EFFECT OF GROWTH ENHANCEMENT SCHEME (GESS) ON FOOD SECURITY STATUS OF RURAL FARMING HOUSEHOLDS IN ADAMAWA STATE, NIGERIA

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ABSTRACT

This study assessed the effectiveness of the Growth Enhancement Support Scheme on food security status of rural farming households in Adamawa State. One hundred and twenty farmers were randomly selected and data were sourced through well questionnaires and interview. Information obtained was analyzed using descriptive statistic and food security index. The study revealed that 76% and 71% beneficiaries had between 11-29 bags from their farms and earned between ₦30,000-₦49,999 per month respectively. The study also showed that 62.5% of the respondents are food secure. Beneficiaries observed that there were insufficient seed and fertilizer, poor communication and poor GSM network for proper operation of e-wallet. Insecurity and distance from redemption centers were the major challenges of the scheme. The study recommended that awareness on e-Wallet should be created, improvement in participation of farmers through proper and effective communication and fertilizers should be sufficiently supplied to farmers appropriately to enhance production.

KEYWORDS: *Growth Enhancement Support Scheme (GESS), e-wallet, Food Security, Rural Farming households, Yola South Local Government Area (LGA).*

INTRODUCTION

In the last decade, attention has been focused on means of alleviating food insecurity and hunger worldwide. Nigeria's food insecurity status has been linked to the consequence of a very long neglect of the agricultural sector by various governments. Nigeria is therefore confronted with the problem of how to improve the quality of life in rural areas and eradicate food insecurity. Before the period of oil boom, the agricultural sector had the interest of all component parts of the country but then collapsed due to the discovery of petroleum. More than 85% of the rural households participate in agriculture (Kwaghe, 2008). It has also been observed that about 70% of rural households engage in agricultural production and have little access to productive resources. As a result, most rural households live in abject poverty and suffer food insecurity and malnutrition. The global food security index which evaluates a country's ability to feed its people based on the key determinants of food security, affordability, availability and quality ranked Nigeria as the 80th food insecure nation out of 105 studied in 2011.

The World millennium summits field by the United Nations however, in September 2000 launched the millennium development goals with the aim of all 189 countries achieving the stated goals and objectives. The United Nations also outlined its foremost objective as eradication of extreme poverty and hunger by the year 2015. Nigeria is therefore not an exception to this programme and the attainment of this objective. The government therefore introduced the Growth Enhancement Support Scheme (GESS) in 2012 among several initiatives and programmes as Nigeria's Food Security Strategy. This was meant to improve agricultural productivity especially in the rural areas which is majorly characterized by subsistent farmers. Although, such programmes were put in place to enhance the nation's food security status and develop the agricultural sector, challenges still hindered the process such as small area for cultivation, sub- optimal supply of agricultural inputs such as fertilizers, limited access to credit, less than 10% irrigable land is under irrigation.

The GESS is a component of the Agricultural Transformation Agenda (ATA) of the Federal Government by the Ministry of Agriculture and was launched in July 16, 2012. This is a response by the government to reduce food insecurity. The broad objective of the scheme is to achieve food security for the nation at macro level and to also increase house hold income for the farmers at the micro level. It was designed with a specific purpose of providing affordable agricultural inputs like fertilizers and hybrid seeds to the farmers in order to increase their yield and make it comparable to the world standard. The GESS is innovative and seeks to remove the difficulties associated usually with access and distribution of agricultural inputs. The approach of the scheme is to target beneficiaries through the use of electronic systems (telephone) and encourage the engagements of the private sector in the distribution and delivery of fertilizers and other critical inputs directly to the farmers. The scheme is also meant to shift provision of subsidized fertilizers away from the general public to genuine small-scale farmers, to encourage critical actors in the fertilizer value chain to work together to improve productivity and to enhance farmer's income and promote food security. The minister of agriculture in 2010 described the GESS scheme as a saving grace for Nigeria's agricultural sector.

This study is therefore poised to assess the effect of GESS on food security status of rural farming households in Yola South Local Government Area (LGA) of Adamawa State, Nigeria. The specific objectives were to: examine the socioeconomic characteristics of GESS beneficiaries; measure the food security status of households under the scheme; determine the effect of GESS on beneficiaries livelihood; and examine the problems of the scheme.

LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

Ahmed (2014) observed that in the 1960's Nigeria was the largest producer and exporter of groundnut and palm fruit to countries like Malaysia, the largest producer of cocoa after Ghana and the largest exporter of cotton in West Africa. The country relied on income from agriculture to provide infrastructure and run services until the end of the first Republic. Also the country was food self-sufficient and exported seeds to other countries. The 1970's however brought Nigeria to the phase of oil boom; a major shift from agriculture to crude oil was experienced with resultant decline in agricultural productivity.

Babatunde and Oyatoye (2005) stressed that since 1960 Nigeria's government has been striving to be one of the food secured nations. However, this was not achieved as the food self-sufficiency ratio fell from 98% in the early 1960s to 54% in 1986, 18% of the population (14.4 million) to 36% (32.7 million) in 1992 and 40.7% in 1996. In his view, Azubuike (2012) explained that the country's food insecurity status keeps increasing and the recent estimates puts the number of hungry people in Nigeria at over 53 million, just less than 30% of the county's total population estimated at 160 million.

Olatomide (2012) opined that about 65% of Nigerians are food insecure and 64% of its population is reported to be living below the international poverty line of less than $1.25 per day. Furthermore, it gave evidence of food insecurity and high rate of hunger in Nigeria revealed by high rate of undernourished children as 27% in 2003–2008, 147% in 2009, and 143% in 2010 (Jerome, 2012). Emmanuel *et al*, (2012) opined that 40% of children under the age of five (5) are stunted, 9% were wasting and 25% are underweight, owing to wide spread differences in vitamin A, iron, iodine, and generally poor food lifestyle.

In order to achieve food sufficiency, over the years, government had introduced several initiatives and programmes meant to improve the agricultural sector. Some of these initiatives include; Establishment of Agricultural Development Project (ADP) in 1970, National Accelerated Food Production Programme (NAFPP) in 1972, Operation Feed the Nation (OFN) in 1976 Green Revolution Project in 1979, Directorate of Food, Road and Rural Infrastructures (DFRRI) in 1986, National Agricultural Land Development Authority (NALDA) in 1992, Family Support Programme and the Family Advancement

Programme in 1993, National Special Programme for Food and Security (NSPFS) and National Poverty Eradication Programme both in 2001, National Reserve Agency of Nigeria (NRAN) in 2007; and a major programme was the Growth Enhancement Support Scheme (GESS) in 2012 was established to oversee Nigeria's Food Security Strategy (Adebayo, 2010). One major problem that has been the bane of these agricultural development programmes is the lack of continuity. Therefore considering the setbacks of these programmes which failed to translate into reality the mandates of these programmes, GESS was introduced.

The GESS in relation to agricultural sector in Nigeria aims at improving food production in the country. That is why it has been centred on subsidizing farm major inputs (fertilizers and seeds) to farmers. The Federal Ministry of Agriculture and Rural Development (FMARD) (2011) and Onwualu (2013) observed that the average usage of fertilizer in Nigeria is 13kg/hectare while the mean time testing the world average annual usage is 100kg/hectare. Less than 10% of Nigerian farmers could access improved seeds and irrigation covers only 0.8% of the arable land. It has been analyzed that before the inception of the scheme, Nigeria's crop yield had the highest growth rate of 0.2% from 1968-2008 (Tiri, 2014).

In pursuit of the GESS programme, the Federal Ministry of Agriculture and Rural Development (FMARD) in 2013 noted that 12 million farmers were registered at inception in the year 2012 and 4 million in 2013. The programme is expected to benefit primary producers which are mostly the rural farmers who provide 70% of agricultural produce (Grace, 2014). With this scheme, it was therefore expected that by the year 2015, it should be able to drive Nigeria at meeting up the MDGs set objectives.

CONCEPT OF FOOD SECURITY

Food security, which came to limelight in the mid-1990s, can be defined as the success of local livelihoods to guarantee access to sufficient food at the household level (Devereux and Maxwell, 2001). The failure of early solutions to the problem of food insecurity in the 1970s and 1980s was largely attributed to technological bias, stressing production rather than equitable distribution, access, affordability, and utilization. Since then, it has become clear that food security revolves around complex issues that encompass a wide range of interrelated environmental, economic, social, and political factors. Addressing food security, therefore, requires an integrated approach and challenges many regions' ability to address food security adequately (Vogel and Smith, 2002).

Food security is a concept that evolved during the 1980's far beyond a traditional focus on the supply of food at the national level and became an important "organizing principle" in development. It generated large academic literature; conceptual and organizational innovation by aid agencies; and many regional, national and local programmes in developing countries, especially in sub-Saharan Africa. It has continued to grow in the 2000's. This concept was given general definitions in the time past but in recent times, there has been a divergence of ideas on what food security really means.

According to World Bank (1986), food security was defined as access by all people at all times to enough food for active and healthy life. The committee on World Food Security defined it as physical and economic access to adequate food by all household members without undue risk of losing the access. The definition adopted at the FAO in 1996 and reconfirmed in 2002, accepted the USAID's concept which has three key elements viz: food availability, food access and food utilization. However, a fourth concept is increasingly becoming accepted namely "the risk that disrupt anyone of the first three factors". Therefore, there are four major elements of food security. They are food availability, food access, food utilization and not loosing such access. As shown in Figure 1, households' economic and social resources, livelihood activities and management activities contribute to the level of food security. The socio-economic factors include age, income, farm size, household size, farming experience, level of education and sex of respondents. Also, total value of assets, expenditure on food, access to credit and extension agents, child dependency ratio, hired labour, family labour and diet diversity of households are important factors. Furthermore, a livelihood comprise of the capabilities, access (stores, resources, claims and assets), and activities required for a means of living: a livelihood is said to be sustainable which can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation. Livelihood can be made up of a range of on-farm and off-farm activities that together provide a variety of procurement strategies for food and cash (Care, 2002). The management activities involve the organization and effective utilization of the livelihood opportunities available to the households to meet basic needs. The four major elements of food security ultimately influence the nutritional status of households.
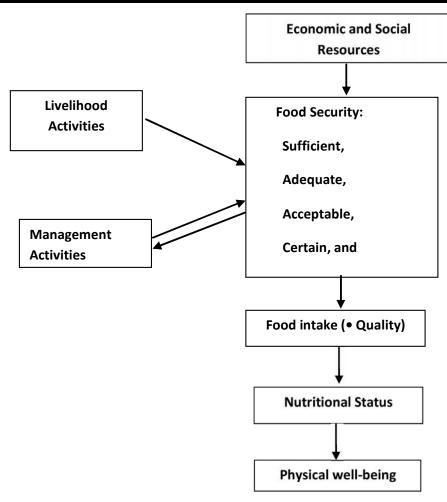
Figure 2.1: Conceptual Framework on Food Security

Source: FANTA (2000)

METHODOLOGY
The Study Area:-

This study was carried out in Adamawa State Nigeria. Adamawa state is located at the North eastern part of the country and shares boundary with Borno at the North, Bauchi at the West, Taraba at the South and Cameroun at the East. Residents of the state are mostly engaged in agricultural activities such as farming. The state has a coordinate of 9f2⁰N and 120⁰E of the equator. It has a land area of 36,917km². Agriculture is the main stay of the State's economy. The major crops cultivated in the State are rice, maize, groundnut, cowpea, and vegetables. The major livestock reared in the State are cattle, sheep and goats (Adewuyi, et. al., 2011). Residents are mainly farmers, civil servants and traders. Adamawa State has about 21 Local Government Areas (LGAs) that participated in the scheme with about 193,224 farmers (beneficiaries of GESS) (www.thisdaylive.com).

Sources of Data

Well structured questionnaire was employed to collect information about the scheme and its effects were also obtained through structural interview schedules. Also, data about respondents' demographic and socioeconomic characteristics, households' dietary pattern and food insecurity coping strategies were also obtained.

Sampling Technique:-

Multistage sampling technique was employed to extract information from the respondents. The first stage, the southern zone was randomly selected out of the three zones (Northern, Southern and Central zone) in the state. The second stage involved the selection of one LGA from the region which was Yola South LGA. The third stage was the random selection of 150 farming households under the GESS. 150 questionnaires were distributed to respondents for the study. However, 120 questionnaires were analyzed as others were discarded for inconsistency or incompleteness.

Analytical Technique:-

The analysis of the data collected involved the following analytical techniques:-

i.   Descriptive statistics
ii. Food security index

Descriptive Statistics:-

The descriptive statistics used for analysis includes tables and frequencies. These were used to analyze the data collected on the demographic and socioeconomic characteristic of the respondents, dietary pattern and problems of the respondents and those associated with the operations of the scheme. The tables contained the frequency and percentage of the variables observed.

Food Security Index (FSI):-

Food security index was used to determine the level of food security among farming households. Food security equation used by Emaziye *et al.* (2013) was adopted for this study. The equation was stated as:

$$C^* = C_j - Y_j \quad - \quad - \quad - \quad - \quad - \quad - \quad - \quad - \quad - \quad (1)$$

Food security indicator for this study was defined by frequency and the number of different food groups consumed over a period of time (24 hours) where:

C^* =   Food security index of farming household

C = Quantity of food consumed (N = 1 to 5)

Y_j =   Expected required food to be consumed (N = 5)

If $C^* = 0$: The household will be said to be a food secure household

If $C^* < 0$: Then the household will be said to be food insecure

The required food groups = carbohydrate, protein, fat and oil, vitamins and minerals.

There are basically four ways of measuring household food security status; among them is dietary diversity which involves determining the frequency and the number of different food groups consumed at household level over a period of time. Dietary diversity method was preferred to other methods as it is very difficult to calculate exactly the quantity of household food consumption in kilogram's or calories as most daily food consumed by the rural farming households are not measured (Ahmed *et al.*, 2014). Therefore, food security index of the rural farming household were obtained based on the frequency and the number of different food groupsconsumed by household over a period of 24 hours. Water was excluded as it is a necessity and generally consumed daily; hence a food secured household is expected to consume all the five food groups. This study, therefore, identified only the food intake diversity which is an indication of food access to different food groups and not the quantity.

Specifically, this process involves a face-to-face exchange of information - in the form of a series of yes or no questions - between a data collector and the person who is responsible for food preparation. It included all foods prepared in the home and consumed in the home or outside the home; or purchased or gathered outside and consumed in the home. This measure excludes all foods purchased outside and consumed outside.

Expected required food to be consumed (Y_j) = 5.

Quantity of food actually consumed daily (C_j) ranges from 1 to 5.

Food security index of rural household ($C^* = C_j - Y_j$) = 5-5 = 0 (food secured household).

While $C^* < 0$ is food insecure household.

For the purpose of this study the food insecure households were further categorized into mild food insecure, moderately food insecure and severely food insecure households.

Food security index of rural household ($C^* = C_j - Y_j$) = 4-5 = -1 (Mildly food insecure)

Food security index of rural household (**$C^* = C_j - Y_j$**) = 3-5 = -2 (Moderately food insecure)

Food security index of rural household ($C^* = C_j - Y_j$) = 2- 5 = -3 (Severely food insecure)

Chi-Square:-

This analytical technique was used to observe the effect of the scheme on beneficiaries' livelihood, which is attributed to their output of produce and their income. The chi–square is calculated thus;

$$X^2 = \frac{(f_0 - f_e)^2}{f_e}$$

Where;

X^2 = chi- square

F_o = observed frequency

F_e = expected frequency

Therefore each chi-square shows the effect of GESS each on farmers' output and income

RESULTS AND DISCUSSION
3.1 Socio-Economic Characteristics of the Respondents:-

The socio-economic and demographic characteristics of the respondents are presented in the tables below.

Table 1: Age of Respondents

Age	Frequency	Percentage %
Less than 30	15	12.5
31-40	52	43.3
41-50	35	29.2
Above 50	18	15
Total	**120**	**100**

Source: Field Survey, 2015.

From the result obtained in the Table 1, the age of respondents ranged from less than 30 to above 50 years with an average of 40 years. Majority of the respondents (about 43%) of the respondents are within 31-40 years age range. This indicates that most of the beneficiaries of the scheme are young and agile farmers.

Table 2: Sex of Respondents

Sex	Frequency	Parentage (%)
Male	75	62.5
Female	45	37.5
Total	**120**	**100**

Source: Field Survey, 2015.

Table 2 revealed that about 63% male respondents participated in farming under the scheme. This implies that the male respondents readily availed themselves to the opportunities the scheme provided and are more energetic to provide required or expected output. Their female counterparts however, are cumbered with other household responsibilities that may affect their output level.

Table 3: Marital Statues of the Respondents

Marital Status	Frequency	Parentage (%)
Single	10	8.3
Married	80	66.7
Widow	20	16.7
Widower	10	8.3
Total	**120**	**100**

Source: Field Survey, 2015.

The result in Table 3 showed that about 67% respondents were married and about 17% were widows. This result is not unconnected with the cultural and religious inclinations that confer the responsibility of providing for the wellbeing of their households as married respondents. The scheme provides the impetus for improved productivity and ultimately the sustenance of the household economy.

Table 4: Household Size of the Respondents

Household Size	Frequency	Parentage (%)
Less than 5	19	15.8
6-10	50	41.7
11-15	35	29.2
Above 15	16	13.3
Total	**120**	**100**

Source: Field Survey, 2015.

Table 4 revealed that about 42% respondents have 6-10 household members. Also about 29% respondents have 11-15 household members. This implies that a large household with available and capable manpower for farming activities may have increased output. Such households yield more income which improves their purchasing power and access to food groups not readily available hence food secure.

Table 5: Educational Level of the Respondents

Educational Level	Frequency	Parentage (%)
Primary	30	25
Secondary	50	41.7
Adult Education	40	33.3
Total	**120**	**100**

Source: Field Survey, 2015.

Educational level of respondents has presented in Table 5 showed that almost all farmers are educated with at least a primary level education. However, about 42% and 33% beneficiaries of the GESS had secondary and adult education respectively. This therefore shows that majority (about 75%) of the respondents understood the importance of scheme and so, enrolled with good expectation from the scheme. Educational background brings about enlightenment and thus enthusiasm to participate in the scheme.

Table 6: Respondents Land Ownership Pattern

Ownership of Land	Frequency	Parentage (%)
Inheritance	45	37.5
Purchase	25	20.8
Communal	21	17.5
Government	15	12.5
Lease	14	11.7
Total	**120**	**100**

Source: Field Survey, 2015.

In Table 6, the major form of land acquisition by the respondents was by inheritance (37.5%). Land acquisition by inheritance has been an age-long pattern in any traditional setting. It therefore supports agricultural production but usually at a subsistence level. This is followed by purchase and communal forms of land acquisition (about 21% and 18% respectively). It is expected that purchase form of land acquisition would increase the cost of production while communal form of land acquisition may limit individual household production. Ultimately, beneficiaries are expected to maximally reap the gains of GESS under the traditional (inheritance) land acquisition with improved farming practices, hence food security.

Table 7: Farm Size of Respondents

Farm Size (Hectares)	Frequency	Parentage (%)
0.5	16	13.3
1	65	54.2
1.5	25	20.8
2	14	11.7
Total	**120**	**100**

Source: Field Survey, 2015.

The result on farm size in Table 7 showed that most respondents (about 52%) cultivated one hectare while about 32% cultivated between 1.5-2 hectares of land. This implies that respondents are mostly small-scale farmers whom the scheme is targeted. Respondents with between 1.5-2 hectares of land under cultivation could therefore produce more sales so as to account for the costs of production and also support livelihood.

Table 8: Respondents Farming Experience

Farming Experience	Frequency	Parentage (%)
Less than 5	30	25
6 -11	51	42.5
12-15	19	15.8
Above 16	20	16.7
Total	**120**	**100**

Source: Field Survey, 2015.

Analysis of farming experience in Table 8 showed that 42% of the beneficiaries have spent 6-11 years farming. Also, about 33% respondents had between 12 and above 16 years farming experience. These values imply that the level of productivity may be influenced by the number of years in farming in terms of skill acquisition, better farming practices and most especially the availability of major farm inputs such as improved seeds and fertilizers under the GESS. Farming experience enhances productivity especially in the rural setup where agriculture is an ancient practice both for food and income.

Table 9: Income Levels of Respondents

Income/month	Frequency	Parentage (%)
Less than ₦19,999	34	28.3
₦20,000- ₦49,999	67	55.8
₦50,000- ₦79,999	19	15.8
Total	**120**	**100**

Source: Field Survey, 2015.

The result on income level of beneficiaries is presented in Table 9. About 56% of the respondents earned between ₦20,000- ₦49,999 from farming monthly. This level of income could ultimately influence their level of production either by renting more hectares of land for cultivation, increased inputs in terms of labour, seed and fertilizer. This consequently leads to improvement in the livelihood patterns of respondents as their income base increases.

Measures of Household Food Security Status:-

The measurement of household food security status was carried out using the food security index (FSI) method. This method requires getting the food security index by making use of the quantity of food consumed and the quantity expected to be consumed. This can be shown thus;

C^*= food security index of the participants household.

C_j= quantity of food consumed (number from 1-5)

$Y_{j=}$ expected required food to be consumed (5).

This study therefore considers required food to be consumed as including; proteins, vitamins, carbohydrate, fats and oil, mineral salts and fruits. Therefore, the consumption of households is shown in the table below.

Table 10: Food Security Index of Consumers

Classes of Food Consumed	Status	Frequency	Percentage (%)
5	Food Secure	75	62.5
4	Mildly Food Secure	25	20.8
3	Moderately Food Insecure	18	15
2	Severely food Insecure	2	1.7
Total		**120**	**100**

Source: Field Survey, 2015.

Table 10 revealed that majority (about 63%) of the households consumed food containing the five (5) classes which shows that the households in this group are food secure. This implies that households have access to food in adequate quantity and quality. Also, about 21% households consumed four (4) and were moderately food secure. However, about 15% and 2% of the entire population consumed three (3) and two (2) food groups respectively, that is, moderately and severely food insecure. Access to food in adequate quantity and quality naturally become difficult when own food production depletes. Thus,food insecurity may likely occur in the face of fluctuating seasonal production level, prevailing price and level of income of households. The implication of these values of food groups consumed is that, achieving food security in the study area depends on the aggregate availability of physical supply, access and utilization of food consistent with normal wellbeing of the households.

Effect of the GESS on Beneficiaries:-

The GESS has certain effects on beneficiaries livelihood though participants are small-scale farmers, the effect can still be analyzed based on their farm output. These are presented in Tables 11, 12 and 13.

Table 11: Beneficiaries Use of Inputs

Variables	Frequency (120)	Percentage (%)
Availability of Inputs		
Seeds	80	66.7
Fertilizers	40	33.3
Types of Crop grown		
Maize	65	54.2
Rice	25	20.8
Beans	16	13.3
Groundnut	14	11.7

Source: Field Survey, 2015.

As presented in Table 11, respondents (about 67%) opined that seeds were more readily available and easily accessible compared to fertilizers. Beneficiaries were provided with seeds at the onset of planting season which gave the impetus for farming. The application of fertilizers later in the farming period might have been delayed andthere existed the possibility of applying manure. Table 3.11 also revealed that 54% and 21% respondents cultivated maize and rice respectively. This implies that these are priority staples and highly important for households' consumption and income generation. Beans and groundnuts were equally cultivated and consumed in the study area.

Table 12: Beneficiaries' Output Level

Variable	Frequency (120)	Percentage (%)
Before Participation		
Less than 10 bags	70	58.3
10- 19 bags	34	28.3
20- 29 bags	12	10
30 bags and above	4	3.3
After Participation		
Less than 10 bags	13	10.8
11- 19 bags	64	53.3
20- 29 bags	27	22.5
30 bags and above	16	13.3

Source: Field Survey, 2015

Farm produce (output) is a significant measure of effect of any intervention in farming activities. In Table 12, about 58% respondents had less than 10 bags from their farming activities while only about 28% had between 10-19 bags before participation in GESS. This implies that farmers' output was reflection of their traditional farming activities. However, with the introduction of GESS in the study area, beneficiaries experienced an improvement in their output level. About 53% beneficiaries had between 11-19 bags while about 36% respondents had more than 20 bags. This implies that GESS had positive effect on the level of production of beneficiaries. Farmers are better equipped to produce both for household consumption and improved income level.

Table 13: Beneficiaries' Income Level

Variable	Frequency (120)	Percentage (%)
Income Before Participation		
Less than ₦20,000	8	6.7
₦20,000 - ₦29,999	75	62.5
₦30,000 - ₦39,999	32	26.7
₦40,000 and above	5	4.2
Income After Participation		
Less than ₦20,000	-	-
₦20,000 - ₦29,999	24	20
₦30,000 - ₦39,999	58	48.3
₦40,000 – ₦49,999	27	22.5
₦50,000 and above	11	9.2

Source: Field Survey, 2015

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From Table 13, beneficiaries' income level before participation showed that a high percent (about 63%) were earning between ₦20,000 - ₦29,999 per month while about 27% were earning ₦30,000 - ₦39,999 per month before participation in the empowerment programme. However, after participation, about 48% respondents earn between ₦30,000 - ₦39,999 per month and about 23% earn between ₦40,000 – ₦49,999 per month which shows that the income after participation had increased. From Table 3.10, only about 20% households were food insecure, this is also an indication that the respondents benefited from their farming for household consumption and general welfare.

Problems of the GES Scheme:-

The GES scheme has impacted farmers but has certain problems. These problems are listed in Table 14 as identified by the beneficiaries.

Table 14: Problems of Beneficiaries on GES Scheme

Problems	Frequency *	Percentage (%)
Insufficient seeds	75	20.4
Insufficient fertilizers	87	23.7
Poor communication from staff	60	16.4
Poor network for e-wallet	48	13.1
Improper distribution of inputs	57	15.5
Poor awareness of e-wallet system	40	10.9
Total	**367**	**100**

Multiple Responses
Source: Field Survey, 2015.

Result on problems encountered by respondents in the study area is presented in Table 14. It indicated that the most pressing problems of the respondents were insufficient supply of fertilizers and seeds representing about 24% and 21% respectively. This therefore implies that respondents would have cultivated more crops if these critical inputs were sufficient. Lack of timely visit and communication (about 16%) with the scheme workers (help-line staff) further impeded the smooth operation of GESS in the study area which resulted into improper distribution of inputs (about 16%) to beneficiaries which led to late planting by some respondents. Due to the location of beneficiaries, poor network to operate e-wallet was also a setback.

Problems Faced by the Scheme:-

The scheme likewise faced some certain challenges in the State as observed by the GESS State coordinator. This is presented in Table 15.

Table 15: Problems Faced by the Scheme in the study area

Variables	Frequency*	Percentage (%)
Insecurity	98	32.5
Insufficient collaboration of state government	41	13.5
Poor GSM network in rural areas	50	16.5
Distance of redemption centres from farmers	82	27.2
Low registration of farmers	31	10.3
TOTAL	**302**	**100**

*Multiple Responses
Source: Field Survey, 2015.

As presented in Table 15, insecurity (about 33%) was a major setback to the scheme in the study area. Insecurity is a major challenge not only in the study area, but the entire northern Nigeria region. The poor performance of scheme workers (helpline staff) in the various centres was attributed to insecurity which consequently reduced the number of contacts with beneficiaries. These contacts are beneficial in analyzing the effectiveness of the inputs supplied and in creating more awareness of the scheme and other relevant issues. Closely related to the issue of insecurity was the distance of redemption centres (about 27%) from the farmers. It was observed that redemption centres are located far away from the farm settlement which also is a discouragement to participation in GESS. Poor GSM network (about 14%) in the rural area was also observed. This makes communication with helpline staff difficult and practically impossible during insurgency.

CONCLUSION

The study examined that the effect of growth enhancement support scheme (GESS) on food security status of rural households in Adamawa State Nigeria. It was observed that the level of output and income of beneficiaries of the scheme improved appreciably. Most households (about 63%) are food secure despite of the problems encountered by the scheme and farmers, the scheme can still be adjudged effective.

RECOMMENDATIONS

The following recommendations are however proffered for sustainability and more effectiveness of the scheme in the study area.

No tangible development can be achieved without security of lives and property. Government should ensure that the scourge of Boko Haram is treated more effectively. This will improve operations of the scheme workers and more participation of local farmers thereby increasing the level of production and income generation of farming households.

There is need for GESS co-ordinator to necessitate the e-wallet system of distributing inputs so as to aid prompt distribution of inputs and also avoid divergence of subsidized inputs from rural farmers to others for profit purposes.

Improvement on the GSM network will enhance the use of e-wallet in the rural area. The use of e-wallet majorly differentiates the GESS and any other agricultural development programmes. This will ultimately enhance Agricultural Transformation Agenda (ATA) in Nigeria.

The government should introduce more means of creating awareness among farmers about the scheme. The more the farmers are being enlightened, the more they tend to understand the scheme and participate fully.

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