, spatial or temporal scale of existence. It investigates both the principles common to all complex entities, and the models which can be used to describe them.

System as a concept is described as a complex whole or unit bounded together with a number of components working together. The functional pre-requisites of the components are essential condition for the survival and equilibrium of a system. Thus, it means that in a system, every part usually has a (reciprocal) relationship between its structure and organizational variables which are considered to carry mutually dependent actions and each of a system part depends on the other parts and a separation of a part usually brings about a fatal and negative impact on the whole system (Laszlo and Krippner, 1998).

According to Malhadas-Junior (2010), the systems theory can be understood as a set of interdependent elements or an organized whole in a system which reflects the following:

- a. the whole has qualities that none of its parts have;
- b. the qualities of the whole is reflected in each of the parts;
- c. what happens with the whole influences each part;
- d. what happens with each part affects the whole and the other parts, and;
- e. each part reflects the whole and all interactions.

The analogy with an extension organization, allows a better understanding of the scope of systems theory, because:

- i. the extension organization has qualities or characteristics that none of its clientele, individually possess;
- ii. the characteristics of the extension organization are reflected in the behaviour of each of its clientele, if it is united as a whole and they act in accordance with this standard;
- iii. an event involving the whole (for example, the occurrence of communal conflicts affects each member. The extent to which this happens depends on the characteristics of the system);
- iv. an event that affects one of the members (for example, the displacement of farmers as a result of occurrence of conflicts) has an effect on the whole and on all others. These effects will be higher or lower depending also on the characteristics of the system.

Therefore, the implication of the theory to this study bores down to the fact that in a conceptualized agricultural extension system, every part, be it dissemination of agricultural technologies, input supply or credit support by extension service, adoption and continued use of technologies by farmers or communities are all dependent on each other and must be linked together and performing their pre-requisite functions for effectiveness of the system. Occurrence of communal conflicts can bring about negative effects to extension service delivery if they disrupt farming activities, displace the farmers or hinder the extension institutions such as ADPs from carrying out their duties. In a situation where individuals or groups seek to prevent each other from attainment of their goals through violent means, effective dissemination of information by the extension agents, farmer's level of adoption of technology and continued use of the adopted technology may be adversely affected.

Considering the effects of communal conflicts on the people and their farms, it becomes clear that once the farmers are displaced and their land abandoned, the agricultural extension service delivery which is an important aspect of agricultural production is also affected greatly. The extension field workers are left with a critical decision regarding their job and loyalty to the communities, villages and individuals who are in conflict areas where they operate (Robertson, 2013).

This theory suggests that management of communal conflicts becomes inevitable in order to ensure the survival, development and evolution of individuals, families, social groups, organizations and,

ultimately, society and bring about sustainable peace for increased agricultural production through improved access to agricultural extension services. The management of conflict becomes effective when it tries to identify the causes, understand its evolution, and how it affects the "whole" system and the "parts" that it composes.

Methodology

The study was conducted in Benue and Nasarawa States, Nigeria. Benue State is found within the Southern Guinea Savannah agro-ecological zone of the country and is located between longitude 7° 47' and 10° 0" East and Latitude 6° 25' and 8° 8" North. The State covers a land area of about 31,276.7 square kilometres with an average population density of 137 persons per square kilometres. The population of the State grew from 2.7 million in 1991 to 4.3 million persons in 2006 and a projected figure of 5.6 million persons in 2015 at 3.0 percent annual growth rate (NPC, 2007; Benue State Government, 2015). The State shares boundaries with five other States namely: Nasarawa to the North, Taraba to the East, Cross-River to the South, Enugu and Ebonyi to the South-West and Kogi to the West. The State also shares a common international boundary with the republic of Cameroun on the South-East. The State is referred to as the "Food Basket" of the Nation because of the abundance of its agricultural resources and about 80 percent of the State population is estimated to be directly involved in subsistence agriculture (Benue State Government, 2015).

Nasarawa State is located within the Guinea Savannah eco-geographical zone and lies between latitude 7° 45' and 9° 25" N of the equator and between longitude 7° 51' and 9° 37" E of the Greenwich meridian. It has a land area of 28,735 square kilometres with a mean population density of about 77 persons/km². The estimated population of Nasarawa State according to the 2006 provisional census is about 1.86 million and the 2015 projected population is 2.4 million at an annual growth rate of 2.8 percent. It is located in the North Central zone of Nigeria bordering Abuja Federal Capital Territory (FCT) to the West, Taraba and Plateau States to the East, Kaduna State to the North and Kogi and Benue States to the South. The State has rich soil for agriculture and the major occupation of the people includes farming, fishing, dyeing, weaving, carving and blacksmithing (Nasarawa State, 2015).

Purposive sampling procedure was adopted to select two states, Benue and Nasarawa from the six States in North-central Nigeria where communal conflicts occur frequently. Stratified sampling technique was used in selecting the extension field workers from the two states. The first stratum composed the selection of 17 Block Extension Supervisors (BES) (9 from Benue and 8 from Nasarawa States). The second stratum included 22 Block Extension Agents (BEAs) (11 from Benue and 11 from Nasarawa States), while the third stratum comprised of 82 Village Extension Agents (VEAs) (19 from Benue and 63 from Nasarawa States) making a total of 121 extension workers selected through proportionate and random sampling using the Taro Yamane formula for the determination of sample size (Miller and Brewer, 2003). Primary data were collected with the use of a structured questionnaire which elicited information from the extension workers and analysed using both descriptive statistics and inferential statistics. The Taro Yamane formula is stated as follows:

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

Where:

n = Sample size

N = Total population

1 = statistical constant

e = margin of error (at 0.06)

Table 1: Sample design for field extension workers of ADPs in the study area

State	Sampling frame	Sample Size
Benue State		
BES	16	9
BEA	20	11
VEA	34	19
Total	70	39
Nasarawa State		
BES	14	8
BEA	19	11
VEA	112	63
Total	145	82
Grand Total	215	121

BES- Block Extension Supervisor

BEA- Block Extension Agent

VEA- Village Extension Agent

Source: Benue State Agricultural and Rural Development Authority (BNARDA, 2015), Nasarawa State, ADP (2015).

Results and Discussion

Socio-economic characteristics of extension field workers in the study area

Age

Results in Table 2 revealed that the mean age of extension field workers in the study area was 41.5 years. This is similar to the mean age reported by Ezech (2013), Ogunremi and Olatunji (2013) and Fadiji *et al.* (2014) that majority of extension agents fell within the age bracket of 40-49 years. This implies that majority of the extension field workers in the study area were still within their middle age which represent the active and/or productive working years. This result suggest that the age of an extension worker is likely to be associated with a sense of responsibility and better understanding of the conflict situation and perception of extension roles during insecure situations.

Table 2: Socio-economic characteristics of field extension workers in the study area

Variables	Freq	%	Mean
Age (Years)			
20-29	9	7.4	
30-39	40	33.1	
40-49	49	40.5	41.5
50-59	23	19.0	
Total	121	100.0	
Sex			
Male	91	75.2	
Female	30	24.8	
Total	121	100.0	
Marital Status			
Single	14	11.6	
Married	107	88.4	
Total	121	100.0	
Grade Level			
≤ 6	4	3.3	
7-12	100	82.6	9.0
≥13	17	14.1	
Total	121	100.0	

Academic Qualification		
Secondary School	3	2.5
OND	35	28.9
HND	76	62.8
Degree	6	5.0
Others	1	0.8
Total	121	100.0
No. of Years in Service		
≤ 4	3	2.5
5-8	34	28.1
9-12	32	26.4
≥ 13	52	43.0
Total	121	100.0

Source: Field survey, 2011/17

Sex

Majority (75.2 %) of the extension workers in the study area were male (Table 2). This result is consistent with other findings (Adeola and Ayoade, 2011; Okwoche *et al.*, 2015) who found that a larger percentage of extension workers in Nigeria were males. This finding implies that extension service delivery in Nigeria is dominated by men which reflect an imbalance in the gender distribution of extension workers in Nigeria thereby creating a dearth of information for majority of the female farmers resulting in a hindrance to increased productivity on the part of the women.

Marital Status

As shown in Table 2, most (88.4 %) of the extension workers in the study area were married. This result corroborates other findings (Ogunremi and Olatunji, 2013; Fadiji *et al.*, 2014) who reported that an overwhelming percentage of extension workers in Nigeria are married. The result implies that extension workers who are responsible with families tend to be motivated and more committed to their job.

Grade Level

The result in Table 2 indicated that the mean grade level of extension field workers in the study area was grade level 9. The result corroborates with the finding of Omoregbee and Ekpebu (2013) that a large percentage of extension workers were within grade level 6-10. This findings implies that grade level in any structure of service determine the remuneration a worker gets as reward for services rendered. Therefore, agricultural extension field workers with high grade levels would receive higher salaries than those with lower grade levels. However, a low annual income of agricultural extension workers would go a long way to affect their job satisfaction and commitment on the field especially in conflict situations.

Academic Qualification

All the extension workers attained formal education with majority (62.8 %) of the extension workers having HND (Table 2). The result agrees with findings of earlier studies (Okoedo-Okojie and Edobor, 2013; Fadiji *et al.*, 2014; Okwoche *et al.* 2015) that a greater number of extension workers in Nigeria completed HND. Education has been identified as a catalyst in agricultural and other productive activities because it is a variable that broadens the mental horizon, influences the totality of the mind and predisposes individuals to new ideas. Adequate education therefore could enhance agricultural extension agents' understanding of conflict dynamics and the appropriate extension methods and approaches to use in such insecure situations.

Number of years in service

The results in Table 2 revealed that the mean number of years in service for extension workers in the study area was 15 years. The findings are consistent with other studies such as that of (Okoedo-Okojie and Edobor, 2013; Obasi *et al.*, 2014; Okwoche *et al.*, 2015) who reported that majority of extension field workers served for between 11-15 years. This implied that most of the extension workers have acquired enough experience over the years to understand their job description better and perform well even during conflict situation because ‘experience is said to be the second teacher’.

Effect of communal conflicts on the activities of field extension workers before and during occurrence of communal conflicts in the study area

Table 3 showed the analysis of the mean difference in effect of communal conflicts on the activities of field extension workers before and during occurrence of conflicts in the study area. There were significant differences in field trips to farm centres and experimental stations ($z=4.05$, $p=0.000$), farm visits and supervision ($z=15.45$, $p=0.000$), meetings with farmers ($z=6.21$, $p=0.000$), training and capacity building of farmers ($z=5.18$, $p=0.000$), field days ($z=3.29$, $p=0.001$), method and result demonstration ($z=4.78$, $p=0.000$), Management Training Plots ($z=2.41$, $p=0.018$), dissemination of proven farming technologies ($z=13.64$, $p=0.000$), On-Farm Adaptive Research ($z=3.11$, $p=0.002$), agricultural shows ($z=2.12$, $p=0.036$) and distribution of farm inputs ($z=1.72$, $p=0.088$). With higher mean values recorded in favour of before conflict situation, this findings perhaps showed that the activities of extension field workers in both Benue and Nasarawa States were negatively affected during occurrence of the communal conflicts in the study area.

Table 3: Effect of communal conflicts on the activities of field extension workers before and during occurrence communal conflicts in Benue and Nasarawa States

Variable	Mean Diff.	SD	z	p-value	Decision
Field Trips	12.29	33.38	4.05	0.000***	S
Farm visits	112.00	79.72	15.45	0.000***	S
Meetings with farmers	11.39	20.21	6.21	0.000***	S
Trainings	7.61	16.17	5.18	0.000***	S
Field days	5.34	17.86	3.29	0.001***	S
Demonstrations	4.82	11.10	4.78	0.000***	S
MTPs	5.96	27.25	2.41	0.018**	S
Dissemination of- Technologies	100.31	80.94	13.64	0.000***	S
OFARs	7.41	26.26	3.11	0.002***	S
Agricultural shows	2.66	13.81	2.12	0.036**	S
Distribution of inputs	3541.22	22671.23	1.72	0.088*	S

Source: Field survey, 20117

*, ** & *** Significant (S) at 10%, 5% and 1% respectively

This result corroborates the findings of Bolarinwa and Oyeyinka (2005), Kimenyi *et al.* (2014) and Adalakun *et al.* (2015) who found that availability of extension services like number of visits per extension agent, number of contact with farmers, training of contact farmers and demonstrations on small plots (Management Training Plots) to teach the farmer new techniques and practices which enable them to compare the results of the old and new practices as well as adoption of improved technologies by both crop and livestock farmers and continued use of adopted technologies were greatly affected during conflict situation.

Conclusion and Recommendations

The study revealed that most of the activities of field extension workers were negatively affected during the occurrence of communal conflicts in the study area since the field extension workers were hindered by conflicts of various magnitudes, which make it difficult to carry out extension services or reach out to farmers. It was recommended that extension service providers should utilize simple Information and Communication Technology (ICT) components like radio and other mobile devices to disseminate agricultural information to farmers in areas they cannot visit due to insecurity.

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