



## **Effects of Food and Agriculture Organisation Inputs Extension Intervention Programme on Farmers' Millet yield in Selected Boko Haram Affected Communities of Borno State, Nigeria**

**<sup>1</sup>Mohammed, K., <sup>1</sup>Alkali, A. & <sup>2</sup>Abubakar, M. I.**

<sup>1</sup>Department of Agricultural Technology, Ramat Polytechnic, Maiduguri

<sup>2</sup>Department of Agricultural Extension and Economics, National Agric. Extension & Research

Liaison Services, Ahmadu Bello University, Zaria

Correspondence Author: K. Mohammed Email: [kyarijere@gmail.com](mailto:kyarijere@gmail.com), +234-703-648-9087

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**Abstract:** *This study assessed the effect of FAO input extension intervention programme on Millet (*Pennisetum glaucum*) yield in some selected Boko Haram affected communities in Borno State, Nigeria. A multistage sampling procedure (involving both purposive and stratified) was used to select 384 farmers for the study. Data were obtained with the aid of questionnaire and analysed using Descriptive and Inferential Statistics. Findings of the study reveal that majority (78.6%) of the farmers were males and married (85.7%). Their average age and household sizes were 44.52 years and 10 members respectively. The findings revealed that all the respondents (100%) received 8kg of millet seed and 25kg of fertilizer for millet production in Boko Haram affected communities. The result also indicated that majority (93.4%) of the respondents had access to extension services while only few (2.6%) had no access to extension services. Similarly, majority (91.9%) of the respondents had contact with extension agents once in every four weeks. Group teaching method was mostly used to teach farmers by the extension agents in the study area. Also, the teaching method of the extension agents were said to be successful and effective by the beneficiaries. Major constraints faced by the beneficiaries were late input distribution, inadequate capital and insecurity. The study recommended that the community members should liaise with the Army personnel and civilian JTF/hunters taskforce so as to curtail the menace of insecurity.*

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### **INTRODUCTION**

Pearl millet (*Pennisetum glaucum*) is a primary food grain crop consumed by millions of people in the tropical and sub-tropical areas of Africa (Mason, Maman, and Pale, 2015). In most African countries where the cereal is grown and production is documented, pearl millet ranks high in terms of importance. In Niger, it ranks first in terms of total cereal cultivation

and production (Ndjeunga and Nelson, 2005) and it is the most important staple cereal crop in Namibia (Chandra, Chandra and Sharma, 2016).

The future trends in millet production need increasing productivity and trade (regionally and internationally) through adding value to the products by improving/increasing, processing and utilization by the industries. In 2017, Food and Agriculture Organization (FAO, 2018) assisted more than 1.5 million people with inputs for millet production, focusing on internally displaced populations (IDP), returnees and host communities, in North Eastern States of Adamawa, Borno and Yobe state of Nigeria. (FAO, 2018). In an attempt to address food insecurity and restore livelihood among the people affected by insurgency, FAO provides support to the government of the affected area through provision of improved pearl millet varieties and other agricultural inputs. Also through addressing the food security issue, FAO introduced FAO response strategy which continued to strengthen resilience among food insecure communities. This FAO programme aims at developing relevant responses to food crises since 2014 by supporting the crises affected population with improved Agricultural inputs and livelihood assets such as early maturing crop varieties, good quality fertilizer, irrigation and micro- gardening equipment and food processing assets. Thus, this effort by FAO was to build resilience of communities and a hunger free world through an Agricultural Input Support Programme (Ayuba, 2007).

FAO in collaboration with Borno State Agricultural Development Programme (BOSADP) distributed seeds of improved millet variety (SOSAT) and fertilizers to affected communities in 2017 and 2018. However, no research has been conducted to investigate the effect of FAO input extension intervention in the study area. It is in the light of the above mentioned problems that this study provides answers to the under listed research questions:

- i. what are the socio-economic characteristics of beneficiaries of the FAO supported input intervention in the study area?
- ii. what are the quantity of millet and fertilizer received by the beneficiaries of the programme in the study area?
- iii. do the beneficiaries have accessed to extension services on millet production activities provided by FAO in the study area?
- iv. what are the constraints faced by the beneficiaries in accessing inputs provided by FAO input extension intervention in the study area?

## **METHODOLOGY**

The study was conducted in Mafa and Jere Local Government Areas of Borno State, Nigeria. The study area is located in the North- Eastern part of Nigeria; covering a land area of 3,737square kilometres. It is situated within Latitudes 11° 48' N and 12° 25' N of the equator, and Longitudes 11° 30' and 13° 55' East of the Greenwich meridian (Borno State Diary, 2008). The study area has a population density of approximately 170 persons per square kilometre. It has an estimated growth rate of 3.4% per annum and a projected population of 634,491 by 2020 (National Population Commission, 2006 ,). The study area is a component of Borno State which occupies the greater part of the Lake Chad Basin and shares borders with the Republics of Niger to the North, Chad to the North-East and Cameroun to the East. Similarly, Borno State shares boundaries with Adamawa, Gombe, and Yobe States to the South, West and North-West respectively (Baba and Maina, 2013).

Multistage sampling procedure was used to select respondents for this study. In the first stage, four (4) Local Government Areas were purposively selected from the six LGAs that benefited from the FAO input Extension Intervention Programme. In the second stage, 2 LGAs were purposively selected from the 4 LGAs who are dominantly millet producers. Thirdly, eight (8) wards were also purposively selected from the 2 LGAs based on the fact that these wards were the predominant areas of millet production and have high number of FAO input extension intervention beneficiaries. In the fourth stage, stratified sampling method was used to obtain three strata of beneficiaries from each ward. The sum of the three strata that is IDP, returnees and host families gave the total number of beneficiaries from each ward.

Data for the study were obtained through primary source with the aid of structured questionnaire administered to the respondents. Data collected were on the socio-economic characteristics, input provided, extension services, constraints and millet yield of the beneficiaries. The research instrument was designed to address the outlined objectives of the study. Secondary information were obtained from documented material such as Food and Agricultural Organization (FAO) publications, Borno State Agricultural Development Programmed (BOSADP), journals, books, and conference proceedings, seminar papers, published and unpublished projects and internet sources. Primary data were collected by the researcher with the assistance of trained extension agents. Data obtained for the study were analyzed using descriptive statistics such as frequency count, percentage, mean and standard deviation to achieve specific objectives i, ii, iii and iv.

**RESULTS AND DISCUSSION**

The socio-economic characteristic of the respondents’ included in this study were: sex, age, marital status, major occupation, educational attainment, farm size, household size and farming experience. It also provides the information on descriptive analysis using frequency, percentage, mean and standard deviation which are presented in table 1.

**Table 1: Socioeconomic Characteristics of Respondents**

<b>Variables</b>	<b>Frequency</b>	<b>Percentage</b>	<b>Mean</b>	<b>SD</b>
<b>Type of Farmer</b>				
Returnee	99	25.8		
IDPs	74	19.3		
Host Families	211	55		
<b>Sex</b>				
Male	302	78.6		
Female	82	21.4		
<b>Age (years)</b>				
20-29	17	4.4		
30-39	81	21.1		
40-49	160	41.7	45	9.8
50-59	93	24.2		
60-69	28	7.3		
70 and above	5	1.3		
<b>Marital Status</b>				

Single	11	2.9
Married	329	85.7
Widows/widower	34	8.9
Divorced	10	2.6
<b>Major Occupation</b>		
Farming	359	93
Trading	19	5
Tailoring	6	2
<b>Educational Attainment</b>		
Primary	108	28.1
Junior Secondary	0	0
Senior Secondary	72	18.8
Tertiary	14	3.7
Qur'anic	190	49.5

**Source:** Field Survey, 2020

The result of the socioeconomic characteristics revealed that more than half (55%) of the respondents were host families, 25.8% of the respondents were returnees and only few (19.3%) of the respondents were IDPs. This implies that majority of the participants were host families. Results on sex showed that majority (78.6%) of the respondents were males while only few (21.4%) were females. This implies that majority of the respondents were males. This is in accordance with Okeke, Agul and Onogwu, (2014) who reported that male millet farmers constitutes 90% of the respondents and female farmers has low percentage which might be due to some cultural and religious laws which tends to restrict women from participating in laborious agricultural activities in the study area. Age of the respondents revealed that 41.7% of the respondents were within the age group of 40 to 49, 24% of the respondents were within the age ranges of 50 to 59. Majority (85.7%) of the respondents were married. This implies that majority of the respondents were married in the study area which could be due to the religious and traditions of the people in the study area where marriage is considered as a sign of adulthood and responsibility. This finding in line with Okeke *et al.*, (2014) in their study which revealed that 78.3% of the farmers were married, while 21.7% were single. Results on occupation reveal that majority (93%) of the respondents had farming as their major occupation. On their education level, about half (49.48%) of the respondents had attended Quranic education, This implies that majority of the respondents attended Qur'anic education in the study area. This finding is in contrast with that of Ndjeunga *et al.* (2011) who revealed that majority of farmers had primary education in both rain fed and irrigated situation.

**Table 2: Teaching methods, access and contact with the extension agents (n = 384)**

Variable	Frequency	Percentage
<b>Access to Extension Service from FAO</b>		
Yes	374	97.43
No	10	2.6
<b>Contact with the Extension Agents</b>		
One Week	1	0.3
Two Weeks	16	4.2
Three Weeks	14	3.6

Four Weeks	353	91.9
<b>Extension Methods Used by Extension Agents</b>		
Individual Method	0	0
Group Method	384	100
Mass Media	0	0
<b>Rating of Teaching Method of the Extension Agents</b>		
Not successful	1	0.3
Very successful	9	2.3
Successful	374	97.4

**Source:** Field Survey, 2020

### Extension Services Provided by FAO

Table two above encompasses all the extension activities benefited by the beneficiaries in the study area which included access to extension services, contact with extension agents, teaching method used by the extension agents and rating of teaching methods used.

The results indicated that majority (93.4%) of the respondents had access to extension services. However, few (2.6%) had no access to extension services. This finding suggests that the respondents would be technically efficient and their productivity could also increased. Majority (91.9%) of the respondents had contact with extension agents once in every four weeks, This implies that majority of the extension agents had contact with respondents at least once in a month which in return helped the farmers to improve their agricultural produce. This is in line with the study of Ann (2013) who reported that farmers with regular extension contact readily adopt new innovations and have access to inputs thereby increasing agricultural productivity.

All (100%) of the respondents reported the group extension teaching method was used for teaching them by the extension agents in the study area. This is as a result of fewer extension agents available to large number of farmers in the study area. Findings also revealed that group extension teaching method is being used due to the fact that the extension agents visit farmers at least once in a month of which meetings are conducted to demonstrate different aspects of millet production to farmers to improve their productivity. The rating of extension methods showed that majority (97.4%) of the respondents considered the teaching method of the extension agents as successful.

### Constraints Faced by the FAO Beneficiaries

Constraints faced by the FAO beneficiaries includes; late distribution of farm inputs, insecurity, inadequate capital, inadequate supply of fertilizer, inadequate extension agents, lack of pesticides and herbicides and inadequate seeds. The result is presented in Table 3 below.

**Table 3. Constraints Faced by the FAO Beneficiaries**

S/N	Constraints *	Frequency	Percentages	Rank
1	Late distribution of farm inputs	300	78.1	1 <sup>st</sup>
3	Inadequate capital	165	43.0	2 <sup>nd</sup>
2	Insecurity	160	41.7	3 <sup>rd</sup>

7	Inadequate seeds	127	33.1	4 <sup>th</sup>
4	Inadequate supply of fertilizer	119	31.0	5 <sup>th</sup>
5	Inadequate extension agents	92	24.0	6 <sup>th</sup>
6	Lack of pesticides and herbicides	89	23.2	7 <sup>th</sup>

Source: Field Survey, 2020

#### \*Multiple Responses

Table 4.5 revealed that majority (78.1%) of the beneficiaries of the FAO intervention had problem of late distribution of farm inputs. Also, 41.7 of the respondents had problem of insecurity, 43.0% of the respondents had problem of inadequate capital, 33.1% had problem of inadequate seed. Late distribution of farm input was the major problem faced by the beneficiaries in FAO intervention. Galadima, (2014) discovered that various factors such as low level of awareness, cultural barriers, inadequate capital and illiteracy which ranked 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> respectively as factors affecting the programme beneficiaries.

#### CONCLUSION AND RECOMMENDATION

Based on the findings of this study it is concluded that most of the beneficiaries in the study area depends on agriculture as a means of livelihood. Late distribution of farm inputs was the major constraint faced by the FAO beneficiaries in the study area. From the findings, the following recommendations were made:

1. FAO should ensure timely distribution of farm inputs and adequate quantity of fertilizer and improved millet seed should be provided to the farmers. to farmers;
2. The community members should liaise with the Army personnel and civilian JTF/hunters taskforce so as to curtail the menace of insecurity.
3. Extension Agents in BOSADP should encourage and motivate farmers to join cooperative associations to enable them have demand power to access productive inputs that will enable them to expand their farms and increase efficiency of resource usage.

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