



ASSESSMENT OF THE IMPACT OF NON-GOVERNMENTAL ORGANIZATION ON TRAINING NEEDS OF EXTENSION AGENTS IN YOBE STATE, NIGERIA

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ABSTRACT

The study assessed impact of Non-Governmental Organization (NGOs) on training of extension personnel in Yobe State, Nigeria. Multiple sampling techniques was used in selecting the fifty two extension personnel were selected. Primary data was obtained using structured questionnaires and analyzed using both descriptive statistics. The results revealed that majority of the respondents were male, married and had attended certain levels of formal education. Also the result revealed that extension agents had an average age of 42.6 years. The findings further shows an average of 16.0 years of experience, also with an average of 9.0 persons per households. Postharvest handling (98.1%), pest and disease management (98.1%), value addition (92.3%), fertilizer application (88.5%), extension teaching methods (88.5%) were found to be the major areas of training provided by NGOs to extension personnel. Inadequate funding (100%), inadequate extension agents (96.2%), lack of incentives/motivations (96.2%) and administrative bottleneck (82.7%) were the major constraints faced by the extension personnel. The study concluded that extension personnel had received various training from the NGOs. The study recommends that should form associations/cooperatives and pull down resources collectively to increases their access to inputs. Also NGOs should be encouraged more to support agricultural extension services in the study area.

Key Words: Assessment, Impact, Non-Governmental Organization, Training

INTRODUCTION

Agricultural extension is the application of scientific research and knowledge or delivering of information inputs to farmers through farmer education. Christoplus *et al.* (2015) define extension or rural advisory services as consisting of all the different activities that provide the information and services needed and demanded by farmers and other actors in rural this may help develop their own technical, organizational and management skills and practices so as to improve their livelihood and well-being, Nortjie (2014) stated that throughout human history, civilizations have depended on agriculture for their survival, however as soon as they neglected their agriculture, industries collapsed and the civilizations also collapsed. The evolution of extension service is related to changes in development objectives and goals which involved achieving national food security, improving rural livelihoods and maintaining natural resources. The crucial role of agricultural extension in the social and economic development of the nation cannot be over-emphasized. Agricultural extension in Africa is the foundation and tool to provide effective agricultural extension services for farmers and farming communities to make well- grounded decision that will increase productivity, diversify, commercialize agriculture and increase income (Abdou, 2015). In Nigeria like other developing countries, agriculture remains the most viable economic sector and considerably contributes towards production and employment. Nigeria produces a variety of agricultural crops, vegetables and fruits to feed its own population and earns foreign exchange through



exports due to the favorable factor such as good climatic condition and fertile soil before discovery of oil (Eboh, 2015). Agricultural extension is considered as a special branch dealing with several economic and social aspects of farming (Bembridge, 2013).

Diksha, (2016) stated that non-governmental organization (NGO) is a legally constituted organization created by legal persons that operates independently from any form of government. NGOs were formed to provide services that fill gaps left by the private and public sectors. To better understand why this gap exists we have to understand the incentives of the different stakeholders of community. NGO's are important because they help poor people to overcome poverty by giving rural people knowledge, motivation on how to plant crops and improve production. Every farmer in agriculture acknowledges climatic extremes and the fact that they will experience future dry and wet periods. According to Zwane, (2012), agricultural extension must be seen in terms of agricultural performance through improving production and profitability amongst farmers; rural community development and comprehensive non-formal community education for smallholder farmers. With the key roles of extension services and their great importance to the economy, Nigerian extension services is still bewildered by a lot of challenges ranging from underfunding, ageing and dwindling staff arising from low employment rate and retirement of old staff. This has resulted in extension services being somewhat inactive (Mohammed, 2014). In Principal terms, the private extension services providers are being called upon to take up dissemination roles and investigate demand for the services among farmers. Also, shift in public and private extension delivery approach is threatened by a number of issues ranging from whether and how effective agricultural productivity will be increased, poverty will be cut and ultimately, livelihood would be raised. (Faruq *et al.*, 2013) By and large, small holder and traditional farmers who use rudimentary production techniques, with resultant low yields, cultivate most of this land. It is for the highlighted reasons that this research estimated the impact of instituted agricultural extension agents training by NGO's in Yobe State. This study was therefore carried out to describe the socioeconomic characteristics of the extension personnel in the study area, identify the forms of training received by the extension personnel and interventions provided by NGOs, determine the effect of NGO's interventions on extension workers and identify the problems associated with the extension services in the study area.

METHODOLOGY

The Study Area

Yobe State is located in North Eastern Nigeria approximately between latitudes $10^{\circ} 33'N$ and $13^{\circ} 22'N$ and longitudes $9^{\circ} 40'E$ and $12^{\circ} 25'E$. The state borders Bauchi and Gombe to the Southwest, Borno to the East and South East and Jigawa to the North West. It also shares an international border with the Republic of Niger stretching to over 320km to the North (Barsky, 1999). The population of the State is estimated at 2,532,395, the State has hot and dry climatic features in the northern part for most of the year. In the southern part, especially in the rocky area of Gujuba and Fika local government areas, it is hotter for most part of the year. The hottest months are March, April and May with temperatures ranging between $39^{\circ}C$ and $42^{\circ}C$ (Bello, 2013). Rainfall amounts are generally related to the thickness of the Tropical Maritime air mass. Consequently, rainfall decreases northward both induration and amount. It lasts for less than 90 days in the northern part of the State and more than 110 days in the south (Audu, 2012). It has definite wet and dry seasons. The wet and dry seasons are characterized with frequent dry continental Northeast trade wind which originates from Sahara desert, and the moist maritime South-westerly monsoon which originates from the Atlantic Ocean respectively. The rainy season spans between June and September with peak of rainfall in



August, and the dry season between November and April. The mean annual rainfall is about 500mm with highest ambient temperature hovering over 40°C in the hottest Months of April and May. The average daily temperature ranges between 27-31°C (Bello, 2013). There is a marked dry season of between eight to nine months and a wet season of only three to four months.

The vegetation is Sahel in the north and Sudan savanna in the south. The economy of the state is largely driven by agriculture. Yobe State is generally agrarian with more than 80% of the citizens engaged in small scale subsistence farming. Food crops such as millet, sorghum, beans, and maize are grown by small-scale farmers to generate household income. Cash crops that are commonly grown by peasant farmers in the state include groundnut, sesame seed, and cotton. In the past, these crops were exported to earn foreign exchange and for local industrials as raw materials. Tree crops such as shear butter, gum Arabic has also potentials for export. The state is also noted to be the largest producer of gum Arabic in Nigeria. A significant proportion of the population is pastoralists who pastor commercial livestock including cattle, sheep, goats, donkeys and horses.

Sampling Technique and Sample Size

A multi-stage sampling technique was employed to select respondents from the study area. Yobe State is divided into three geopolitical zones, in the first stage the three zones were selected; Zone A, B and C, in the second stage seventeen (17) Local governments Areas (LGAs) were selected from the three zones based on the number of extension staff available, Zone A; Damaturu, Geidam, Yunusari, Bursari, Gulani, Gujba and Tarmuwa, Zone B; Potiskum, Fune, Fika, and Nangere, while Zone C; Nguru, Machina, Yusufari, Bade, Jakusko, and Karasuwa were selected. In the third stage all (52) of the extension personnel were selected from the study area

Table 10: Sampling Procedure and Sampling Size

Zone	LGAs	Sampling Ext. Personnel	Frame	Sampling Personnel	Size	Ext.
Zone A	Damaturu	5		5		
	Geidam	3		3		
	Yunusari	2		2		
	Bursari	2		2		
	Gulani	2		2		
	Guiba	3		3		
	Tarmuwa	3		3		
Zone B	Potiskum	5		5		
	Fune	4		4		
	Fika	3		3		
	Nangere	3		3		
Zone C	Nguru	3		3		
	Machina	2		2		
	Yusufari	2		2		
	Bade	4		4		
	Jakusko	4		4		
	Karasuwa	2		2		
Total	17	52		52		



Data Collection

Data collection was through administering of well-structured questionnaires and accompanied with interviews. Primary data were collected directly from the extension staff on information like socioeconomic characteristics, types of training provided by extension agents, and problems associated with extension services.

Likert Type

Likert type was used to assess the effectiveness of the trainings received by the extension workers. Likert type was used as; Very effective =4, Effective=3, Moderately Effective=2, Not Effective=1. $4+3+2+1=10/4=2.5$

Data Analysis

Data was analyzed using descriptive statistics such as frequency, mean and percentage.

Descriptive statistics

Descriptive statistics was used to achieve objectives i, ii, iv and v. This tool was employed to give a summary description of the data collected. It involved the use of percentages, and frequency distribution of extension agents into a few classes with respect to socio-economic characteristics, training/service needs and constraints faced.

Mean score

Mean score of < 2.5 = Not efficient, while mean score of ≥ 2.5 = training mean is efficient

RESULTS AND DISCUSSION

Socioeconomic Characteristics of the Respondents

The socio-economic variable for the extension personnel included in the study includes: Sex, Age, Marital Status, Educational Level, Household Size, Years of Experience, Occupation, Source of Capital, Estimated Income, and Membership of Cooperatives.

Quantitative Socio-Economic Characteristic of the Extension Personnel

The result in Table 2 shows the quantitative socioeconomic characteristics of extension personnel, where the findings reveals that 32.7% of the respondents were within the ages of 41-48 years, while 26.9%, 21.2% and 13.5% of the respondents were within the ages of 33-40 years, 49-56 years and 57 years and above respectively. The average age of the extension personnel was 42.6 years. This is in line with the findings of Asadu *et al.* (2013) who reported mean ages of 40.5 years for farmers in Eastern Nsukka, Nigeria. This implies that most of the respondents were within their active ages of production. This agrees with Issa *et al.* (2016) that younger farmers are much more receptive to new ideas than older ones.

The result shows that 32.7%, 26.9% and 21.2% of the respondents were within the ages of 41-48 years, 33-40 years and 49-56 years respectively, while 13.5% and 5.8% of the respondents were within the ages of 25-32 years and 57 years and above. The average age of the extension personnel was 42.6 years. This implies that most of the respondents were within their active ages of production in agriculture. The result further shows that 38.5% and 25.0% of the respondents had a household size of 6-8 persons and 9-11 persons, while 15.4% of the respondents had a household size of 3-5 persons and 12-14 persons respectively, only 5.8% of the respondents had a household size of 15 persons and above. The average household size of the extension personnel was 8.7 persons. This implies that most of the respondents had a large household size in the study area. The result also shows that 26.9% of the respondents had 9-15 years and 16-22 years of working experience respectively, while 23.1%, 13.5% and 9.6% of the respondents had 2-8 years, 30 years and above and 23-29 years of experience in extension teaching and transfer of technologies to farmers in the study area. The average years of working experience of the extension personnel was 16 years. This implies that most of the respondents had a good number of years in extension teaching which is an added advantage and experience



to increase farmer's level of adoption of new technologies in the study area. This is in agreement with Ayanwuyi *et al.* (2013) that the majority (77.7%) of the respondents were between 31 to 50 years, with about 74.1% male and the majority (61.6%) had a farm size between 1-5 hectares. Only 58.3% were able to produce for family consumption and still able to sell while 41.7% produced for family consumption alone.

Table 11: Quantitative Socio-Economic Characteristic of Extension Personnel (n=52)

Variables	Frequency	Percentage
Age		
25-32	7	13.5
33-40	14	26.9
41-48	17	32.7
49-56	11	21.2
57 and Above	3	5.8
Mean	42.6	
Household size		
1-5	8	15.4
6-8	20	38.5
9-11	13	25.0
12-14	8	15.4
15 and Above	3	5.8
Mean	8.7	
Years of experience		
1-8	12	23.1
9-15	14	26.9
16-22	14	26.9
23-29	5	9.6
30 and Above	7	13.5
Mean	16.0	

Source: Field survey (2022)

Qualitative Socioeconomic Characteristics of Extension Personnel

The result in Table 3 shows the qualitative socioeconomic characteristics of the respondents where the findings reveals that majority (63.5%) of the respondents were male, while 36.5% of the respondents were female which implies that most of the respondents were male which could be attributed to the religious and cultural beliefs hindering women participation and mingling of women with men in government agencies in the study area. This result agrees with the finding of Vaughan *et al.* (2012) in a study of economic analyses of cassava production in Ogun State that 75.8% of farmers were males who dominated farming operations due to the drudgery nature of farming which limits female farmers' involvement in production. The result further indicates that most (88.5%) of the respondents were married, while 9.6% and 1.9% of the respondents were single and widowed. This implies that most of the respondents were married and had certain levels of responsibilities and dependence in the study area. This goes in line with Adebayo *et al.* (2018) that majority of maize farmers were married in Aiyedire LGA of Osun State were married.



Table 12: Qualitative Socio-Economic Characteristic of Extension Personnel (n=52)

Variables	Frequency	Percentage
Sex		
Male	33	63.5
Female	19	36.5
Marital status		
Married	46	88.5
Single	5	9.6
Divorced	1	1.9

Source: Field survey (2022)

Extension Personnel's Ranks and Rate of Training Perceived

Extension personnel ranks and rate of training received is presented in Table 4. The result in Table 4 shows that majority (57.7%) of the respondents were extension agents, while 19.2% and 13.5% of the respondents were staff assistant and area extension officer, only 5.8% and 3.8% of the respondents were zonal extension officers and subject matter specialist. This implies that majority of the respondents were field officers who transfer technologies to farmers in the study area. The result further shows that almost all (94.2%) of the respondents had received training, while 5.8% of the respondents had not received any training, this implies that most of the respondents had received different types of training on different types of technologies which was added advantage to the ability of extension agents to effectively transfer technologies in the study area. The result also indicates that majority (55.8%) of the respondents received training quarterly, while 23.1% and 19.2% of the respondent received training monthly and yearly respectively. Only 1.9% of the respondents had not received training in the study area. This implies that the rates of training received by the respondent were too low and needs to be increased in the study area.

Table 13: Distribution of Extension personnel according to their ranks and training and rate of training received (n=52)

Variables	Frequency	Percentage
Rank		
Subject matter specialist (SMS)	2	3.8
Area extension officer	7	13.5
Zonal extension officer	3	5.8
Extension agents	30	57.7
Staff assistant	10	19.2
Training received		
Yes	49	94.2
No	3	5.8
Rate of training received		
None	1	1.9
Monthly	12	23.1
Quarterly	29	55.8
Yearly	10	19.2

Source: Field survey (2022)

Forms of Training Received by Extension Personnel

The forms of training received by extension personnel from NGOs are presented below on Table 5. The result in Table 5 shows the types of training received by the respondents from



NGOs where the findings shows that the major type of training received were workshops, farm visits, demonstrations, seminars and conferences and were ranked 1st, 2nd, 3rd, 4th and 5th respectively. This implies that most of the respondents had access to different methods of training from the NGOs in the study area which in turn improves respondents' efficiency in information and technology dissemination to farmers in the study area. This is contrary to the findings of Imoloame and Olanrewaju (2014), that non-governmental organizations (NGO) provided most of the extension service in the study area.

Table 5: Distribution of Respondents According to Types of Training Received

Variables	Frequency *	Percentage	Rank
Workshops	47	90.4	1 st
Farm visits	46	88.5	2 nd
Demonstrations	45	86.5	3 rd
Seminars	28	53.8	4 th
Conference	21	40.4	5 th

Source: Field survey (2022) *Multiple responses recorded

Forms of Training Provided by NGOs to the Extension Personnel

Adoption of technologies among millet farmers requires training on the use of such technologies in the study area, in Table 6 are some of the training provided by NGOs to the Farmers. The result in Table 6 shows the major areas of training provided by NGOs were postharvest handling and pest/disease management where each were ranked first. This follows by value addition, fertilizer application and extension teaching methods which were ranked 3rd and 4th respectively. The findings further shows agro-chemical applications was ranked 6th. On the other hand climate change, field and demonstration days practice and marketing strategies were ranked 7th respectively. Others were animal/crop improvement and conflict resolution which were ranked 10th and 11th. Environmental management were ranked 12th. This implies that NGOs had different key areas of training tendered to the extension personnel which in turn help in educating farmers toward adoption of technologies in the study area. This is contrary to the findings of Imoloame and Olanrewaju (2014), that non-governmental organizations (NGO) provided most of the extension service in the study area. Ale *et al.* (2016) stated that extension agents in South-West Nigeria need more training on Water conservation practices for farm purposes. Izuogu *et al.* (2021) that training needs of extension workers for climate resilience in Nigeria among other must include capacity building on ICT usage for information transfer to farmers.

Table 6: Distribution of Respondents According to the Forms of Training Provided by NGOs to the Extension Personnel

Variables	Frequency *	Percentage	Rank
Postharvest handling	51	98.1	1 st
Pest and disease management	51	98.1	1 st
Value addition	48	92.3	3 rd
Fertilizer application	46	88.5	4 th
Extension teaching methods	46	88.5	4 th
Agro-chemical applications	45	86.5	6 th
Climate change	44	84.6	7 th
Field and demonstration days practice	44	84.6	7 th
Marketing strategies	44	84.6	7 th
Animal and crop improvement	43	82.7	10 th
Conflict resolution	41	78.8	11 th
Environmental management	38	73.1	12 th

Source: Field survey (2022) *Multiple responses recorded

Effect of Training Received by Extension Personnel

Extension personnel were exposed to different forms of training, therefore the effects of such trainings was assessed and presented in Table 7.

The result in Table 7 shows the effectiveness of training received by the respondents where the result indicates that workshops with a mean score of 3.20, farm visits (2.90) and demonstrations (2.90) were effective types of training among respondents, while conference and seminars were found not effective in training among respondents which could be attributed to the facts that seminars and conference are meant for high level intellectuals unlike the respondents with average level of education in the study area. Olorunfemi *et al.* (2020) reported out that extension agents' awareness and knowledge of innovations are globally considered a prerequisite that aids the technology dissemination and adoption.

Table 7: Distribution of Respondents According to Effectiveness of Training Received

Variables	VE	E	ME	NE	Mean	Decision
Workshops	42.3	46.2	9.6	1.9	3.20	Effective
Farm visits	30.8	46.2	13.5	9.6	2.90	Effective
Demonstrations	26.9	53.8	5.8	13.5	2.90	Effective
Conference	13.5	26.5	15.4	44.2	2.00	Not effective
Seminars	23.1	32.7	7.7	36.5	2.40	Not effective

Source: Field survey (2022) Mean ≥ 2.50 = Effective, Mean ≤ 2.50 = Not effective

Constraints Affecting Extension Personnel

The constraints affecting extension personnel training is presented in Table 8.

The result in Table 8 shows the constraints faced by the respondents in extension training and transfer of technologies to farmers. The result reveals that the major constraints faced by the respondents were inadequate funding which was ranked 1st. This is followed by inadequate extension agents and lack of incentives/motivations which were ranked 2nd respectively. The findings further shows that administrative bottleneck and inadequate instructional materials were ranked 4th and 5th respectively. While inadequate training/capacity building was ranked 6th, lack of program continuity was ranked 7th. Others were job security and bias in selection of participants to attend training which were ranked 8th and 9th respectively. This implies that though NGOs provide training to respondents in different areas



and types but yet the respondent had few constraints hindering effective training and learning in the study area. Ayesha and Mohammad (2012) reported that in many developing countries, wide adoption of research results by majority of farmers remains quite limited. There is therefore need for regular training, in form of workshops, seminars, conferences and in-service training for extension agents to acquire more knowledge and experience in group dynamics, adult learning principles and appropriate combination of extension-teaching methods for rapid farm-technology diffusion and sustained productivity growth.

Table 8: Distribution of Respondents According to their constraints

Variables	Frequency	Percentage	Rank
Inadequate funding	52	100	1 st
Inadequate extension agents	50	96.2	2 nd
Lack of incentives and motivations	50	96.2	2 nd
Administrative bottleneck	43	82.7	4 th
Inadequate instructional materials	42	80.8	5 th
Inadequate training and capacity building	41	78.8	6 th
Lack of program continuity	39	75.0	7 th
Job security	35	67.3	8 th
Bias in selection of participants to attend training	34	65.4	9 th

Source: Field survey (2022)

CONCLUSION AND RECOMMENDATIONS

The study concluded that extension personnel had received various training which includes workshops farm visits, demonstrations, seminars and conference in the study area. The findings also shows that despites efforts by NGOs to provide training foe extension personnel yet there are few constraints hindering smooth training such as inadequate funding.

Based on the findings of the study the following recommendations were made;

- NGOs and cooperatives should be encouraged to provide adequate support to agricultural extension services.
- Government should employ more extension personnel to cover the number of communities and increase number of contacts to farmers in order to boost millet production.
- Both government and NGOs should provide adequate machineries to motivate extension personnel and eradicate administrative bottleneck within extension service institutions.

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