ASSESSMENT OF FARM RESOURCES AND LIVELIHOOD STRATEGIES ADOPTED IN MITIGATING CROP FARMERS' FOOD INSECURITY DURING INSURGENCY IN NORTHEASTERN NIGERIA

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ABSTRACT
The North-eastern part of Nigeria has experienced a number of insurgencies since 2009 which have intensified an unsecured livelihood among rural populace. The study assessed farm resources and livelihood strategies adopted in mitigating crop farmers' food insecurity in north-eastern Nigeria. A three-stage sampling process with a proportionate factor led to 376 farmers from the three states of north-eastern Nigeria: Adamawa, Borno and Yobe. Primary data were collected through structured questionnaire and analysed using livelihood index, t-statistics and Chi-square model. The results of human resource characteristics of the sampled farmers show that majority (73.9%) were male, 86.5% were within the productive age range of 21-60 years with a mean of 47 years; 92.3% of the pooled farmers were married which implies that the farmers may have labour resource available resulting from their spouses and children. Substantial number of respondents (89.3%) had one form of education or the others. Crop sale (69.6%) was the major source of income during the pre-peak period while increase in livestock sales and off-farm income increase to 33.2 and 36.4%, at post-peak period. Reducing the expenditure of the household and out-migration of some family members, with Kendall's coping index of 1.72 and 1.17 were the foremost food insecurity coping strategies adopted by the farmers at pre-peak and post-peak period, respectively. The farmers mitigate the effects of food insecurity using more of reversible strategies such as reduction of the expenditure of the household to buy food at pre-peak compared to pre-peak.

Key words: Food insecurity, coping strategy, insurgency, livelihood

INTRODUCTION

The agricultural sector is seen as the significant catalyst for growth and development in sub-Sahara Africa (SSA) including Nigeria. It is the fulcrum on which the economy of SSA countries relies on (Kolawole et al., 2016). Likewise, agriculture is the main stay of the economy of the North-western Nigeria. However, the *Boko Haram* insurgency has ruined the lives and resources of millions of individuals in the north-eastern part of Nigeria including the rural populace whose most important means of surviving is agriculture. The convergence of climate change, food imbalance, farmers-herdsmen conflict, land dispute, flood, internally displaced scenario, and endless past socio-economic and resources inequality and poverty have caused intense reduction in agricultural production for north east rural populace (Nkwede et al., 2015).

Generally, most agriculture output per ha in Nigeria is below their probable produce based on several empirical literatures (Okoh et al., 2022). This is in addition to many government policies and programme enacted at the three tiers of government which have not impacted much on rural livelihood and development. Hence, the critical nutritional imbalance in the region has been a source of international concerns in the past decade (Eme et al., 2018) more drastically after emergence of *Boko Haram* insurgency in 2009. The region has been dispossessed of peaceful living, as a result, there is dismal array of humanitarian disasters which manifest in human losses, rapes, out migration, and refugee disaster, occupational loss, imbalance diet, limited medical facilities and other social vices (Ojo et al., 2018; Saskia, 2019). This insurgency has enforced movement of farming household heads and their wards to migrate to neighbouring communities where there is relative peace so as to save their lives, causing them to relinquish their assets including farms (Eme et al., 2018).

The north-eastern part of Nigeria has experienced numerous insurgencies since 2009 which have led to many deaths and losses of assets that worth billions of naira. and the resultant effect include relocation of people, internally displace to camp, destruction of economic and social infrastructure and most importantly aggravating an

unsecured livelihood among rural farming communities (Onwauaroh *et al.*, 2017; Saskia, 2019). With the government involvement in security, most of the displaced communities are back to their communities to start life all over again because all means of livelihood have been destroyed (Saskia, 2019). There is the need to assess resources and livelihood strategies and the dire situation they found themselves at pre-peak and post-peak insurgency period. Such livelihood coping strategies are considered as the series of combination of activities and choices that households opt for in order to survive and response to adverse events or shocks when confronted with unanticipated livelihood failure (Ellis, 2000). In most areas of north eastern Nigeria, the cereal cropping systems are being strengthened and emerging crops such as sesame are replacing the old ones (Onwauaroh *et al.,* 2017). In Borno State, as everywhere in northern Nigeria, food security also depends on climate and soil fertility; with erratic rainfall and marginal soil fertility, the region's food production is no longer sufficient to feed the growing population (Ojo *et al.*, 2018). Other major threats to rural livelihoods in north east are conflicts, desertification and poverty (Saskia, 2019; Otovwe *et al.*, 2022).

Some relevant empirical analysis been carried out on several aspects of insurgency in Nigeria including the study area. These include Iliyasu *et al.* (2015), Imasuen (2015), Vahyala *et al.* (2016), Eme *et al.* (2018), Augustine *et al.* (2019), and Otovwe *et al.* (2022), all of which have provided some information. Otovwe *et al.* (2022) studied impact of *Boko Haram* insurgency on food security using an experiential account from two affected communities in Yobe State Nigeria. With statistical analysis of descriptive cross-sectional data and focus group discussion only, the study established that the *Boko Haram* insurgency has caused nutritional imbalance as a result of scarcity of basic food during the insurgency, reduction in regular food consumption and quality of available staple food, rise in food prices and failure to tender their produce and engage in day-to-day agricultural activities.

Augustine *et al.* (2019) evaluated the effects of *Boko Haram* insurgence on livestock production in Mubi region of Adamawa State, Nigeria. Four local government areas (LGAs) including Mubi North, Mubi South, Madagali and Michika, and 120 respondents were purposely and randomly, respectively selected for the study, which revealed that the animal serves as a mean of income. The number of animals kept by rural farmers were find to have been significantly decreased as a result of *Boko Haram* insurgency with substantial assets depletion recorded in Madagali and Michika LGAs. The result also established reduction in the number of livestock owned after insurgency compared to insurgency in a period May to October 2014.

Another study conducted by Eme *et al.* (2018), explored the psychological consequences of *Boko Haram* insurgency and out migration to other communities in the North-East. The study only shows that the loss of human life as a result of the insurgency which was estimate at over 500,000 between 2009 and 2015. Also, Vahyala *et al.* (2016) study the effects of *Boko Haram* insurgency on food security status of selected LGAs in Adamawa State, Nigeria. The results showed that most sampled households consumed less than the recommended daily nutritional intake of 2260 kCal. The determinants of food security status using the logit model include the coefficients of age (0.060), marital status (0.777), household size (0.072) and household income (0.000005). Furthermore, Iliyasu *et al.* (2015) focused on impact of insurgency on livestock farmers as a branch of agriculture and rural livelihood option; however, the authors did not factor in the assets, crops and other sources of income of these farmers to understand how they were also affected by the insurgency. These are essential components of food security that need to be understood.

In other SSA and Africa continent and worldwide, various studies from literature (Korf, 2003; Rashid, 2006; Quinn *et al.*, 2014; Tesfamariam, 2016) only examined livelihoods and coping strategies among their respondents with no emphasis on interval such as pre- and post-peak. It was, therefore, necessary to assess farm resources and livelihood strategies at different phase of insurgency such as pre-peak *Boko Haram* insurgency (2012/2013) and its post-peak (2019/2020) in Nigeria for analysis geared towards documenting level of farm resources destruction and adopted strategies towards a meaningful policy formulation for the affected farming households. The study addressed the following research questions: what are the resources available to crop farmers at pre-peak and post- peak period in the study area? What is the livelihood strategies used in mitigating crop farmers food insecurity situation during pre-peak and post-peak insurgency period? Therefore, the objective of this study was to analyse resource endowment and livelihood strategies adopted in mitigating crop farmers' food insecurity situation at pre-peak and post-peak insurgency period in north-eastern Nigeria.

RESEARCH METHODOLOGY

Description of the Study Area
This study was conducted in Adamawa, Borno and Yobe States in north-eastern part of Nigeria (Table 1), being the three mostly affected states in north-eastern Nigeria based on information gathered from reconnaissance survey. Agriculture is the dominant occupation of the north-eastern region's economy and the key staple crops include cereals,

legumes and root crops while the economy crops include cotton, groundnut and sugar-cane (Iliyasu *et al*., 2015). North-East is blessed with many domesticated animals which include ruminant and non-ruminant animals. Cattle, sheep and goats are the major livestock found in the region (Augustine *et al.*, 2019) as well as donkey and camel.

Sampling Procedure and Sample Size
The data collected were component of the research work of insurgency by Food and Agriculture Organisation (FAO) handled by Institute for Agricultural Research, Ahmadu Bello University, Zaria, Nigeria. A three-stage sampling method was used in selecting specific locations and respondents for the study. The first stage involved purposive selection of five LGAs in Borno State namely Askira-Uba, Jere, Kaga, Konduga and Hawul, three in Yobe State: Damaturu, Fika and Gujba and four in Adamawa State; Gombi, Hong, Michika and Mubi (Table 1). This was based on the fact that these LGAs were the most affected by the insurgency in the states and status quo is returning and therefore the villages can be easily reached. The second stage involved random selection of two communities each from the selected LGAs.

Finally, the lists of farmers in each respective community were obtained from relevant ministries and agencies in the three states and 7% of sample frame were randomly selected in each community, which is sufficient for statistical analysis and based on FAO budget consideration. The selected respondents were sought and interviewed using snowball sampling technique based on information from comprehensive list of farmers obtained in the States ministries and agencies. This was due to security situation in each state as it is impossible to gather many farmers at once. This means that initially selected and interviewed farmers provided contact of other farmers in the list in line with the studies of Salganik and Heckathorn (2014) and Oladimeji *et al.* (2019). The modified snowball sampling used, involved interviewing a selected group of farmers which provide information on other farmers in the sample size to be interview, that is, additional sampling units were interviewed based on referral process from list randomly selected (Salganik and Heckathorn, 2014; Magaji *et al.,* 2021), to avoid gathering large number of respondents due to perceived unrest. This means that initially found respondents provided addresses of additional respondents for their interviewers. The total respondent was 376 farmers selected from the sample frame of 5369 farmers across the three states (Table 1). The data for pre-peak was based on or before 2012/2013 crop farming activities while that of post-peak was collected based on 2019/2020 farming activities in the study area.

Table 1: Distribution of study locations, sampling procedure and sample size

State	LGA	Village	Sample frame	Sample size (7 %)
Adamawa	Gombi	Gombi	280	20
		Garin Dadi	328	23
	Michika	Hausari	249	17
		Rafin Sanyi	228	16
	Mubi	Wuro gude	394	28
		Wuro gendeji	227	16
Borno	Askira-Uba	Lassa	403	28
		Uba	234	16
	Jere	Jere	233	16
		Bale-Galtimari	308	22
	Baga	Baga	321	22
	Monguno	Monguno	398	28
	Hawul	Hawul	243	17
Yobe	Damatutu	Damaturu	428	30
		Muttiri	360	25
	Gujba	Gujba	321	22
		Buni Yadi	189	13
	Fika	Fika	108	8
		Ngalda	117	8
	Total		5369	376

Source: FAO / IAR Reconnaissance Survey, 2019/2020

Analytical Techniques
Descriptive statistics include mean, frequency distribution, percentages, charts and livelihood diversification index were used to achieve objective of the study. Chi-square and *t*-test statistics were used to find significant difference between resources at pre-peak and post-peak. Simpson index (SID) is computed as follows:

$$SID = 1 - \sum p_i^2 \,\ldots\ldots\ldots\ldots\ldots\ldots (1);$$

where p_i is fraction of earning from different sources.

In this study, Simpson index as adopted by Femi and Adelomo (2016) was used to measure income, inferring p_i as the ratio of income from source "*i*" source of income, $p_i = 1$ and SID = 0. As the earnings from different agricultural activities increases, the share "p_i" falls as does the sum of the squared share, so that SID tend towards 1. Supposing there are N sources of earnings, then SID decreases between zero and $1-1/N$. The nearer SID is to 0, the better the specialty, and the farther it is from zero, shows the more the diversification.

Food insecurity coping strategies was achieved using Kendall's ranking approach. Kendall's coeffi-cient of concordance (W) was used to estimate the level of agreement among individual respondents evaluating a given set of n sample size. The model which has been used empirically by Pierre (2005), Demi and Kuwomu (2013), Gearhart *et al.* (2013), and Asiamah *et al.* (2014), and expressed as:

$$W = \frac{12S}{k^2 (n^2-n)} \,\ldots\ldots\ldots\ldots\ldots\ldots\ldots (2);$$

S stands for sum of ranks and is given by:

$$S = \sum(SR)^2 - n(SR)^2 \ldots\ldots\ldots\ldots\ldots (3)$$

where W is number of crop farmers, n is number of problems ranked, and SR is mean of sum of ranks.

The *W* ranges between zero and one and point toward the strength of agreement; the closer to one, the higher the level of agreement or concordance while *W* of zero signifies disagreement.

RESULTS AND DISCUSSION
Resources of Crop Farmers at the Pre-Peak and Post-Peak Insurgency
Summary statistics of human resources characteristics of the sampled farmers in the study area were presented in Table 2. The findings established that greater part of the sampled farmers were male farmers (73.9%). The occurrence of more males among the sampled farmers could be attributed to the Islamic culture where women stay at home (*Purdah*); hence, ownership of land resources favours men more than women which encourage more men to go into farming than women in line with findings of Hussaini *et al.* (2019). More males in the study area could also mean a stronger opposition to the insurgents. The considerable percentage of female headed household farmers (26.1%) against expectation may be attributed to female households who have lost their heads to insurgency through killings or absconding from home.

About 50.5% of the farmers were within the age range of 11-40 years with a mean of 47 years and standard deviation of 12.5 years. The implication of this result of age is that there is likelihood of high productivity among farmers since majority of the farmers (51%) were less than or about 40 years of age which shows that they are in their productive and active working age group and flexible to farming activities. This supports the findings of Sani and Oladimeji (2017), which observed that farming involves people within an active age group. The result also shows that, 92.3% of the pooled farmers were married which implies that the farmers have labour resource available *ceteris paribus* resulting from their spouses and children in the study area. The significance of high number of married farmers is that it may influence the size of households as married farmers may have larger household size which may help in the supply of family labour, *ceteris paribus,* to accomplish different farm operations in order to increase their income and standard of living. Abdullahi *et al.* (2020) and Tugga *et al.* (2021), also reported that marital status is an important factor for farmers' productivity.

Furthermore, the results presented in Table 2 shows that majority of the farmers (42.9%) had 16-30 years of farming experience with mean year experience of about 23 years. The mean farming experience for the sample farmers depicts good signal for ability to adjust to unfavourable farming situation and crisis, also used as a measure of management ability, the more experience the farmer is, the more his ability to make farm decision. The results in Table 2 also indicate that substantial number of respondent (89.3%) had one form of education or the others and about 42.6% of the farmers attended formal education. Education is a significant factor of human resource that can be used to enhance adoption of new farming technologies, innovations and programme and projects targeted at improved agricultural productivity and future possibility of diversified rural livelihood in the study area. Furthermore, a farmer's level of knowledge acquired through education can determine the ability of the farmer to make profitable decisions on his farm, adopt various livelihood diversification activities and apply many approaches to risk management that best reduces the incidence of production failure and the expected outcome of which is reduced poverty level and more secured livelihood.

Table 2: Summary statistics of the socio-economic variables in the model

Variable	Range	*F*	(%)	Mean	SD	X^2
Gender	Female	95	26.10			
	Male	269	73.90			na
Age (years)	20	6	1.60	46.56	12.519	
	21-40	131	50.50			
	41-60	164	36.00			
	61-80	42	11.50			
	81-100	1	0.30			*p* > 0.01
Marital status	Married	338	92.90	2.91	0.359	
	Single	8	2.20			
	Widow	18	4.90			na
Farming experience (years)	≤ 15	120	33.00	23.31	12.511	
	16-30	156	42.90			
	31-45	72	19.80			
	≥ 46	16	4.40			*p* > 0.05
Education	Unschooled	39	10.70	5.16	2.004	
	Trade certificate	4	1.10			
	Bible college	2	50.00			
	Arabic/Quranic	82	22.50			
	Adult	82	22.50			
	Primary	41	11.30			
	Secondary	70	19.20			
	Tertiary	44	12.10			na
Total		364	100.00			

X^2 - Chi^2 for resource difference between pre-peak and post-peak period, SD - standard deviation, na - not available

**Institutional and Asset Resources
of the Sampled Farmers**
Summary statistics of livelihood characteristics, institutional and assets resources of the sampled farmers at pre-peak and post-peak of insurgency period were presented in Table 3. Results reveal the SID of 0.36 and 0.59 for pre-peak and post-peak, respectively. This implies that farmers were more specialized at pre-peak compared to post-peak which may be due to inability of farmers to explore farmland to farm at post peak period of insurgency. The results also shows that the share of off-farm and non-farm income was 0.29 and 0.14 at pre-peak and 0.42 and 0.19 at post peak, respectively. This implies that on the average the off- and non-farm income activities contributed about 29 and 14% of the total income of farmers at pre-peak and 42 and 19% at post peak, respectively.

The household size of the farmers shows the mean household size was about 10 and six persons per farmer with standard deviation of 3.5 and 2.1 persons, respectively at pre-peak and post-peak insurgency period with $p > 0.01$ level of probability. This implies that there was significant difference in household size due to insurgency which reduces the household size probably as results of migration, or death in line with Augustine *et al.* (2019) on review of *Boko Haram* insurgency in northern Nigeria. The result reveals that, the mean extension contact per year at pre-peak (3.4) and post-peak (0.8) with $p > 0.05$, which implies that extension contact with farmers was statistically significantly reduced at post-peak in the study area arising because of insurgency. These result in low yields, low income, and food insecurity. It is pertinent to mention that adequate extension services will enhance farmers' ability to efficiently utilize resources through the adoption of new and improved methods in crop and livestock production compared to traditional methods which are less efficient, resulting in low yield. Many researchers found that majority of the farmers in northern region of Nigeria have low extension contacts culminating in inefficient allocation of resources, less output and invariably less profit (Abah *et al.*, 2018; Sulaiman *et al.*, 2021; Tugga *et al.*, 2021).

On the other hand, visits by NGOs at post-peak was statistically significant ($p > 0.05$) higher than at pre-peak. The remittance per household per month coordinated by State Emergency Management agencies (SEMAs) and National Emergency Management Agency (NEMA) in collaboration with NGOs also increase by 320.05% (pre-peak to post-peak) from ₦10,000 to ₦42,005 with significant difference at 1% level of probability. Saskia (2019) opined that this money and material resources donated monthly to the respondents assist them to enable their resettlement, rehabilitation and quick recovery of livelihoods particularly in terms of health services, food security, shelter and employment.

The results in Table 3 also depict summary statistics of assets resources of the sampled farmers. The asset resources documented at pre-peak and post-peak include land ownership, total household income, value of production assets, value of farm asset, value of livestock and total non-farm income. The results show that there was significant difference between pre-peak and post-peak for all the asset resources at different levels of probability. All forms of assets play a significant role in sustaining their livelihood, determine the status of farmers as small- or large-scale farmers while livestock asset remains closely associated with the social material, also kept as a form of insurance and a means of storing savings and above all is a fundamental form of walls against food insecurity and poverty alleviation among farmers in Nigeria as canvassed by Adefalu *et al.* (2013).

Table 3: Summary statistics of resources of the sampled farmers

Variable	Pre-peak	Post-peak	X^2 (Chi^2) pre-peak and post-peak period
Livelihood characteristics			
Simpson index of diversity	0.36±0.18	0.59±0.27	$p > 0.01$
Share of off-farm income activities	0.29±0.09	0.42±0.13	$p > 0.01$
Share of non-farm income activities	0.14±0.03	0.19±0.05	$p > 0.01$
Number of income activities	3.80	5.30	
Institutional resource			
Household size (number)	10.20±3.50	6.40±2.10	$p > 0.01$
Extension contacts per year (number)	3.40±1.80	0.80±0.30	$p > 0.05$
NGOs visit per month (number)	4.00±0.20	7.10±0.60	$p > 0.05$
Remittance by government (₦)	10.50±3.40	42.00±10.90	$p > 0.01$
Cooperative membership (number)	4.50±2.10	na	na
Credit accessed (₦)	23.61±10.90	na	na
Asset resource			
Land ownership (ha)	1.70±0.30	1.20±0.70	$p > 0.05$
Total household income (₦)	65.60±11.80	38.80±17.40	$p > 0.01$
Value of production assets (₦)	85.90±11.20	24.90±20.80	$p > 0.01$
Value of farm asset (₦)	23.90±8.50	18.60±11.90	$p > 0.05$
Value of livestock (₦)	51.90±8.20	28.40±15.60	$p > 0.01$
Total non-farm income (₦)	21.60±3.70	39.80±12.20	$p > 0.01$

Authors' analysis of the 2020 survey data, na - not available

Livelihood Strategies in Mitigating Food Insecurity Situation at the Pre-Peak and Post-Peak Insurgency

There were two types of livelihood strategies employed by the sampled farmers to mitigate food insecurity situation at the pre-peak and post-peak insurgency. These are livelihood and food coping strategies adopted by these sampled farmers at the pre-peak and post-peak periods.

Livelihood coping strategies adopted by farming households

The major sources of livelihood coping strategies adopted by farming households in the study area are depicted in Figure 1. Crop sale (69.6%) was the major sources of income during the pre-peak period of insurgency compared to income from livestock sales (6.6%) and off-farm income (23.8%). However, the scenario was different at the post-peak period of insurgency with crop sales reduced to 30.4% while increase in livestock sales and off-farm income increase to 33.2% and 36.4%, respectively. The larger percentage of households involved in agricultural (on farm) activities is an indication that, even though under constrained condition, the returnees are still in pursue of their traditional and pre-displacement livelihood activity. This agrees with the findings of Korf (2003) who also reported agriculture as the major livelihood activity in war affected communities in Sri Lanka. The study is also comparable to findings of Tesfamariam (2016), on livelihoods and coping strategies of female-headed households in Mekelle, Ethiopia.

Food Coping Strategies Adopted by the Sampled Farmers at Pre-Peak and Post-Peak Insurgency Period

The food insecurity coping strategies adopted by the farmers to mitigate the effects of food insecurity are presented in Table 4. The result of the diagnostic statistics reveals that Kendall's coefficient of concordance was 0.645 and 0.792 at pre-peak and post-peak, respectively. This implies that 64.5% and 79.2% of farmers at pre-peak and post-peak, shows that there were agreements in ranking among the farmers which was significant at 1% as indicated by the p-value of 0.000 comparable with studies of Pierre (2005), Demi and Kuwomu (2013), Gearhart *et al.* (2013), and Asiamah *et al.* (2014).

The findings revealed that the most widely used strategies in the study area at the pre-peak was to reduce the expenses on food compared with out-migration of family members as the lead coping strategy. Reduction in numbers and types of daily meals and, consumption of low quality and cheaper food was ranked second and third during the pre-peak compared to going without food throughout the day and begging at post-peak insurgency, respectively. At pre-peak, most respondents resort to one or two meals per day. This implies that food insecurity situations alter the consumption pattern of the farmers that were faced with insurgency necessitating cutting their meals into two or one meal per day. This finding is in consonance with Rashid (2006), who found some of these strategies to be the most commonly practiced among small holder crop farmers in Kaduna State of Nigeria.
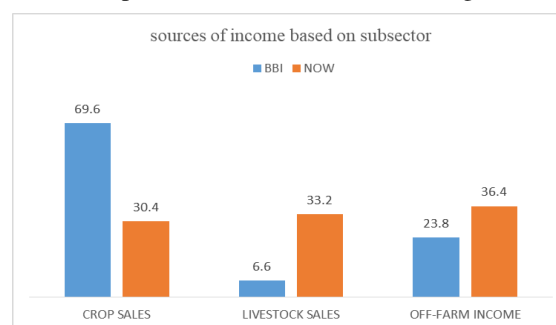

Figure 1: Major sources of income during the pre-peak and post-peak insurgency

Table 4: Food insecurity coping strategies adopted using Kendall's ranking approach

Food insecurity coping strategy	Pre-peak		Post-peak	
	Mean	Rank	Mean	Rank
Reduce the expenditure to buy food	1.72	1	4.05	8
Reducing the numbers and types of meals	2.18	2	3.25	5
Consume low quality and cheaper food	4.23	3	4.47	10
Selling small ruminants to buy food	4.46	4	5.36	12
Selling charcoal and fuel wood to buy food	5.19	6	3.26	6
Harvesting immature food crops	5.20	7	6.29	14
Selling big livestock to buy food	5.09	5	5.00	11
Consuming seed reserves	5.51	8	7.62	15
Borrow food from relatives and friends	6.67	11	4.38	9
Out-migration of family members	6.41	10	1.27	1
Going without food throughout the day	6.03	9	2.01	2
Selling land to purchase food	7.94	13	2.17	4
Buy food in debt	7.12	12	3.97	7
Begging	9.92	14	2.02	3
Reduce adults' food consumption to secure children	9.08	15	5.94	13
Send some members of the families to live with relatives	10.97	16	9.74	16
Statistics				
Kendall's *W*	0.645		0.792	
Chi^2	739.88		852.94	
p-value	0.000***		0.000***	
Df	15		15	

*** - statistically significant at 1% probability level, Df - degree of freedom

Damaging or erosive coping strategies such as selling land to purchase food, out-migration of the entire families, harvesting immature food crops, consuming seed reserves, going without food throughout the day and begging were practised more at the post-peak period of the insurgency, indicating that reversible coping strategies are exhausted in this period. This finding agrees with Imasuen (2015), whose work revealed that north-eastern region of Nigeria has reverted to negative and unsustainable coping strategies whereby meal consumption is decreasing from three meals to one per day and many families had exhausted their food stocks and had resorted to eating grain reserved as seedlings for the next planting season. The findings revealed that the continuous selling of productive assets such as livestock and land is an indication of depleting tangible assets. This is likely to expose such households to chronic food insecurity and vicious circle of poverty. These findings are similar to those of Korf (2003) and Rashid (2006) on livelihood shocks and coping strategies of Sri Lanka and Bangladesh households, respectively.

CONCLUSION AND RECOMMENDATIONS

It was concluded that the activities of *Boko Haram* insurgence had negative effect on farm resources in the study area. The major sources of income and livelihood coping strategies adopted by farming households at pre-peak period was crop sale compared to post-peak with off-farm income. The farmers mitigate the effects of food insecurity using more of reversible strategies such as reduction of household expenditure on food, reduction of numbers and types of daily meals and, consumption of low quality and cheaper food at pre-peak compared to post-peak. There is need for government, NGOs and individuals to assist farming households with aids and grants to revert back to their major sources of livelihood which is mainly crop and livestock production. Government through security aids and community vigilante should collaborate to bring normalcy and improve the security of the affected community.

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