International Journal of Agricultural Research and Review
Abbreviated Key Title: Int. J. Agric. Res Rev.
ISSN: 2360-7971 (Print) & Open Access
DOI: 10.54978/ijarr.2022.v10i,04, Pp: 010-016

Volume-10 | Issue-3| Feb-March, 2022 |

Emperial Paper

Level of Crop Productivity Before and During Rural Banditry in Zamfara State, Nigeria

Sanchi I.D[1], Saadu U[2], Kaka Y[3] and Muhammad A[4]

[1] Department of Agricultural Economics and Extension, Federal University of AgricultureZuru, Kebbi State, Nigeria ishaqsanchi@mail.com 08060664031.
[2 and 3] Department of Agricultural Economics and Extension, Kebbi State University of Science and Technology Aliero saadubirniny@gmail.com 08036240131 and ykgw72@gmail.com 08136560447
[4]Department of Crop Science, Kebbi State University of Science and Technology Aliero, Nigeria. adamubk73@gmail.com,

***Corresponding author:** Saadu U,

| **Received:** 29.03.2022 | **Accepted:** 01.04.2022 | **Published:** 03/04/2022 |

Abstract: This paper assessed the level of crop productivity before and during rural banditry in Zamfara State, Nigeria. Interview schedule was used to collect data from 360 respondents that were selected for the study. A multi stage and simple random sampling technique was used in selecting the respondents. Descriptive statistical tools (mean, percentages, frequency distribution) and inferential statistics (paired sample T-test and Spearman`s correlation coefficient) were used for data analysis. The results of the study reveals that majority of the respondents were married with an average household size of 8 persons and income level of less than N 20,000/month. The results also reveals that there is a significant difference between the respondents' productivity before and during rural banditry, with a sharp decline in production to less than 1000kg/season implying consequential effect on the respondent productivity as a result of rural banditry engagement in the study area. The hypothesis shows that, r_scalculated is 0. 9521.. Based on the finding of the study, it could be concluded that rural banditry poses poor economic growth, increased rural poverty, poor participation, and poor programme implementation and induces fear and uncertainty. The study therefore, recommend that urgent provision of adequate security personnel to Mann the porous borders, prompt enrollment of the vulnerable into government social investment programmes, organize training/seminars for peace building purpose and also government should register all mining site and their activities properly monitored.

Keywords: Level, Crop Productivity, Before and During Rural Banditry, Zamfara State.

Quick Response Code

Citation: Sanchi ID, Saadu U, Kaka, Y,Muhammad A (2022). Level of Crop Productivity Before and During Rural Banditry in Zamfara State, Nigeria. Int. J. Res. Rev. 10(3) Pp 09-016

Journal homepage:
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INTRODUCTION

The conflict has accounted for the severe food crisis and insecurity in several parts of Zamfara state. Similarly, several agricultural lands have equally been destroyed. It has also accounted for environmental changes, degradation of agricultural soil, erosion of the genetic base of agricultural biodiversity, water scarcity, poor governance, growing demand and changes in consumption patterns, uncontrolled deforestation, export-oriented agricultural development policies and political malfunctions (Mustapha, 2019).

Rural banditry has become a widespread social phenomenon that is fast ravaging several societies of the world.

In most cases rural banditry is usually the decision of individual centrally organized parties geared to engage in open armed clashes in disputes about power over government and territory and such conflicts are caused by several factors (Adamu and Yau, 2018). Among the factor include is insincerity on the part of one or the parties that were involved, is the disappointment from either of the parties that were involved, is internal disagreement (Friedman et al., 2014), is inability to address the root cause of a long-standing conflict, is the proliferation of weapons and arms, that causes armed conflict, according to Gall et al., (2007) is the ethnic factor. According to Given (2008) rural banditry can only be made possible when weapons are made available to fight, thereby inflicting injuries and sometime death of individuals. Similarly mischievous individuals take advantage of it to cause disturbance in order to achieve their interest (Gregory, 2004).

According to John (2018), rural banditry is fast becoming popular in developing countries than in developed ones. It is also fast becoming an integral part of the activities in most developing nations like Nigeria. Earlier researchers (Kuna and Ibrahim, 2015). He further showed that the aftermath of armed conflicts in society has been consistently negative, for instance, it increases the rate of poverty, resulting to an increase in the number of internal displacement of several persons, causes outbreak of diseases, reduce food security and stunt impediment in economic growth.

Just like other developing nations, Nigeria has in the last five decades, experienced various forms of armed conflict, most notably after independence (1960). It has occurred in almost all the six geopolitical zones of the country. Even though the incidences do not cut across every state in each geographical zones, yet almost all the states has suffered from its negative consequences either directly or indirectly (Gregory, 2004). Thus, the consequences of rural banditry on the Nigerian society are negative and endless because besides affecting almost all the states of the federation it also affected virtually every other area in the state where it occurred. For instance, in Zamfara, it has led to massive loss of lives and properties and caused disease and disabilities. It has also increased the numbers of widows, widowers and orphans. It has raised up the rate of depression, trauma, mental retardation, suicide and environmental destruction with dire consequences for agricultural production and food shortages (Magnus, 2008).

In a bid to cushion the effects of hardship posed by conflict in the rural areas of Zamfara State, the state government introduced various programmes such as amnesty. This programme is aimed at relegating the effects of rural banditry on the people of Zamfara State. It was observed that similar strategy was adopted at the Niger Delta by the Federal Government of Nigeria through the amnesty programme when the military force failed to deter the militants and bring normalcy to the region (Mohammed, 2017) where people have been forced to device coping strategies to ensure that they survive.

METHODOLOGY

Description of the Study Area

This study was conducted in Zamfara State, the capital of Zamfara State is Gusau. The state was established in 1996 by the then military administration of the Late General Sani Abacha. Zamfara State was carved out of Sokoto State. It comprises of fourteen (14) Local Government Areas, with an area landmass of 38,418 sq. km. The state stretches between Latitude 10 21' to 13 15'N and Longitude 60 20'E Fig 3.1 (Google maps, 2019). Zamfara Sate is bordered in the North by Niger Republic, in the South by Kaduna State, in the East by Katsina State and in the West by Sokoto, Kebbi and Niger States respectively, the state lies in the Sudan Savannah Agro Ecological Zone of Nigeria and has a population of 4,515,400 according to annual projection of 1.5%.

Statistics have shown that more than 80% of the people living in Zamfara State engage in various forms of agricultural activities ranging from crop production of millet, guinea corn, maize, rice, groundnut, cotton, tobacco and beans to livestock and fish farming. The climate exhibits a definite mark of wet and dry seasons. Tropical continental air mass predominates during the dry season while harmattan last from December to February and wet season June to mid-October. Rainfall distribution varies from 675mm to 1000mm with an average annual temperature of between 26 and 30 degree centigrade.

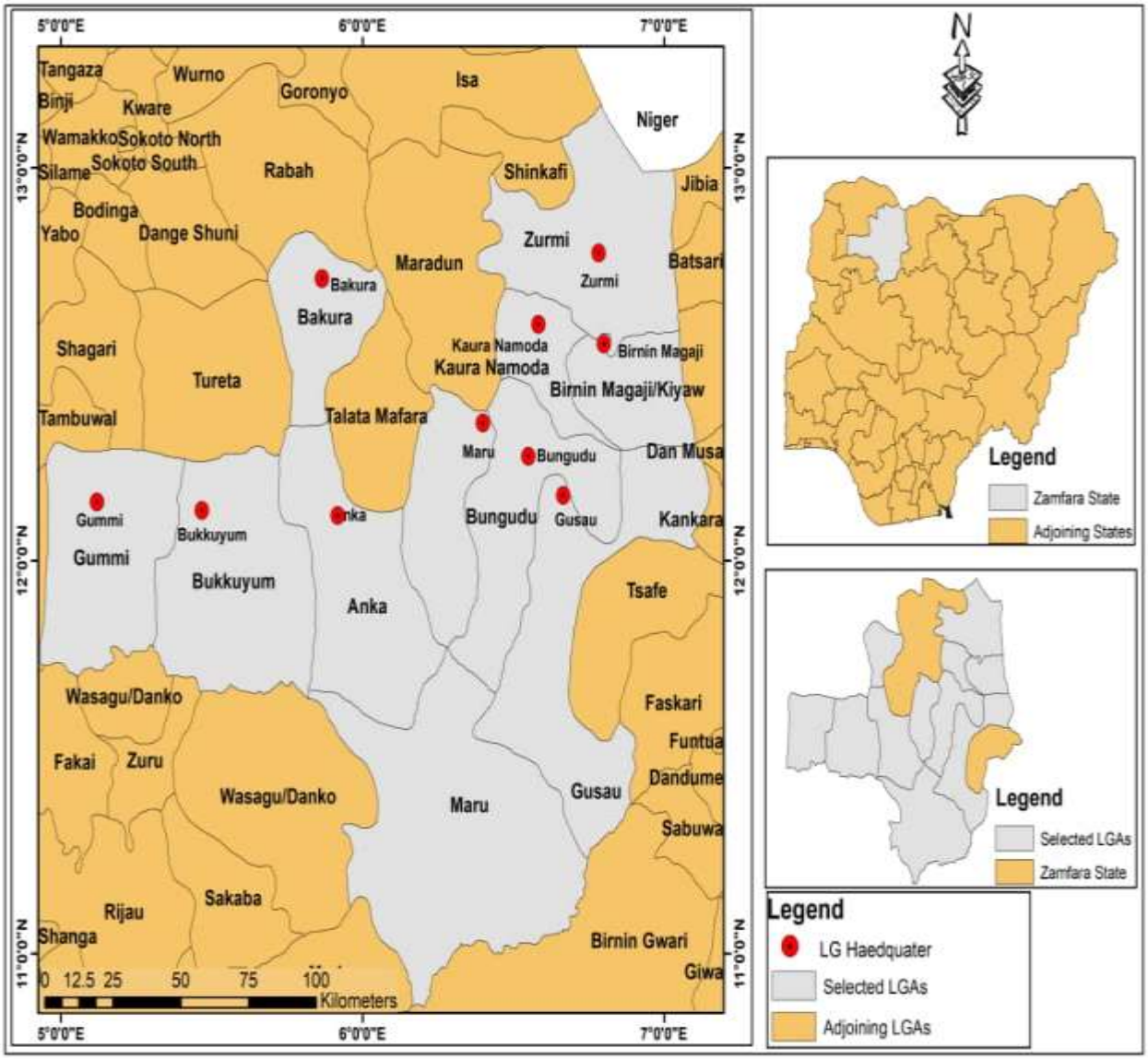

Figure 3.1: Map of Zamfara Sate Showing the Study Area
Source; Department of Geography UDUS

Sampling Techniques and Sample Size

The population of the study comprises of participating crop producers of IFAD-CASP in Zamfara State, North West Nigeria. The State is divided into three agricultural zones namely: Northern Zone (Birnin Magaji, Kaura Namoda, Shinkafi and Zurmi LGAs), Central Zone (Bungudu, Gusau, Maru and Tsafe LGAs), and Western Zone (Anka, Bakura, Bukkuyum, Gumi, Maradun and Talata Mafara LGAs).

A comprehensive list of CDAs was obtained from IFAD-CASP office in Gusau, then the selection of sample for the study was done using multi-stage sampling technique. At the first stage, from each of the three agricultural zones, three LGAs were purposively selected to obtain a total of nine (9) LGAs. At the second stage, twelve (12) CDAs were selected from each of the LGA selected to obtain a total of thirty six (36) CDAs. At the third and final stage, ten (10) respondents were selected using simple random sampling from each of the selected CDA to obtain a total of three hundred and sixty (360) respondents

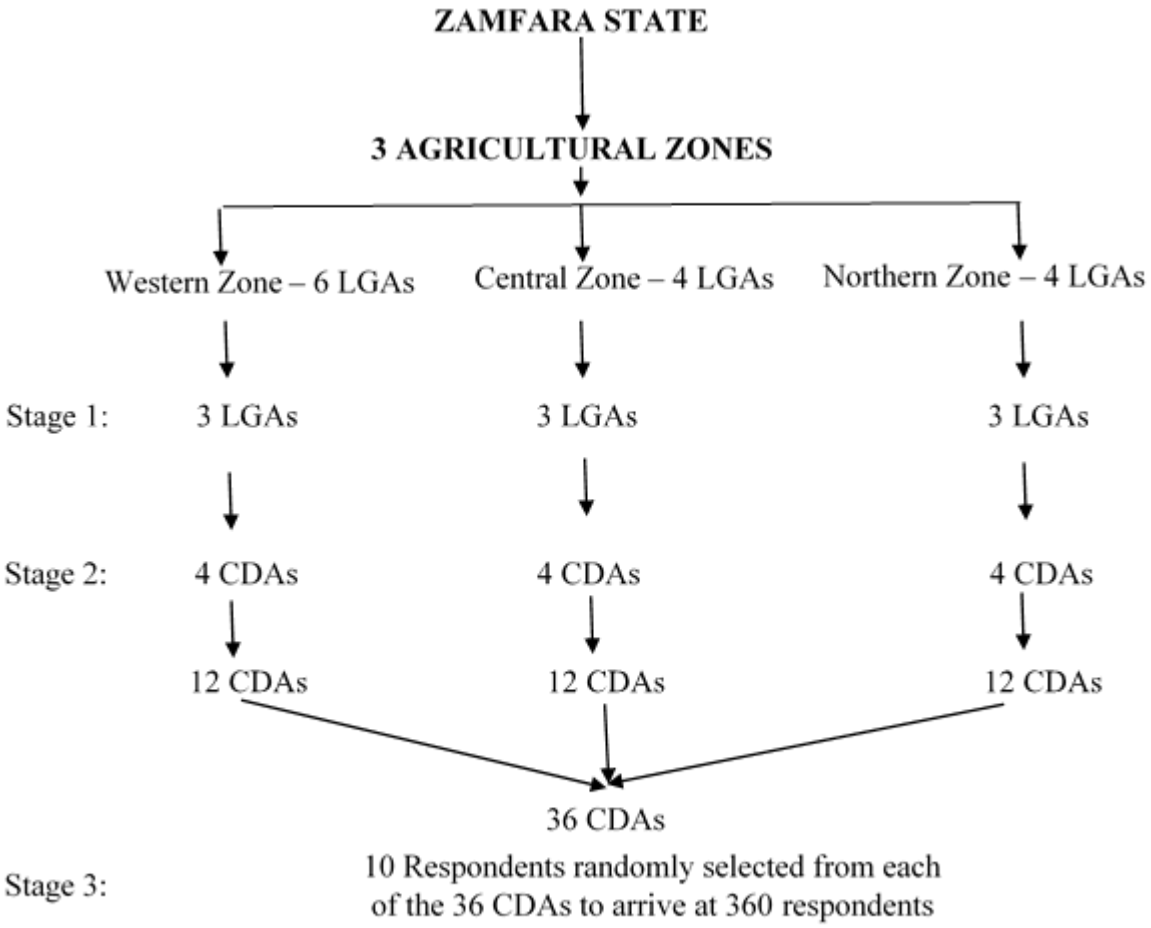

Figure 3.2: Sampling Procedure

Method of Data Collection

The researcher engaged the services of research assistants. The researcher used both focused group discussion and structured questionnaires for data collection. The researchers made use of research assistants. Both the researchers and the research assistant administered the structured questionnaires directly to the respondents and immediately retrieved them upon completion. While secondary information was obtained through journal, books, magazines, internet, past thesis, Online Library, encyclopedias and research proceedings etc.

Method of Data Analysis

After the data collection process, the researcher reviewed, sorted and labeled the instruments before the commencement of the analysis. This was done using the variables in line with the research instruments. Data were analyzed using descriptive statistics such frequencies percentages and mean. Similarly, paired sample T-test (Student T-test) and Spearman correlation coefficient were used for data analysis.

Model Specification of Paired sampled T-test (Student T-test)

$$t = \frac{\sum d}{\sqrt{\frac{n(\sum_d 2)-(\sum d)^2}{n-1}}} \quad \text{---------- (2)}$$

Where d is difference between paired samples, n is total number of sampled paired.

Model Specification of Spearman's Correlation Coefficient

A spearman correlation is also referred to as spearman's rank correlation. It is typically denoted either with the Greek letter rho or rs. Spearman's correlation coefficient measure the strength of association between two variables. In a value between -1 and +1. A positive relationship between two variables indicates a positive relationship between two variables. (As value of one variable increases, value of other variable also increases). While a negative correlation co-efficient express a negative relationship (As values of one variable increases, value of other variables decreases). A correlation co-efficient of zero indicates that, no

relationship exists between variable. (www.stastisticsolution.com).
This is specified as
-1 = Negative relationship
+1 = Positive relationship
0 = No relationship between variables
The Spearman's correlation coefficient employed in testing the hypothesis is mathematically specified as

$$r_s = 1 - \frac{6\sum D^2}{N(N^2-1)} \quad \text{---------- (7)}$$

r_s = Spearman's co-relation co-efficient
D = Difference between rank pairs
N = is the sample size or the number of pairs values.

RESULTS

Table 1: Distribution of Socio-Economic Characteristic of the IFAD-CASP participating crop producers in Zamfara State N 360

Variables	Frequency	Percentage
Sex		
Male	259	71.9
Female	101	28.1
Age		
18-27	56	15.5
28-37	117	32.5
38-47	79	21.9
48-57	80	22.2
58<	28	7.9
Marital Status		
Single	49	13.6
Married	280	77.8
Divorced	9	2.5
Separated	5	1.4
Widowed	17	4.7
Income/Month		
>20,000	199	55.3
20,001-50,000	132	36.7
50,001-80,000	16	4.4
80,001-110,000	10	2.8
110,001<	3	0.8
Residence		
Rural	298	82.7
Urban	62	17.3
Household Size		
0-5	122	33.8
6-10	135	37.5
11-15	70	19.4
16-20	33	9.3

Source: Field survey, 2020.

Table 2: Distribution of IFAD-CASP participating crop producers based on productivity in (kg) before and during rural banditry per season

	Productivity before rural banditry			Productivity during rural banditry		
Paired variables	**Mean**	**Standard Deviation**	**Standard Error Mean**	**Mean**	**Standard Deviation**	**Standard Error Mean**
Sorghum	24.28	14.319	0.726	10.60	5.654	0.287
Maize	30.06	17.440	0.884	8.05	4.386	0.222
Millet	26.08	14.496	0.735	7.46	4.386	0.222
Rice	10.76	5.829	0.296	5.85	2.978	0.151
Cowpea	10.73	5.726	0.290	5.71	2.916	0.148
Soya bean	21.06	11.277	0.572	6.76	3.368	0.171
Groundnut	24.73	14.501	0.735	7.79	4.311	0.219

Source: Field Survey 2020

Table 3: Distribution of IFAD-CASP participating crop producers According to Productivity in (kg) before and during rural banditry.

Crop produce	Mean	Standard Deviation	Standard Error Mean	T –value	Sig
Sorghum	13.676	15.404	0.781	17.510	0.000
Maize	22.003	18.142	0.920	23.921	0.000
Millet	18.622	15.178	0.770	24.198	0.000
Rice	4.913	6.496	0.329	14.916	0.000
Cowpea	5.023	6.358	0.322	15.581	0.000
Soya bean	14.296	11.983	0.608	23.530	0.000
Groundnut	16.941	15.180	0.770	22.011	0.000

Source: Field Survey, 2020

DISCUSSION

Table 1 shows the socioeconomic characteristics of IFAD-CASP Participating Crop Producers from the findings, Majority 71.9% of the participating crop producers of IFAD-CASP were male due to their active involvement in outdoor activities such as farming and animal rearing. While female participates mostly in indoor farming activities such as small animal rearing, processing, threshing and packaging of farm produce this is so because Islam is the predominant religion and has put some restrictions on women to interact freely outside the matrimonial homes and getting responses from such category is sometimes impracticable. These discrepancies are believed to have been influenced by the nature of the study theme- rural banditry which is highly practiced by the male counterparts (Gall, *et. al.,* 2017). Again, some women felt this is not their area of interest because they hardly participate. Even though they are also directly affected by these harmful acts as they are mostly the victims of rape abduction and other forms of sexual abuses (Mueller, 2000).

The age of IFAD-CASP participating crop producers has effect on the level of activities. It determines the level of participation in the programme and it is an important measure of farm productivity. The age grouping can be divided into say the active group and dependent age group. Table 1 shows that about (32.5%) of the IFAD-CASP participating crop producers were between the age ranges of 28-37years which is the active age range. At this age, the respondents are expected to be virile and able to do a lot of farm work if given proper incentives. According to Murtala, (2018) majority of the respondents were within their youthful ages of active involvement in rural occupations which are mostly farming and rearing of domestic animals and invariably became more affected by the problem of cattle rustling as they are usually the target.

This agrees with the findings of Gall *et. al.,* (2007) who posited that youth perform most active farm operation and majority of the youth are between the ages brackets of 18-35years. This was an expected indicator based on the fact that the youths have been highlighted as the main players in the rural banditry activities. This agrees with the findings of Given, (2008) who opined that Majority (52.2%) of the farmers were below the mean age indicating that the farmers were still in their active and productive years. Consequently, they may respond violently to conflict issues or become very aggressive to herdsmen due to youthful exuberance. Also, the results show the dominance of male in farming probably because men are more energetic and capable of involving in tedious production activities associated with farming than women.

It is believed that married couples are likely to participate more in IFAD-CASP than single parent families due to labour supply in farming activities and access to productive resources in agriculture (Adamu and Yau, 2018). The research findings show that, majority of the IFAD-CASP participating crop producers are married having (77.8%), single having (13.6%), widowed (4.7%) and divorced (2.5%). This implies that most of the participating crop producers have some responsibilities; therefore marital status is an important factor to be considered in any programme of change to be introduced to the study area since family decision will be required in any activity to be embarked upon Gall *et al.,* (2007).

Zamfara State Climate Change Adaptation and Agribusiness Support Programme Officer (IFADCASP), said that the Programme was aimed to providing access to improved seeds and technologies that has helped farmers increase production as well as their income. According to the State Programme Officer raising the income of farmers through the provision of improved seeds and farming practices, which the farmers adopt has recorded high yields. “The programme has helped many farmers by increasing their yields and enhancing the farmers' income”. However, this research finding was in disagreement with the above statement due to rising issue of rural banditry and rural banditry in the study area.

Majority (53.3%) of the IFADCASP participating crop producers in the study area has an income of <₦20,000. This implies that participating crop producers suffer more loss such as reduction in output and income from crop as a result of the destruction of crops and indiscriminate bush burning by rural bandits. The findings of Gall *et al.,* (2007) shows that majority of the farmers suffer more losses from farmer-pastoralist conflicts, especially economic losses such as reduction in output (20.0%), loss of properties (28.3%), and scarcity of food (23.3%) were regarded as severe economic losses experienced by farmers. A larger percentage (46.7%) of the farmers indicated loss of properties as a major economic loss encountered as a result of conflict.

It is necessary to establish the residence of the participating crop producers, in such a way to find out the location of the participating crop producers either urban or rural dwellers. Majority of IFAD-CASP participating crop producers (83%) are rural dwellers in the study area which are more affected by the issue of rural banditry and rural banditry while (17%) are urban dwellers. According to Musa (2016) in his studies on Livelihood issues in herdsmen-farmers' conflict among farming communities in Kogi State, find out that (22%) of the farming family lives in urban area. This could negatively affect the farmers' perception of conflict situation and subsequently their behavior and altitude to conflict. This might be one of the reasons why farmer-herders' conflict has remained unabated and a regular phenomenon in Zamfara state. This is in agreement with finding of this research which revealed 83% of IFAD-CASP participating crop producers are rural dwellers

Relatively the larger the family size of the IFAD-CASP participating crop producers may mean more people to cater for and more labour force will be available to work on the farm and help with other farming activities. The result in Table 1 shows that majority (33.8%) IFAD-CASP participating crop producers have a household size of 0-5, followed by (37.5%) of the participating crop producers have household sizes of 6-10 people. This implies that most of the IFAD-CASP participating crop producers have a larger household size which may have resulted from the need for family labour which may increase household productivity and larger household size may consequently result to more dependent family members.

The result in table 2 shows that, before rural banditry the productivity of IFAD-CASP participating crop producers was high due to impact made by the IFAD-CASP to increase the output of crop producers as this can be clearly seen from the mean on productivity before banditry with an average of 2400kg, 3000kg, 2600kg, 1000kg, 1000kg, 2100kg and 2500kg/season of sorghum, maize, millet, rice, cowpea, soya bean and groundnut respectively. While with the rising issue of rural banditry yield productivity of IFAD-CASP participating crop producers falls below 1000kg/season as the means crop yield during the period of banditry in the study area. This result is in agreement with Mustapha (2019) who state that farmers who could not sleep at night as a result of fear or anxiety would definitely experience weakness and would also not have enough energy for action, thus leading to ineffectiveness and low productivity as a result of conflict.

The result in table 3 shows the effect of rural banditry on IFAD-CASP participating crop producers' productivity before and during the issue of rural banditry in Zamfara state. The result revealed that there is a significant difference between the crop producers' productivity before and during rural banditry in Zamfara using paired sampled t-test at alpha 0.001 probability level. Specifically, the result of the study on sorghum producers' productivity indicates that there is a highly significant difference on the productivity before and during the rural banditry with a t-value of 17.510. This implies that there is difference on sorghum productivity as a result of the menace of rural banditry in the study area which could be as a result of people migration, fear and loss of lives as few to mention. The result on maize productivity was significant differ as this is also attributed to rural banditry effect before and during the conflict with a t-value of 23.921. The result indicates a strongly significant difference on the productivity of maize due to the action of rural banditry consequences.

Furthermore, the result on the productivity of millet, rice, cowpea, soya bean and groundnut have indicated sharp significant difference which was associated to rural banditry with a t-value of 24.198, 14.916, 15.581,23.530 and 22.011 respectively. This implies that there was a consequential effect on the productivity of participating crop producers as a result of rural banditry engagement in the study area. This has clearly indicated that there are differences on crop producer productivity in the rural banditry zones of Zamfara state. This further reveals the withdrawal or non-engagement of IFAD-CASP during the rural banditry has caused the great reduction on the productivity of participating crop producers.

The finding of this research are in conformity with John (2018) who opined that rural banditry result in destruction of valuable items with both economic and social effect on the affected persons leading to forced migration due to the fear of the unknown.

CONCLUSION

Based on the summary finding of this study, the research established that majority of IFAD-CASP participating crop producers were male, married with a mean age of 33 years and an average income of less than N 20,000/ month. The factors influencing the participation of IFAD-CASP participating crop producers in the programme appears positive and statistically significant. This implies that a probability increase in the independent

variables (conflict, insecurity, fear, location and experience in conflict) would led to decrease in dependent variable (participation). Further established was widespread poverty, proliferation of small arms and weapons competition for gold mines and dispute over farm land account for causes of rural banditry in the study area, resulting to economic, social and physical decline in livelihood of the crop producers. These conflict engagements have drastically affected the activity of IFAD-CASP in carrying out its mandate to the respondents in the study area. In addition, IFAD-CASP participating crop producers were perceived to derive less benefit from the programme.

The research therefore concluded that rural banditry has significantly affected IFAD-CASP participating crop producers in Zamfara state Nigeria.

RECOMMENDATIONS

Based on the finding of the research, the following recommendation were deemed necessary with a view to make IFAD-CASP viable instrument for the implementation of Agriculture, rural poverty and development.

1. The Federal Ministry of Humanitarian Affair, Disaster Management and Social Investment in collaboration with States, Local Government and Non-Government agencies should enroll the vulnerable into its social support investment programmes such N-power, Presidential youth empowerment scheme (P-YES) conditional cash grant, market money and other special intervention scheme.
2. Government should as a matter of urgency provide adequate security to Mann the porous borders of the north-western states. This can be achieved through the Nigeria immigration service and other sister security and intelligence communities.
3. Federal Government in conjunction with State and Local Government should hence forth register all mining sites and the activities of mining companies be properly monitored by the Nigeria police force, security agencies and the community
4. Both primary and secondary stakeholders like the community, traditional leaders, politicians, government and NGO should focus on providing information for early warning, organize training, workshop and seminar on peace building process and reconciliations. Promises made during such gathering should respected and redeemed.

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