

Effect of *Boko-Haram* insurgency on agricultural extension service delivery on maize farmers in Adamawa State, Nigeria: Implication for food security

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Abstract

The study was carried out to determine the effect of *Boko-Haram* insurgency on agricultural extension service delivery on maize farmers in Adamawa state of Nigeria. A simple random sampling technique was used to select 39% (152) registered maize farmers from ADP area offices in 4 selected Local Government Areas. The primary data collected from farmers were analysed through the use of both descriptive and inferential statistics such as frequency, percentages and t-test. The result showed that 69.0% of the farmers were males and 31.0% were females, 59.5% were married and 40.5% were singles. Also, 58.7% were in the active age bracket of 31-43 years and majority of the farmers (65.1%) have 6-10 household size. *Boko-Haram* insurgency had significant effect on the provision and delivery of Agricultural Extension Services as $P_{\text{calculated}} 0.00 < P_{\text{Cl}} 0.05$. Sensitization, Dissemination of Information through Mass Media, Formation and Organization of Farmers Group all have p-value < 0.05, which implies that insurgency has significant effect on the delivery of these major extension services rendered to the farmers in the study area. The study concluded that *Boko-haram* insurgency has significant effect on the delivery of agricultural extension services. In view of this, government should take legal and justifiable action to ensure that the menaces caused by *Boko Haram* to the agricultural sector are properly arrested. Sustainable agricultural intervention programs and policies should be initiated in order to resuscitate the agricultural potential of the study area. Farmers and extension agents should be encouraged with better incentives to go back to their farming and agricultural extension activities so as to improve productivity and food security.

Key Words: *Boko Haram*, Insurgency, Maize, Farmers, Effect

Introductions

Agriculture in Nigeria is the most important sector of the economy, it accounts for over 60% of the nation's Gross Domestic Product (GDP) (Francis and David, 2012). Agriculture in Nigeria is dominated by small-scale farmers who are engaged in the production of the bulk of food requirements of the country. Agricultural extension is a science of social change with the basic purpose of increasing farmers' productivity and income through

efficient production. Hence it emphasizes among other things the use of fertilizer, improved seeds and chemicals. Agricultural extension services help assist farm people through agricultural education, improving farming techniques, increasing production efficiency, improving their standard of living and uplifting the social and educational standard of rural life. Agricultural extension services are a non-formal system of education rendered to rural or urban farmers to effect change in their behavior hence improving their old styles of farming (Anthony,

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2007). The role played by governments was central in shaping extension delivery processes in line with national development goals such as poverty reduction, sustainable agriculture and natural resource management. Most public extension approaches have mainly built on the Training and Visit (T&V) model designed for training extension agents on technical skills to be passed on to the farmers using on-farm demonstrations, farmer field days and in-service training courses (Fu and Akter, 2012). The T&V system is believed to have achieved some positive results in a relatively short period of time (Gautam, 2000).

Terrorism which has become a global phenomenon is a deliberate and systematic use of violence to destroy, kill, maim and intimidate innocent people in order to achieve a goal or draw national and international attention on demands which ordinarily may be impossible or difficult to achieve under normal political negotiation or on the battle field against a government (Chukwurah *et al.*, 2015). According to Ogochukwu, 2013, Boko Haram is a very controversial Nigeria militant group that seeks for the imposition of sharia law in the entire northern states of Nigeria. The author further opined that, the official name of the group is Jama'atu Alis Sunna Lidda'a Wat Jihad", which in Arabic translation means people committed to the propagation of teaching of Prophet and Jihad. There has been a general notion by the extremists that western education is bad and must be eradicated (Adebisi, *et al.*, 2017). According to (Adebisi, *et al.*, 2017), the 21st century religious terrorist group such as Al-Qaeda, Taliban, Boko-haram etc are violent extremists who interpret religious ideologies to suit their self-desire, justifying their actions on non-understanding of Islamic principles. These groups believed that violence is the only means to fight an existing government and to cause change (Olaide, 2013). Nigeria in recent times has witnessed an unprecedented level insecurity as a result of insurgency. This has made national security threat to be a major issue for the government and has prompted huge allocation of the national budget to security (Achumba *et al.* 2013). No region has been spared the vicious scourge of conflict though their prevalence and intensity have not been the same in occurrences across the length and breadth of the nation. Insurgency activities have destabilized the socio-economic activities, increased crime and destruction of both life and property of Nigerian citizens (Mathew and Adegboye, 2009; Sidney *et al.*, 2017). The resultant effect of insurgency is the mass movement of people living in the affected areas of the country most especially the Northern part of Adamawa state. This situation has made it impossible for the extension workers in that part of the state to carry on with their functions to the farmers in the study area.

Agricultural extension service providers (extension personnel) and the target audience, that is, farmers, are on the run for their dear lives therefore causing a setback on extension delivery activities. This is as a result of fear of attacks especially by marauding Boko Haram insurgents, which has made most of the local population flee their homes (Muhammed, 2015). Considering the effect of insurgency on the people and their farm, it becomes clear that once the farmers are displaced and their land abandoned, the extension operation suffers a

great deal as there are virtually nothing left for the extension agent to work on. This consequently led to decline in the activities of the extension workers in the study area. The ban on motorbikes which is the essential means of transportation for both farmers and Village Extension Agents (VEAs) has greatly limited the accessibility of the target audience and their farm lands by the agricultural extension staff. It is against this background that this study is aimed at determining the effect of Boko-haram insurgency on agricultural extension service delivery on maize farmers in Adamawa state, Nigeria. This study is intended to answer the research question: What is the effect of insurgency on extension service delivery on maize farmers in the study area among others.

Methodology

The Study Area

The study was carried out in Adamawa State, North East of Nigeria (fig. 1). It is located between Latitude 7^o to 11^o north of the Equator and between Longitudes 11^o to 14^o east of the Greenwich Meridian, it has a land area of 36,917 km² and population of 3,178,950 as at 2006 and projected population of 2018 was estimated at 4,532,422. It is one of the thirty-six (36) states which constitute the Federal Republic of Nigeria with twenty Local Government Areas. The State shares a border with Gombe State to the North, and Borno State to the North East, while to the West it is bordered by Taraba State as well as the Republic of Cameroon to the East. There are two notable vegetation zones; these are Sub-Sudan and Northern Guinea Savannah Zone. Cash crops grown are groundnuts and cotton while food crops include maize, yam, cassava, guinea corn, millet and rice. Adamawa State has four (4) Agricultural zones. In which the study area covers two zones, where zone I comprises of Madagali, Michika, Mubi North, Mubi South and Maiha and zone II comprises of Hong, Gombi, Song and Girei L.G.As. The annual rainfall ranges between 1000mm and 1600mm. The maximum and minimum temperatures are about 39.5^oC and 10.5^oC and the main occupation of the people is farming.

Sampling Technique and Sample Size

Multi-stage sampling technique was used in the study. In the first stage, two Agricultural Development Program (ADP) zones were purposively selected because of the prevalence of Boko- Haram insurgency. These are zone I and II, out of the two zones: three LGAs from each were selected. The three (3) local government areas from zone I were: Mubi North, Mubi South, and Maiha, while Hong, Gombi and Song LGAs were selected from zone II. In the second stage, a simple random sampling technique (Table of Random Numbers) was used to select 39% (152), of 390 registered maize farmers from ADP area offices in each selected LGAs base on time and financial constraints as shown in the Table 1.

Table 1: Sampling Procedure

Adamawa ADP zones	LGAs	Wards	Villages	Sample Frame	Sample Size
Zone I	Mubi N	Lokuwa	Lokuwa	30	12
		Vimtim	Vimtim	35	14
	Mubi S.	Tudu	Tudu	34	13
		Nduku	Nduku	32	12
	Maiha	Maiha Gari	Maiha Gari	30	12
		Belel	Belel	36	14
Zone II	Hong	Hong	Hong	34	13
		Kwarhi	Kwarhi	35	14
	Gombi	Gombi	Gombi	32	12
		Garkida	Garkida	35	14
	Song	Song	Song	25	10
		Dumne	Dumne	32	12
Total				390	152

Source: Field survey 2019

Method of Data Collection

Primary data were used for this study and relevant secondary materials were also consulted. Structured questionnaires were developed to draw responses from the sampled population of the study aided by oral interviews. A total of 126 questionnaires was retrieved and used for analysis.

Method of Data Analysis

Descriptive statistics; Frequency distribution, mean and percentages were used to describe the socio-economic characteristics of the maize farmers. The effect of Boko-haram insurgency on extension service delivery was determined using Wilcoxon test. Two independent continuous populations X_1 and X_2 with means μ_1 and μ_2 . Assume that, the distributions of X_1 and X_2 have the same shape and spread and differ only (possibly) in their locations.

Results and Discussion

Socio-Economic Characteristics of the Farmers

Table 2: Distribution of Farmers According to Socio-Economic Characteristics

Characteristics	Frequency	Percentage (%)
Age (yrs)		
18-30	18	14.3
31-43	74	58.7
44-53	22	17.5
54-63	9	7.1
Above 63	3	2.4
Mean	41.00	
Total	126	100
Gender	87	69.0
Male	39	31.0
Female	126	100
Total		
Single	51	40.5
Married	75	59.5
Total	126	100
Highest Educational Qualification		
None	14	11.1
Primary School	31	24.6
Secondary School	73	57.9
Tertiary	8	6.3
Total	126	100
Primary Occupation		
Crop Farming	44	34.9
Animal Farming	4	3.2
Agro processing	12	9.5
Civil servants	43	34.1
Trading	15	11.9
Others specify	8	6.3
Total	126	100
Household Size		
1-5	33	26.2
6-10	82	65.1
11-15	3	2.4
16 and above	8	6.3
Mean	8.02	
Total	126	100

Source: Field Survey data, 2019

Table 2 shows that 14.3% of the farmers are within the age range 18-30 years, 58.7% are within 31-43, 17.5% are between 44-53, while only 7.1% and 2.4% of the farmers make up the remaining age brackets 54-63 and above 63 years respectively. This indicates that 73% of the farmers are 43 years or lower. The result matches that of Idrisa *et al.* (2012), and Jamilu *et al.* (2014) who found that maize farmers were between 30-35 years. Age group between 21 to 40 years is the most prevalent among farmers due to the responsibilities they have to feed the families. This means that the active group is engaging in farming as their major economic activity. The result of the research shows that (69%) of the farmers are male while female make up only 31%. This reveals that men are more involved in maize production than female. This agrees with the findings of Issa *et al.* (2016) that (94.2%) of the farmers were male, while 5.8% were female. It is also similar to

that of Idrisa *et al.* (2012) where the percentage of male respondents was 87.7%.

The implication is that men are stronger and can withstand tedious work than the female hence they are likely to access more extension services than their female counterparts. The result further shows that (59.5%) of the farmers are married while 40.5% are single. This indicates that the married people dominate the farming sector than singles. This agrees with the result of Issa *et al.* (2016) and Umar *et al.* (2014) that more than half (58.3%) of the maize farmers were married. This implies that married people concentrate on maize farming probably to provide food for their family members. This finding is similar to that of Issa *et al.* (2016) who found that majority of the farmers were married. More so, (57.9%) proportion of the farmers had completed secondary school, 24.6% attended primary school, and 11.1% did not attend any formal education. Only (8%) had accessed tertiary education. From the

findings it can be seen that about (57.9%) of the farmers have completed secondary school. This could be attributed to the introduction of basic education system in the study area. Also crop farming and civil service make up the primary occupation of the farmers with 34.9% and 34.1% respectively. The household size of categories 1-5, 6-10, 11-15 and above 15 have (26.2%), (65.1%), (2.4%) and (6.3%) respectively. It was discovered that category 6-10 (65.1%), constitute the highest number of households among the group of farmers.

Major Extension Services Rendered to the Farmers

Extension services ascertained in this study include: Extension advisory services (EAs), Introduction of Early maturing maize seed and plant population (IEMSPP), Demonstration on method of maize storage and processing (DMMSP), Extension visit (ES), Agricultural shows and field day (ASF), Consultancy services to individuals and organizations (CSIO), Off farm adaptive research/Women in Agriculture.(WIA), Private consultancy services(NGOs), Sensitization, Dissemination of information through mass media (DIMM), and Formation and organization of farmers group (FOFG).

Table 3: Paired t-test for Major Extension Services Rendered to Farmers before and during Insurgency

Paired Samples Test		Paired Differences							
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Diff.		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	EAS Before Insurgency - EAS During Insurgency	.42063	.94109	.08384	.25471	.58656	5.017	125	.000***
Pair 2	IEMMP Before Insurgency - IEMMP During Insurgency	.69841	1.02972	.09173	.51686	.87997	7.613	125	.000***
Pair 3	DHPA Before Insurgency - DHPA During Insurgency	.56349	1.07700	.09595	.37360	.75338	5.873	125	.000***
Pair 4	DMMSp Before Insurgency - DMMSp During Insurgency	.66667	1.17303	.10450	.45984	.87349	6.379	125	.000***
Pair 5	EV Before Insurgency - EV During Insurgency	-.05556	.97411	.08678	-.22731	.11619	-.640	125	.523NS
Pair 6	ASF Before Insurgency - ASF During Insurgency	-.06349	.97772	.08710	-.23588	.10889	-.729	125	.467NS
Pair 7	CSIO Before Insurgency - CSIO During Insurgency	.20635	.99854	.08896	.03029	.38241	2.320	125	.022*
Pair 8	OFAR/WIA Before Insurgency - OFAR/WIA During Insurgency	.38889	1.20646	.10748	.17617	.60161	3.618	125	.000***
Pair 9	PCS/ NGOs Before Insurgency - PCS/ NGOs During Insurgency	.52381	1.13641	.10124	.32344	.72418	5.174	125	.000***
Pair 10	SENSITIZATION Before Insurgency - SENSITIZATION During Insurgency	.73016	1.18263	.10536	.52164	.93867	6.930	125	.000***
Pair 11	DIMM Before Insurgency - DIMM During Insurgency	.55556	1.30571	.11632	.32534	.78577	4.776	125	.000***
Pair 12	FOFG Before Insurgency - FOFG During Insurgency	.53175	1.25019	.11138	.31132	.75217	4.774	125	.000***

Source: Field Survey data, 2019.

*: significant at 0.1

***: significant at 0.01

NS: Not Significant

Note: **EAS:** Extension Advisory Services **ASF:** Agric. shows & Field Day **DHPA:** Demonstration on Herbicide and Pesticide Application **IEMMP:** Introduction of Early Maturing Maize Seed and Plant Population **DMMSp:** Demonstration on Method of maize storage and processing **EV:** Extension Visit **CSIO:** Consultancy services to Individuals and Organisations **OFAR:** Off Farm Adaptive Research **NGOs:** Non-governmental Organisations **PCS:** Private Consultancy Services **DIMM:** Dissemination of Information through Mass Media **FOFG:** Formation and Organisation of Farmers Groups **WIA:** Women in Agric.

Table 3 shows the result of major extension services rendered to the farmers before *Boko-haram* insurgency compared with major extension services rendered to the farmers during *Boko-haram* insurgency using paired independent sample t-test. Observing that the data have met the requirement i.e., assumptions. A significant difference exists in the provision of the following Agricultural extension services before and during *Boko-haram* insurgency: Extension Advisory services, Introduction of Early Maturing Maize Seeds and Plant Population, Demonstration on Method of Maize Storage and Processing, Consultancy Services rendered to Individuals and Organizations, Off Farm Adaptive Research/Women in Agriculture. (WIA), Private Consultancy Services (NGOs), Sensitisation, Dissemination of Information through Mass Media all have $P_{calculated} 0.00 < P_{CI} 0.05$. Therefore, we reject the null hypothesis and conclude that there is a "Significant difference in the provision of the Agricultural extension services before and during insurgency. On the other hand, there is no significant difference in the provision of Extension Visit and Agricultural Shows and Field Days with $P_{calculated} 0.523 > P_{CI} 0.05$ and $P_{calculated} 0.467 < P_{CI} 0.05$. Therefore, we reject the alternate hypothesis and conclude that there is "No Significant difference in the provision of Extension Visit and Agricultural Shows and Field Days before and during *Boko-haram* Insurgency.

This implies that extension agents could not cover the farm families required even before the onset of *Boko-haram* insurgency in the study area. This agrees with the findings of (Haruna and Abdullahi, 2013), that Extension Agent: farm family's ratio across the country in 2008; Furthermore, Agricultural extension services such as organization of farmers' field days for the clientele was significantly affected by insurgency activities as extension agents and farmers could not go about doing their normal training and farming activities. This agrees with the finding of (Chukwurah *et al.* 2015), that several violent attacks by the *Boko-haram* have affected economic activities in Yobe, Maiduguri, Adamawa, and other cities in the north-east.

Frequency of Extension Visit per Month

Table 4 reveals that majority of the farmers (73.0%), were visited monthly against the expected official fortnightly visiting schedules. This might be linked to insecurity, inadequate farmer- Extension agent ratio and poor funding. This implies that farmers are not getting the required attention from the extension agents regarding their farm problems and research findings may not reach the target famers as at when required.

Table 4: Distribution of Farmers according to frequency of extension visit during insurgency

Characteristics	Frequency	Percentage (%)
Daily	8	6.3
Weekly	12	9.5
Twice a month	14	11.1
Monthly	92	73.0
Total	126	100.0

Source: Field Survey data, 2019

This agrees with the findings of Apantaku *et al.* (2015), that insufficient extension personnel, improper planning of extension programmes, large scope of area to cover by extension personnel as some of the major constraints to effective agricultural extension service delivery. This could in turn translate into inability of the extension agents to meet up with their fortnightly visiting schedules in order to adequately transmit innovative research findings to the target audience and may negatively affect output of maize in the study area due to insurgency in the study areas.

Effect of *Boko-haram* Insurgency on Extension Service Delivery to Maize Farmers

Extension services determined in this study include: Extension advisory services (EAs), Introduction of Early maturing maize seed and plant population (IEMSP), Demonstration on method of maize storage and processing

(DMMS), Extension visit (ES), Agricultural shows and field day (ASF), Consultancy services to individuals and organizations (CSIO), Off farm adaptive research/Women in Agriculture. (WIA), Private consultancy services (NGOs), Sensitization, Dissemination of information through mass media (DIMM), and Formation and organization of farmers group (FOFG), as presented in Table 5.

Table 5: Effect of Insurgency on Extension Service Delivery Before and During Insurgency

Extension services	Z	Asymp. Sig. (2tailed)
EAS During insurgency – EAS Before insurgency	-5.522 ^a	.000***
IEMMP During Insurgency - IEMMP Before Insurgency	-6.708 ^a	.000***
DHPA During Insurgency - DHPA Before Insurgency	-5.259 ^a	.000***
DMMSp During Insurgency - DMMSp Before Insurgency	-4.900 ^a	.000***
EV During Insurgency – EV Before Insurgency	-1.291 ^a	.197 ^{NS}
ASF During Insurgency - ASF Before Insurgency	-1.638 ^a	.101 ^{NS}
CSIO During Insurgency - CSIO Before Insurgency	-5.522 ^a	.000***
OFAR/WIA During Insurgency - OFAR/WIA Before Insurgency	-5.421 ^a	.000***
PCS/ NGOs During Insurgency - PCS/ NGOs Before Insurgency	-2.151 ^a	.031**
Sensitisation During Insurgency – Sensitisation Before Insurgency	-6.045 ^a	.000***
DIMM During Insurgency - DIMM Before Insurgency	-3.153 ^a	.002**
FOFG During Insurgency - FOFg Before Insurgency	-3.654 ^a	.000***

** : significant 0.05

Source: Field Survey data, 2019
***: significant at 0.01

NS: Not Significant

Note: EAS: Extension Advisory Services **ASF:** Agric. shows & Field Day **DHPA:** Demonstration on Herbicide and Pesticide Application **IEMMP:** Introduction of Early Maturing Maize Seed and Plant Population **DMMSp:** Demonstration on Method of maize storage and processing **EV:** Extension Visit **CSIO:** Consultancy services to Individuals and Organisations **OFAR:** Off Farm Adaptive Research **NGOs:** Non-governmental Organisations **PCS:** Private Consultancy Services **DIMM:** Dissemination of Information through Mass Media **FOFG:** Formation and Organisation of Farmers Groups **WIA:** Women in Agric.

From the results, Extension Advisory Services, Introduction of Early Maturing Maize Seed and Plant Population, Demonstration on Herbicide and Pesticide Application, Demonstration on method of maize storage and processing, Consultancy Services to Individuals and Organizations, Off Farm Adaptive Research/Women in Agric., Private Consultancy Services (NGOs), Sensitization, Dissemination of Information through Mass Media, Formation and Organization of Farmers Group all have p-value < 0.05, which implies that insurgency has significant effect on the delivery of these Major Extension Services rendered to the farmers in the study area before and during Boko-haram insurgency. With this we reject the null hypothesis and accept the alternate hypothesis that there is significant difference in agricultural extension services rendered to the farmers before and during Boko-haram insurgency. This agrees with the result of Adalakun *et al.* (2015), that farmers considered the effect of conflict on availability of extension services as a severe problem. While Extension Visit before Insurgency - Extension Visit during Insurgency has p-value 0.197 > 0.05, Agric Shows and Field Day before Insurgency - Agricultural. Shows and Field Day during Insurgency with p-value 0.101 > 0.05 shows a significant difference. This might be due to poor funding with the withdrawal of World Bank funding as well as inadequate extension personnel. This agrees with the findings of Haruna and Abdullahi, (2013), that "It's recommended by FAO that one extension

agent should serve a maximum of one thousand (1000) farm families in developing countries but base on their findings Extension Agent: farm families' ratio across the country is high. In 2008 Anambra, Ebonyi and Kwara has the lowest Extension Agent: Farmer ratio of 1:6048, 1:6046 and 1:4025. This high ratio and poor funding may not support effective visit by Extension staff and organization of field days could be truncated even before the onset of book-haram insurgency. This is in line with the result of Gwary *et al.* (2013), who observed that untimely/lack of or inadequate supply of essential inputs are major factors that hinders the delivery of extension services to farmers.

Conclusion

The study reveals that Boko-Haram insurgency activities have a significant effect on the extension service delivery and when professionally tackled, will ensure food security. It shows that there is significant difference in the provision of major agricultural extension services rendered to farmers before and during *Boko-haram* insurgency. Extension advisory services, introduction of early maturing maize seeds and plant population technique, demonstration on herbicide and pesticides application, demonstration on method of maize storage and processing, consultancy services to individuals and organizations, off farm adaptive research, private consultancy services (NGOs),

sensitization, dissemination of information through mass media, formation and organization of farmers groups all have $P_{calculated} 0.00 < P_{CI} 0.05$, indicating that, there is significant difference between these major extension services rendered to the farmers before and during Boko-haram insurgency. However, agricultural shows and field days and extension visit have P calculated > P tabulated, which shows there is no significant difference before and during insurgency. This has been attributed to poor funding and inadequate Extension personnel to effectively cover the farm families even before the inception of Boko-haram activities. Majority of the farmers (73.0%), were visited monthly against the expected officially planned fortnightly visiting schedules.

Recommendations

In order to counter the effect of *Boko-haram* activities on the delivery of effective Agricultural Extension Services to Maize farmers in Adamawa State and other affected states in Nigeria, Cameroon and Niger Republic, the following recommendations were made:

- i. Sustainable agricultural intervention programs and policies should be initiated in order to resuscitate agricultural potentials of the attacked zone.
- ii. Farmers and extension agents should be encouraged with better incentives to go back to their farming and Agricultural extension activities so as to improve productivity and the agricultural venture.
- iii. Digital-enabling opportunities to extension personnel through technical training and attitude re-orientation to enhance the performance of public and private extension personnel is also important.
- iv. De radicalization programmes and non-military engagements of the insurgents may ensure peace and agricultural production in the affected area.
- v. Sustainable democracy and good governance will reduce social vices and provide jobs through maize production.

References

- Achumba, I., Clghomereho, O. S. and Akpor-Robaro, M. O. (2013). Security challenges in Nigeria and the implications for business activities and sustainable development. *Journal of Economics and Sustainable Development*, 4(2): 80-99.
- Adebisi S.A., Azeez O. O., and Oyedepi R. (2017). Appraising the Effect of *Boko Haram* Insurgency on the Agricultural Sector of Nigerian Business Environment. *Journal of Law and Governance*. 11(1):14-23.
- Adelakun O.E., Adurogbangba B. and Akinbile, L.A. (2015). Socioeconomic Effects of Farmer-Pastoralist Conflict on Agricultural Extension Service Delivery in Oyo State, Nigeria. *Journal of Agricultural* 19 (2):59-70
- Anthony, O.A. (2007). Agricultural extension, a pathway for sustainable agricultural development, Pani publication. 179-183
- Apantaku S.O., Aromolaran A. K., Hobowale, A. A. and Sijuwola, K. O. (2016). Farmers and Extension Personnel View of Constraints to Effective Agricultural Extension Services Delivery in Oyo State, Nigeria. *Journal of Agricultural Extension*. 2(15):210-212
- Chukwurah, D. C. Eme, O. and Ogbeje, E. N. (2015). Implication of Boko Haram Terrorism on Northern Nigeria. *Mediterranean Journal of Social Sciences*.6(3): 371-372
- Francis. N. F. and David. A. K. (2012). The challenges of agriculture and rural development in Africa: The Case of Nigeria. *International Journal of Academic Research in Progressive Education and Development*. 1(3): 2226-6348.
- Fu X. and Akter S. (2012), Impact of Mobile Telephone on the Quality and Speed of Agricultural Extension Service Delivery: Evidence from the Rural e-services Project in India. *Poster prepared for presentation at the International Association of Agricultural Economists (IAAE) Triennial Conference, Foz do Iguacu, Brazil 18- 24 August pp 2*
- Gautam, M. 2000. Agricultural extension: The Kenya experience. An impact evaluation. Washington, DC, USA: World Bank.
- Gwary, M. M., Donye, A. O., Wakawa, R. C. and Shallangwa, M. D. (2013) Constraints to Extension Service Delivery in the Production, Processing and Marketing of Gum Arabic in Magumeri Local Government area of Borno State, Nigeria. *Agriculture and Biology Journal of North America* 4(2):129
- Haruna S.K. and Abdullahi Y.M.G (2013). Training of Public Extension Agents in Nigeria and the Implications for Government's Agricultural Transformation Agenda. *Journal of Agricultural Extension* 17 (2):98- 99
- Idrisa, Y.L.; Shehu, H. and Ngamdu, M.B. (2012). Effect of Adoption of improved maize seed on household food security in Gwoza Local Government Area of Borno State Nigeria. *Global Journal, volume 12(5)*
- Issa, F. O. Kagbu, J. H. and Abdulkadir, S. A. (2016). Analysis of Socio-Economic Factors Influencing Farmers' Adoption of Improved Maize Production Practices in Ikara Local Government Area of Kaduna State, Nigeria *Agrosearch* 16(2)
- Matthew A. O. and Adegboye B. F. (2009). The agricultural sector and economic development: The Nigerian experience. *Journal of Management and Enterprise Development*, 7(2).
- Muhammed, D. (2015). How environmental degradation induces insecurity, insurgency. *EnviroNews Nigeria: Nigeria*.
- Ogochukwu O. E., (2013). The Socio-Economic Implications of the *Boko Haram* Insurgency in Nigeria: 2009-2013. Enugu. Amorji-Nike Ltd.
- Sidney A. E., Hayatudeen S. Z. and Kwajafa A. P. (2017). Effect of *Boko-Haram* Insurgency On the Productivity of Local Farmers in Adamawa State Nigeria. *Asian Journal of Economics, Business and Accounting*. 5 (3):1-7