EFFECT OF INSURGENCY ON AGRICULTURAL OUTPUTS IN BIU LOCAL GOVERNMENT AREA OF BORNO STATE

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Abstract: **The study is to "examine the effects of insurgency on agricultural output in Biu local Government Area of Borno State, Nigeria.". The objective of the study is; to assess the effects of insurgency on agricultural output in Biu local Government Area of Borno state. The Frustration-Aggression Theory was used as theoretical base. Primary data were used; questionnaire was distributed and collected from a sample of 400 persons in the study area. Yes or No options was used, mean value, multinomial logistic regression technique, bars, charts and tables was used in the analysis . This study It reveals a weak negative correlation between Agricultural output (AGO) and Numbers of livestock's (NLST), Numbers of Grain per bags. (NOBG) and Numbers hectors of land.(HTL) before insurgency. The study reveals that there is a strong positive correlation between AGO and NLST, NOBG and HTL during insurgency. The study recommends that AGO, NLST, NOBG and HTL lost should be taken care of through aid and programmes in improving hope of the people as the basic essential need for man is food first. This could avoid the upcoming of other social vices in the area.**

Keywords: **Biu LGA, Insurgency (boko haram), Agricultural output, and Multinomial logit regression.**

1. INTRODUCTION

Globally, it has been observed by global terrorism index (2017) that the trend in countries index over the world has reached an alarming rate especially Iraq, Nigeria, Afghanistan, Pakistan and Syria base on its ranking because ninety-three per cent of all terrorist attacks between 1989 and 2014 occurred in countries with high levels of state sponsored terror – extra-judicial deaths, torture and imprisonment without trial. Over 90 per cent of all terrorism attacks occurred in countries engaged in violent conflicts. Only 0.5 per cent of terrorist attacks occurred in countries that did not suffer from conflict or political terror. It is also observed that terrorism is more likely to occur in OECD member countries because of their poor performance on socio-economic factors such as opportunities for youth, belief in the electoral system, levels of criminality and access to weapons. Though, The global economic impact of terrorism has also reached up to US$89.6 billion in 2015, yet decreased by 15 per cent from its 2014 level. These also indicate that Iraq is the country which suffered the highest economic impact of terrorism with 17 per cent of its GDP in 2015. In the same vain Tourism's contribution to GDP is twice as large in countries with no terrorist attacks compared to countries with attacks. Economic resources which were made to other sources were devoted to peacekeeping and Peace building represents two per cent of the economic impact of armed conflict and terrorism. Seventy-six countries improved their scores in the 2016 GTI while 53 countries deteriorated (GTI 2017).

However, the overall GTI score deteriorated by six per cent since last year due to many countries experiencing record levels of terrorism. The five countries with the highest impact from terrorism acts as measured by the GTI are Iraq, Afghanistan, Nigeria, Pakistan and Syria. These five countries accounted for 72 per cent of all deaths from terrorism in 2015. Deaths also from terrorism index in the world have decreased by ten per cent in 2015 to 29,376. This is according to

them the first decrease in number of deaths recorded since 2010. Iraq and Nigeria had the biggest decreases with 5,556 fewer deaths. This constitutes a 32 per cent reduction in these two countries since 2014. It is also commonly commented that, in OECD member countries, deaths from terrorism dramatically increased in 2015, rising by 650 per cent when compared to 2014. Twenty-one of the 34 OECD countries experienced at least one terrorist attack with the majority of deaths occurring in Turkey and France. ISIL-affiliated groups undertook attacks in 28 countries in 2015, up from 13 countries in 2014.

There were 274 known terrorist groups that carried out an attack in 2015, of these 103 groups did not kill anyone. Twenty-three countries recorded their highest number of deaths from terrorism in 2015. This is six more than the previous high of 17 countries in 2014. Of the last 16 years, the worst year for terrorism was 2014 with 93 countries experiencing an attack and 32,765 people killed. Since 2006, 98 per cent of all deaths from terrorism in the US have resulted from attacks carried out by lone actors, resulting in 156 deaths. ISIL foreign fighters who have gone to Syria generally have high levels of education but low incomes, with many fighters joining in part due to a feeling of exclusion in their home countries. There were 18 deaths caused by ISIL-affiliated attacks in the OECD in 2014. This number increased significantly in 2015, to 313 deaths from 67 attacks. Half of all plots with an ISIL connection have been conducted by people who have had no direct contact with ISIL (GTI 2017).

It is prominent in African continent during the post colonial period also to have witness and continued in the phase of occurrence and re-occurrence of armed conflicts across many states differing in magnitude and intensity. Though, during 1960's about 24 African states were involved in different wars, and about 22 other states had with much difficulty managed to avoid war or conflict within the continent. In recent times it has become clear that the number of conflicts has drastically reduced than it was in the past. And by 1990 studies showed that there were only 11 conflicts across the continent, and the same figure was reduced to 1, in Somalia. By the end of the cold war about 14 major armed conflicts had taken place in Algeria, Congo, Angola, Republic of Congo, Rwanda, Guinea Bissau, Sierra Leone, Somalia, Sudan, Liberia, Eritrea-Ethiopia and Uganda, apart from the Niger Delta militancy in Nigeria and Boko Harram. (Gamawa, 2017).

Sidney (2017) observed that agricultural is considered as a predominant activity in most part of the world. In Nigeria also it obvious that persons involved directly in these practices were ranging between 24.4 and 85.1% across various regions and zones. While to states it ranges between 2.4 and 91.7%. This indicates that states with 50% increase in agricultural output, this increase on land and labour productivity level is as results of improvement in science and technology, government policy. From this analysis it makes food to be cheaper and will benefits the populace. Increase in productivity results to increase in income, generate employment and can reduce crime rate in the society. The activities of the insurgents' group have increase crime rate destruction of lives, property, educational, social activities, agricultural activities leading to reduction in output abandonment of fertile land (Ezema 2013).

Statement of the Problem:

At a particular period in the history of Nigeria especially during the military era, the country witnessed serious economic crisis and political isolation. However, with the introduction of democratic government in 1999 the country was stabilizing albeit consciously. The peace and stability witnessed this threatened by religious fanaticism induced insurgency, corruption, political and ideological intolerance, ethnic confrontation and others. Various studies indicates that the main obstacles to causes, agricultural activities within communities in Nigeria and her neighbors include absence of law and order, high crime rate, inter-tribal and communal clashes and lack of business transparency.

 This extremist groups use and are still using forces to attack the masses that are mostly defenceless in Borno state, Nigeria and part of Africa at large by overstretches federal security services, with no end in sight, spills over to other parts of the north and risks reaching Niger and Cameroon, this weaken country poorly equipment to combat a radical Islamist armed group tapping into real governance, corruption, impunity and underdevelopment grievances shared by most people in the region. Moreover, Security of lives and property is said to be the ultimate goals of any country toward continual economic development. In reality no meaningful economy activity and development can take place amidst insurgency. Therefore one of the principal responsibilities of the government is to ensure the security of lives, property of citizens, the protection of its territory and creating conducive climate for agricultural, economic activities and political stability in the country.

These destructive nature of their activities have attributed to many lost of properties worth billion of naira equally, burning markets, agricultural products (farms lands), hiking prices of goods and services and mounting of Checkpoint

affecting ease movement of goods and services which has an adverse effect on economic growth and development. Greater percentages of Federal, State and Local Government resources are diverted in aiding victims, building and rebuilding structures and lastly rehabilitating the victims. These resources could have been used in developing the economy (Ibrahim 2017). Government counter-terrorism measures ranging from executive pronouncements, presidential orders, acts and policy documents were adopted. These policies include *inter alia* declaration of a state of emergency, creation of the 7th Division of the Nigerian Army, the relocation of the military command centre to Maiduguri, increasing the defence budget from 100 billion in 2010, 2015 326.69 billion, 2017 465.87 billion and 2018 576 billion (Extracts Budget financial allocation statements from various years). Other measures included strengthening anti terrorism legislation, boosting the capacity of the military and other security agencies, exploring dialogue with the TPA 2011, (Akinbi, 2015; Campbell, 2014; Dasuki, 2013; Papka 2017 and Sidney 2017). With all this efforts have not led to stoppage on their activities. Therefore, little or no attention was given to the effect of insurgency on causes; agricultural output in an economy like Biu town calls a research of this nature.

Objectives of the Study:

The main objective of the study is to assess the effects of insurgency on agricultural output in Biu local Government Area of Borno State, Nigeria.

While the specific objectives of the study is to

i.   Assess the effects of insurgency on agricultural output in Biu local Government Area of Borno state;

Research Questions:

The following research question guides the research process.

i.   What are the effects of insurgency on agricultural output in Biu local Government Area of Borno state?

Scope of the study:

The scope of the study is to assess the effects of insurgency on agricultural output in Biu local Government Area of Borno State, Nigeria.wth special reference to Biu town only considering before and during.

Concepts: Boko Haram and Insecurity:

There is neither an academic nor an international legal consensus regarding the definition of the concept "Boko Haram". Similarly, the international community has been slow to formulate a universally agreed upon, legally binding definition of this concept. The complexity and nebula nature of this concept arise from the fact that the term "Boko Haram" is politically and emotionally charged. For this reason, it has become an academic "Eden" for many scholars due to the difficulty of pining down its etymological perception. Given the multiplicity of views that characterize the concept, it again becomes onerously tasking for one to synthesis the divergent views to come up with a working definition of the concept. The words "Boko and Haram" As seen by (Okoro, 2012) emanating from Hausa/Arabic Languages as a means of animist, western or non- Islamic education. Haram on the other hand is an Arabic term meaning "forbidden or sacred". In Islam the word is used to refer to anything that is prohibited by the Islamic faith. Nwankwo (2014) sees, Boko Haram is an Islamist movement which strongly opposes man-made laws and westernization. It is a Jihadist militant organizations based in the North-East of Nigeria and North Cameroon. As an indigenous group, it turned itself into Jihadist group and proposes that an interaction with the western world is forbidden as supports opposition to the government of Nigeria.

Insurgency:

Is a rebellion against authority, it can also be used to describe a movement's unlawfulness by virtue of not being authorized by a state causing threat to economic, social, political and religious beliefs of people within a geo-political setting. O'Neill (1990) in Hassan (2014) defined insurgency as a "struggle between a non-ruling group and the ruling authorities in which the non-ruling group consciously uses political resources and violence to destroy, reformulate, or sustain the basis of one or more aspects of politics".

The acts of violent moves by groups of person or persons to resist or oppose the enforcements of law or running of government or revolt against constituted authority of the state or taking part in insurrection (Abraham 2006).

The History and Growth of Boko Haram in Nigeria:

The origin of Boko Haram is shrouded in uncertainty. Boko Haram to a large extent is not the first Islamic fundamentalist sect in Nigeria to adopt violence as a weapon of operation (Alao and Atere, 2015). This stems from the fact that in the 1970s and 1980s, one Mohammed Marwa that was widely acknowledged as dangerous to peace and stability of the nation formed the sect that was known as Maitatsine. Marwa engineered many riots in the country which led to the deaths of many people and as a corollary of this. In Nigeria history the Boko Haram insurgency has initially started from the north eastern city of Maiduguri and was to later spread to other cities like Damaturu, Potiskum, Adamawa, Gombe, kano, and Bauchi all in the north east. The group later moved to Kanamma in Yobe State in 2004 where it set up a camp called "Afghanistan." From this camp, it launched attacks on civil society, security agencies and other attributes of western education (Owalade, 2014, Ekanem, Dada, & Ejue, 2012), Papka 2017). The insurgents' remote causes and objective of the act is still somehow wearing a veil in mystery despite several disclosures. Among other reasons identified as the remote causes is upholding the rule of law and other humanitarian principles. Security operatives had been partly blamed for the outbreak of the first uprising, and extra judicial killing of late Mohammed Yusuf, the leader of the sect along with other followers on 30 July 2009 did also help escalate the violence. It was observed that the leadership of the group grew initially under Mohammed Yusuf who had lieutenants that included Abubakar Shekau.

This insurgent group as it was observed never had firm command and control (International Crisis Group, 2014). It had a commander and a shura council which was the highest decision making body though, the Amir speaks on behalf of the group only with the approval of the shura. In all major cities that the group has strong presence, a local Amir is appointed alongside a commander who oversees and coordinates armed operations. The commander is assisted by a deputy (Nabin) who passes orders to the foot soldiers. Cities and large towns were usually divided into sectors or lajna as called by the group and were supervised by sub-Amirs for operational and administrative purposes. The main lieutenants of Mohammed Yusuf were Mamman Nur, Muhammad Lawan and Abubakar Shekau. It was generally believed that Mamman Nur was the second in command and that Abubakar Shekau was chosen to be leader as a result of his radical stand on issues after the death of Mohammed Yusuf. And under Shekau's leadership the group transformed into a ruthless, violent and destructive organisation that was less open to dialogue.

And since 2009 the nation has not known peace, particularly in the north eastern part of the country where bombings have been reportedly taking place. Many villages have been razed by the group in the name of revenge. Since 2010 to date the group is reported to have carried out a total of more than 108 attacks at different times and at different locations throughout the country (Smith, 2015). The group according to reports has at least assassinated about 15 personalities, and has carried out about 12 suicide attacks. About 39 bombings and explosions were reported to have been carried out by the group. And a total of 23 armed attacks were also recorded to have been carried out by the group since 2009. The group also carried out about 4 jail breaks across the country, and about 8 midnight terror attacks at different locations. In all these attacks carried out by the group, between 2009-2013 about 3000 lives were lost, 2000 people injured, and more than 9,000 people have been rendered homeless, apart from the destruction of property. The initial victims of Boko Haram were the security services; however the group appeared to have changed its tactics and its attacks came to target neighbourhood chiefs, clerics, and politicians. It was as a result of this that the identity of the group began to be questioned.

The operations of the insurgent that were initially within Maiduguri, Damaturu and Potiskum and now were no longer to say where about because it has gone beyond once thinking. The tactics employed by the group also appear to have become more sophisticated, from ordinary shootings in the initial days of the insurgency to the use of improvised explosive devices, vehicle borne IEDs (VBIED), usually has cars packed with many propane cylinders or explosives-filled drums. (Masleen, 2014). It was the same material the group used to attack the UN headquarters in August 2011 in what was described as a suicide attack. At the same time the group now began to attack churches in different parts of the country, including that of St Theresa at Madalla in 2011 that killed about 40 worshippers (IRIN News, 2013). The group and its leaders are also said to have links with certain foreign transnational groups. Most of these foreign groups are usually seen as extremist radical groups, and some were designated as terrorist organizations. However, it was reported that of the entire group's foreign links, links with Ansar Dine, Al-Qaeda in Maghreb (AQIM) and MUJAO an AQIM splinter group are most significant. Most of the leaders of these groups are originally from Mali, Mauritania and Algeria. These three foreign groups were seen to have boosted Boko Harams capacity and operations. AQIM is reported to have made its financial resources, military arsenals and training facilities available to Boko Haram fighters, reports of the

International Crisis Group confirmed (Comolli, 2015, Papka 2017). Boko Haram has constituted a serious security challenge in the Northern part of Nigeria and has continued to assume a staggering dimension till date. (Bergstresser, 2017).

2. EMPIRICAL REVIEW

Sidney, Hayatudeen and Kwajafa (2017) in their study conducted on the examining the effect of the sect activities on output status of peasant farmers in selected localities in Adamawa state. Three hundred and thirty-three (330) questionnaires were distributed to the target population. Logit Model was used to determine the productivity of local farmers in the study area. The findings showed that, all the coefficients are statistically significant from 1 to 10% (0.000, 0.034 and 0.087). The major findings showed that: Peasant farmers experience decrease in their productivity, decline in the income of local farmers in the affected areas. Majority of the farmers in the affected areas are women farmers in the affected areas and could no longer access credit facilities. Government could no longer provide farm input subsidy as a result of fear of unknown. The researchers among others recommended that; there is an urgent though; the paper did not show he ample was drawn scientifically; area of studies could have touch the factor leading to the decrease.

Tari, Kibikiwa and Umar.(2016) their paper examine the effect of the sect activities on food security status of households in selected localities in Northern Adamawa state. 70 questionnaires were distributed to the target population, in each locality, out of which, 48 were retrieved from Mubi North, 36 Maiha, 41 Gombi and 33 in Hong. Food security line was used to determine the daily calorie intake ratio R of 2260 kcal the results shows that, households with average daily per capita calorie consumption of 1060 kcal, 1150kcal, 1003 kcal, and 963 kcal in Mubi North, Maiha, Gombi and Hong respectively were food insecure. Logit Regression Model was used in determining food security status of some households in the study areas. Out of seven of the determinants, five had coefficients that were significant, namely; age 0.05994 significant at 5%,marital status 0.77749 at 10%, household size 0.072292 at 10%, income 1.5E-06 at 10% while household expenditure 1.6E-05 AT 5%. Thus the hypothesis tested, significantly shows a strong relationship between insurgency and food security status in the study areas. To this end, the paper among others recommends that; there is urgent need for Government and Non-Governmental Organizations (NGOs) to step in to address malnutrition and other related issues affecting children in the affected areas, Special agricultural program and policies be initiated in order to resuscitate agricultural potentials of the affected zone.

Tukur and Fausat (2015) studied on effect of insurgency on the trade relationship between Borno State and her immediate neighbors. The study utilized 300 respondents from each of the State Local Government Areas (LGAs). Secondary data was used. Study revealed that insurgency has claimed 28,209 lives. The number of people either abducted or missing stood at 2,751. It also revealed that prior to the insurgency, annual grain flow between Borno and her trade partners was 294,940 tonnes however, the flow of grain decreased to 94,500 tonnes by second quarter of 2014. The magnitude of the decrease in the flow of grain as well as number of death recorded showed that religious insurgency affected all spectrum of the Borno State economy. Specifically all international trade routes were no more accessible. Agricultural activities grounded as farmlands, rivers and fish ponds were abandoned. The study also revealed that the major cause of the insurgency aside of corruption and arrogant display of affluence by the elitist class was unrealized political will. Study recommended that genuine development and appropriate integrative program should form basis for governance.

3. THEORETICAL FRAMEWORK

The Frustration-Aggression Theory:

The theory basically digs into historical and empirical analysis that created insurgency. The underpinning argument of the frustration-aggression thesis is that interference with goal-directed behaviours created frustration and discontentment which in turn leads to aggressive responses often directed against the sources of frustration (Dollard, 1939; Gurr, 1971 in Yusuf 2016). Thus, the scholars of this orientation want us to believe that the occurrence of aggressive behaviour presupposes the existence of frustration. Put differently, the existence of frustration always lead to some form of aggression (Rummel, 2001) in (Ezen 2017).

The frustration-aggression thesis assumes that individual or group in society have goal of some sort and much of individual or group behaviour is purposive in regard to the attainment of these goal. If their efforts toward the realization of these goals are not prevented, the individual or the group is most likely to be quiet peaceful. However, as a result of the tussle for scarce resources in real life situation which produces blocks, impediment and other forms of obstacles in the

system, the peaceful attainments and of one's goals is not possible. Therefore, once an individual or group's goals are thwarted or blocked, the consequence is that, aggressive behaviour from the individual or the group will be directed against the perceived source(s) of frustration. This model provides explanation in violent behavioural disposition which causes the inability of individuals to fulfil their human desire in a society. It is on the basis of the general premise that all individuals have basic needs which they seek to fulfil or distracts them from getting their basic needs, they can create violent. The theory emphasizes the discrepancy between what people feel they want and the difference of what is sought and what they get. The model therefore, tries to explain the fact that violent response by individuals resulted from the prevention from achieving for his/her basic need. It is a common fact that in a frustrated expectation, an individual is normally expected to embark on an act of violent.

Crucial to the understanding of insurgency in Nigeria could be attributed to the frustration-aggression thesis and the perception of the deprivation arising from the gap between what the people feel they are rightfully entitled to and which they think they are capable of getting. Dowse and Hughes (1983) in Yusuf (2016), remarks that an individual or group feel violence to be illegitimate, or it has other channels for venting their discontentment, and then it is most likely for that individual or group to restrain itself from taking the violent option, in the process of minimising the potential for collective action. The emergence of post-election violence in the study area, its degree, dimensions and direction should be understood from this perspective. This theory is considered for this work as it explains the situation in Nigeria.

4. RESEARCH DESIGN

The research design is used in carrying out this study is a descriptive survey. In descriptive survey, researcher amasses primary data through the administration of a structured questionnaires, and interview. The data is organised and analysed to describe the condition or situation of a given phenomenon without altering the nature of the subject under study (Oche, 2007). The subject is studied under a natural condition (Uzoagulu, 2011). Descriptive statistical tools will be employed to analysis the data using mean values, Tables and charts.

Study Area

Biu local government area is a town within the southern part of Borno State, Nigeria. The town is considered to be the administrative centre of the local government area; which was once the capital of Biu kingdom and now the capital of Biu Emirate. The town lies within a Plateau called Biu with an average height of 625 meter with a latitude of $10^0 36' 51'$ N and lorngitude $12^0 11' 58''$E, the regions is said to be semi - arid. Though, the kingdom became established around 1670 during the reign of Mari Watila Tampta, the Biu local government area had inhabitants of, the Bura, Tera, Margi, Heana and Fulani. However, National Population Commission's 2006 census figure and area delineation estimates Biu with a population of about 175,072 with male composition figure of 90,297 and female composition figure of 85,151. The areas had a land mass size of about 3,423.862 square kilometers. The local government is expected to grow at about 2.14% (Kachalla, 2016).

Population of the Study

The population for this study is made up of the Biu Local Government Areas of Borno State. Borno state is divided into three senatorial zones; northern, central and southern zones. This study purposively covered only Biu main town only. This is because of the unique attacked and resistance to the prevalence of the insurgency and accessibility. This exclude people on transits; Table 1 shows the population of the study.

Table 1: Population of the Study based purposively selected population for the study Selected Local Government and its populations for the study.

S/N	LGA	Population
1	Biu	176,072

Sources: Extracts from 2006 Census figure.

The survey population consist of all the people living in Biu. The choice of these populations is because they are directly related to the subject matter. The targeted population falls within Biu town this is determined by purposive simple random technique below.

Sampling Procedure:

The sample for this study is Biu Local Government Area of Borno State; population figures of 2006 census are used. Purposive sampling technique is used in selecting Biu main town. The use of this sampling technique is enforced by the insurgency problem, nature of attacks and accessibility. The targeted number of respondents to be administered questionnaire is derived using sample selection formula of Yamane's in Ozoagulu (2011), Mohammed (2015) and Nifa, (2016).

The formula is given as: - $n = N/1 + N(e)^2$.

Where:

n=the sample size,

N=the total population,

e = the level of significance and in this case is 5%, while

1 = constant.

Note: *The 5% level of significant above means that the sample has 95% chance of being true representation of the entire population. In other word, the sample has 5% chance of not being true representation of the entire Population (Burns and Grove, 2009). This is because only Biu town out of wards is purposively selected.*

By using the above formula, the finite population from Biu Local Government is 176,072 these give the sum total targeted population sample size of 399 to be issued with questionnaires.

Instruments for Data Collection:

The instrument for the collection of data is the structured questionnaire developed by the researcher on the effects of insurgency on agricultural output in Biu of Borno state, Nigeria. A structured questionnaire in the foam of yes or no is used with the personal data of the respondent.

Method of Data Collection:

The method of data collection is through the administration of structured questionnaires in the foam of Yes or No. The questionnaire is administered by the researcher. Research assistant and collected them later. The researcher conducted interview sessions with the respondents for clarity.

Method of Data Analysis:

Data collected is analyzed using various tools of analysis. Descriptive statistical tools like tables, bar chart, percentages. The objective is to assess the effects insurgency on Agricultural output, is analyzes using table and mlogit, but out of 400 questionnaires all 400 were return and analysed using stata 12.0.

Model Specification:

To examine the effects of insurgency on Agricultural output in Biu functional relationships is used in determine the effects before and during the insurgency. The techniques of analysis for estimating the impact adopt the model of Papka (2017) with modification in foam of multinomial logit techniques. The functional relationship between the dependent and independent variable is given as:

AGO = F (NLST, NOGB, HTL)…………………...................... (i)

AGO = Agricultural output.

NLST = Numbers of livestock's.

NOGB = Numbers of Grain per bags.

HTL = Numbers hectors of land.

. μ=Error terms.

$Y = \beta1 + \beta2\,Xi2 + \beta3Xi3 + \beta4Xi4+ +……….. + \beta kXik + \mu t$...……… (ii)

Where

AGOi =Xβ1+ Xβ2+ Xβ3+ + μ_1+ μ_2+ μ_3 …………..(iii)

AGOi ($\frac{Pi}{1-Pi}$) = β_o + β_1 NLST i + β_2 NOGB i + β_3 HTL i+ μi…… (iv)

Where,

AGO = Agricultural output in ranges in terms of numbers 1-50, 51-100 and 101 –above take Values of 1, 2 and 3.

NLST = Numbers of livestock's in ranges in terms of numbers 1-100 and 101 –above take Values of 1and 2.

NOGB = Numbers of Grain per bags ranges in terms of numbers 1-100 and 101 –above take Values of 1, 2 and 3.

HTL = Numbers hectors of land in ranges in terms of numbers 1-100 and 101 –above take the Values of 1and 2.

A priori expectation

 B1 < 0, B2 < 0, β3 < 0,

Theoretically, it is expected that the impact of insurgency Agricultural output to have an impact AGO, NLST, NOGB, HTL. Where there is an attack on community by the Boko Haram insurgent causes a negative impact on the variable.
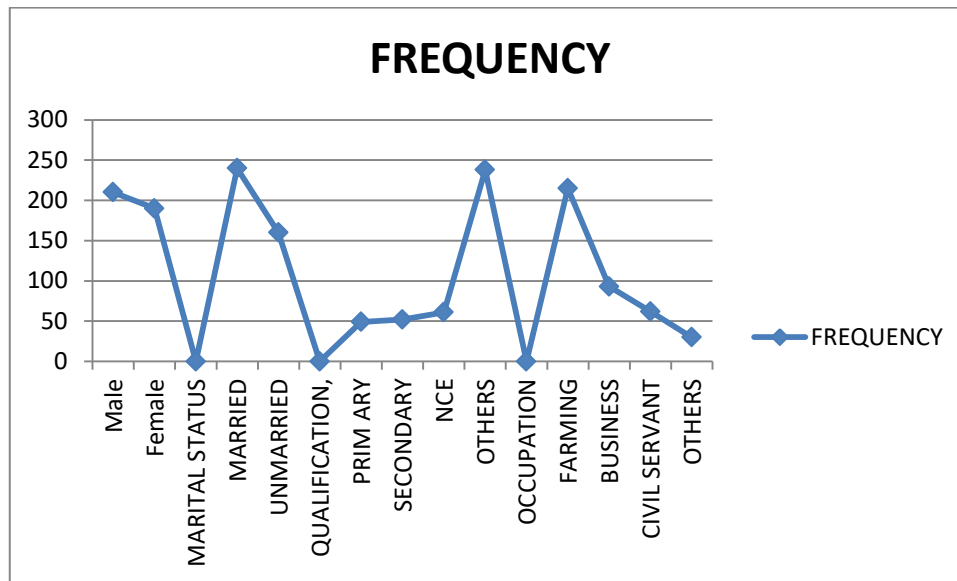
5. DATA PRESENTATIONS AND ANALYSIS

Table 2: Personal Data on Sex, Marital Status, Qualification, Occupation, Frequency and Percentages.

Sex	Freq	(%)	Marital status	Freq	(%)	Qualification	Freq	(%)	Occupation	Freq	(%)
Male	210	53%	Married	240	60%	Primary	49	12%	Farming	215	54%
Female	190	47%	Unmarried	160	40%	Secondary	52	13%	Business	93	23%
						N.C.E	61	15%	Civil Servants	62	16%
						Others	238	59%	Others	30	8%
Total	**400**	**100%**	**Total**	**400**	**100%**	**Total**	**400**	**100%**	**Total**	**400**	**100%**

Source: Researchers computation 2018.

Table 2 shows the respondent's frequencies on Personal Data base on their Sex, Status, Qualification Occupation and their percentages in the Biu local government area of Borno state, Nigeria. it reveals that out of the 400 questionnaires responded, sex of male had 210 frequencies with their calculated percentages of 53% and 190 frequencies as females with 47% , indicating that male are more in number than females with 53% . Respondent's status, married had frequencies of 240 with calculated percentages of 60%, while unmarred had 160 frequencies and percentages of 40% showing least representation. Qualification of the respondents show responses of primary level with 49 frequencies with % of 12%, secondary level had 52 with 13%, NCE also had 61 with 15% and others 238 with calculated % values of 59% as highest and primary as the least. While, at the part of occupation, farming activities had 215 with 53%, Business had 93 with 23%, Civil servants had 62 with 16% and lastly. Others had 30 with 8% this indicates that farming activities is the highest value followed by business and others as the least.

Source: Researchers computation in excel 2018.

Fig 1: chart showing Respondents Responses on personal data.

Table 3: Multinomial Logit Regression Analysis before Insurgency in Biu with marginal effects

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AGO	Coef.	Std. Err.	P>|z|	dy/dx(mfx)]
_cons	.3.323166	.3175808	0.001	
NLST	.0.70754	.2801948	0.531	0.70754
NOGB	.4.013404	.2616429	0.000	0.0621
HTL	.025749	.0092234	0.531	.0.039579[**]

Log likelihood = 66.75829[**]

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Source: Researchers computation using stata 12.0

Note: ***, ***. Meaning it is insignificant at 5% and 5% respectively.

Responses on the effects of insurgency on agricultural output as against NLST, NOGB, and HTL using multinomial regression; the results are explained base on the marginal effects. Coefficient of the marginal effects indicates the likelihood of no NLST lost in livestock to be positive (.0.70754 and Mfx of 0.70754) which inversely does affects agricultural output before insurgency negatively. This is because of the facts that they is absence of frequent attacks by the group which does not affect ploughing by cows which in return maintain the same output. NOGB results indicates more likelihood no reduction on AGO of about .4.013404 mfx and coefficient values of .0.0623 this confirmed to a prior expectation though is statistically significant. HTL results indicate the likelihood of no reduction in AGO as confirmed to a prior expectation. This is because non Boko Haram attacks normally does not causes displacement of persons that have to abundant their farmlands and hence does not led to negative effect on agricultural output. As indicate with its coefficient value of .0.25749 and mfx .0.039579. Lastly the chiq square value in the model is significant at 5% which the model is robust and the resultant changes in the outcome variable are accounted for the explanatory variable of the model.

Table 4: Multinomial Logit Regression Analysis during Insurgency in Biu with marginal effects

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AGO		Coef.	Std. Err.	P>|z|	dy/dx(mfx)]
_cons		.7898569	.5415792	0.145	
NLST		-.0002204	.00343	0.949	-.0001792
NOGB		-.1843761	.1903764	0.333	-.0291136
HTL		-.0478888	.0171058	0.005	-.009369[**]

Log likelihood = 183.16[***]

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Source: Researchers computation using stata 12.0

Note: **, ***. Meaning it is significant at 5% and 1% respectively.

Responses on the effects of insurgency on agricultural output as against NLST, NOGB, and HTL using multinomial regression; the results are explained base on the marginal effects. Coefficient of the marginal effects indicates the likelihood of NLST lost in livestock (-.0002204 and Mfx of -.0001792) which inversely affects agricultural output during insurgency. This is because of the facts that frequent attacks by the group affect ploughing by cows which in return affects output as opined by (Ibrahim, 2017, Sidney 2017). NOGB results indicates more likelihood reduction on AGO of about -.0291136 mfx and coefficient values of -.1843761 this confirmed to a prior expectation though is statistically insignificant as revealed by (Ezen 2014). HTL results indicate the likelihood of reduction in AGO as confirmed to a prior expectation. This is because Boko Haram attacks normally causes displacement of persons that have to abundant their farmlands and hence led to negative effect on agricultural output. As indicate with its coefficient value of -.0478888 and mfx -.009369. Lastly the chiq square value in the model is significant at 1% which the model is robust and the resultant changes in the outcome variable are accounted for the explanatory variable of the model.

Major Findings.

The effects on agricultural output indicate period before insurgency had shown negative effects on AGO but during insurgency had significant positive effect on AGO. Agricultural sector tend to suffer more as a result of the insurgents activities in the study areas. Where if nothing is done will have a negative effects on nation economy.

6. CONCLUSION

From the foregoing discussion, the paper finds out that, the activities of the Boko Haram Hence, a lot of insurgency has no significant effect on AGO, NLST, NOGB, HTL even other factors causing insurgency before. While, during insurgency period it has significant effect on AGO, NLST, NOGB, HTL as some factor equally had effects in the area under study. The paper critically analyzed the effects of insurgency on agricultural output on individuals as selected. Thus, the paper established that, the insurgency attacks on the case study areas in Biu, Borno of state continues to pose serious challenges to agriculture out during attacks which affects other community. Hence a lot of households who mostly depend on their farm produce as their main source of food and family income, have resulted to displacement arising from the crisis been facing a lot of difficult times lastly pose threat to food security and hunger and starvation.

7. POLICY RECOMMENDATIONS

There is urgent need for government and Non Governmental organizations (NGOs) to step in to address the role of food supply as indicate by the role played by the variables in an attempt to reduced hunger among the food insured households; such that crime and other vices should not be the order of the day.

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