**Effects of National Fadama Development Project III Additional Financing II on Livelihood of Vulnerable group: A case Study of Boko Haram Internally Displaced Persons in Taraba State, Nigeria**

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*Abstract*
*The study was designed to assess the effects of National Fadama Development Project III Additional Financing II on Livelihood of Boko Haram Internally Displaced Persons (BHIDPs). Multi-stage sampling techniques was employed in sampling 98 Trained and 131 Non-Trained BHIDPs Maize and Rice crop farmers for the study. Data were collected using structured questionnaire and analyzed using descriptive statistics and Double Difference Model. The results of the analyses indicated that majority (73.5%) of the Trained farmers were males with about 85.7% of them being married with mean household size of 6 persons/household. The mean age for the Trained and Non-Trained NFDP III AF BHII IDP(s) are 40 and 39 years respectively. In terms of education, 38.9% and 31.3% of trained and Non-Trained respectively had no form of education at all. The mean years spent in quest for formal education was 6 years for trained and 7yearsfor non-trained. The mean level of participation of the Trained in group activities indicated that highest in selecting enterprise (3.00). Fertilizer application rate and application time had the highest extent of practice among the improved farm technologies acquired (2.92). Finding from the Double Difference Estimates indicated that annual income of the Trained crop farmers had increased by ₦112,902.17 in Rice and ₦109,754.90 in Maize enterprise as compared to the ₦19,500.00 and ₦36,541.82 in Rice and Maize enterprises respectively by the non-trained BHIDPs. This indicates positive effects on income. In terms of assets ownership highest was recorded in procurement of Work Bulls (750%). Major constraints identified were Land Tenure (90.8%), late arrival of farm inputs (83.7%) and late supply of farm input. Government should establish land to cater for the BHIDP(s) or Cash should be made available to hire land and supply of farm inputs should be supplied as at when due.*
*Key word:* Fadama, Livelihood, Vulnerable group, Crop Farmers, Boko Haram, Internally Displaced Person(s)

**Introduction**
Prior to the commercial exploration of oil in Nigeria in the early 1970s, agriculture was the key determinant of the Nation's Gross Domestic Product (GDP) and it still remains one of the most contributing sectors to the national economy (Obikaeze & Onuoha 2016). In 1960, it contributed about 64% of the nation's GDP. It gradually declined due to crude oil exploration to 20% in 1980. In 2015, National Bureau of Statistics reported that this sector stood at the second position contributing about 30.9% to the nation's GDP. This became possible with national and international agricultural programs saddled with economic diversification gearing towards livelihood enhancement among farmers. It remains the leading employer of the nation's labour forces employing over two third (65%-70%) including almost 37 % of youths with mean age of 27years (48 % males, 52 % females) [National Bureau of Statistics (NBS, 2015) and the Nigerian Federal Ministry of Youth Development, 2013]. It also accounted for over 90% of the national consumption requirements food sufficiency.

One of the most global worrisome phenomena experienced after the World War II of 1939-45 is the rapid increase in the act of terrorism that had directly or indirectly affected agricultural activities as a means of livelihood to the rural/urban farmers. This led to the displacement of millions of people Protecting Internally Displaced Persons index estimated about 36.4 million people have been displaced from their homes around the world, with majority of those people being farmers dwelling in rural areas of Africa and Asia.

Many studies were conducted by scholars on National Fadama Development Projects ranging from Fadama I-III including Additional Financing I and II in some States in Nigeria: Olaolo *et al.* (2010) in Kogi, Girei, *et al.* (2013) in Adamawa, Yunana *et al.* (2013) in FCT, Ogbonna, and Nwaobiala, (2014) in Gombe on effects/impact of Fadama projects on beneficiaries income and standard of living. Those studies revealed significant impact of the project on participants' income, assets and/or poverty status. In a study conducted in Ogun state by Adegbite *et al.* (2008) revealed a contrary result from the former that the Fadama project had no significant impact on participants' income, assets and poverty status. However, it is interesting to note that no such independent study of the NFDP III AF II had been done on the Livelihoods of BHIDPs in Taraba State. Also, the initial projects had not differentiate the beneficiaries into vulnerable and non-vulnerable groups in those States. Therefore, it is important for this study to assess the performance of NFDP III AF II on the livelihoods of the Trained and Non-Trained BHIDP(s) Maize and Rice crop farmers in the study area. Therefore, the general objective of this study was to assess the influence of the NFDP III AF II on the livelihood of the vulnerable group, Maize and Rice crop farmers in Taraba State, Nigeria.

**METHODOLOGY**

**The Study Area:** The study was conducted among Trained NFDP III AF II BHIDP(s) and Non-Trained NFDP III AF II BHIDP(s) in Taraba State, Nigeria with its headquarters in the town of Jalingo. It lies between latitudes $6^0 30^1$ and $9^0 36^1$ North and longitudes $9^0 10^1$ and $11^0 5^1$ East. It covers a land area of 59,400 square kilometers. The State is bounded to the North by Bauchi and Gombe States, on the North-East by Adamawa State part, Plateau and Nasarawa Sates in the North West. Benue, Nasarawa and Plateau States further bound the state to the west. While it shares an International Boundary with the Republic of Cameroon to the South and South-East (NAERLS, 2011). According to the census figure released by the National Population Commission (NPC, 2006). Taraba State has a population figure of 2,300,736 people with an annual growth rate of 2.5%. The projected population in 2016 based on the 2.5% growth rate is estimated at 2,945,137 people. The climate, soil and hydrology of the state provide conducive atmosphere for the cultivation of most staple food crops such as Maize, Guinea corn, Rice Yam, and grazing land to animals and fresh water for fishing and forestry (NAERLS, 2011).

**Sources of Data**: Data for this study were obtained from both primary and secondary sources. Primary data were obtained from respondents through the use of structured questionnaire. Secondary data were collected from government publications, library, journals, reports, seminar proceedings and internet source and individual farmers farm records. The secondary information obtained were list of registered NFDP III AF II BHIDP(s) participants from NFDP.

**Sampling Procedure:** Multi-Stage techniques were used to draw respondents for this study as shown in Table 1.Taraba State have Twenty Two (22) BHIDP camps spread across Six (6) out of the Sixteen (16) Local Governments Areas (LGAs). The first stage was the purposive selection of Ardo-Kola LGA this was because it has the highest number of BHIDP camps with Eight (8) and was used as the Pilot LGA for the programme. Second stage was the random selection of three (3) BHIDP camps (Jauro Yinu/Sobai, Mallum I and Tashan Nyamu. The third stage was considering all the participating BHIDP(s) household care givers in both Maize and Rice crop farming. The final stage involves the random sampling of 35% of the non-trained BHIDPs Maize and Rice crop farmers in the study areas.

**Table 1: Population Distributions of the Respondents**

| Trained | | | Non-Trained | | |
|---|---|---|---|---|---|
| **BHIDP Camps** | **Population** | **Sampled Population** | **BHIP Camps** | **Population** | **Sampled Population** |
| Jauro Yinu | 40 | 34 | Jauro Gana | 132 | 46 |
| Mallam I | 40 | 32 | ATC | 146 | 51 |
| Tashan Nyamu | 40 | 32 | Sunkani | 98 | 34 |
| | **120** | **98** | | **376** | **131** |

**Source: Field Survey, 2020**

**Analytical Techniques**: Information was elicited on the socioeconomic characteristics of the respondents, level of their participation of Trained NFDP III AF II BHIDP(s) groups' activities, Extent of practicing the acquired improved farm technologies by the Trained NFDP III AF II BHIDP(s), Maize and Rice Crop farmers, compare the Income obtained from the Maize and Rice crops by both Trained NFDP III AF II BHIDP(s) and Non- Trained NFDP III AF II BHIDP(s), and constraints encountered on implementing the acquired farm technologies from the 98 sampled of NFDP III AF II IDP(s) Maize and Rice farmer. Collected data were analyzed with both descriptive statistics (frequency, percentage, mean and Likert ranking scale. The inferential statistics employed Double Difference Model.

**Double Difference Model:** This has the advantage of meeting out the effects of additive factors that have fixed (Time-invariant) impact on income indicator. If the mean double difference is positive, it indicates that the project has a positive effect (increase) on the income of the participants while, if it is negative, it means the project has not increased the income of the participants (Simonya and Omolehin, 2012). The version of the model is specified as follows:

$$DD^S = \left(\frac{1}{P}\sum_{i=1}^{P}\left(Y_{1ia}-Y_{1ib}\right)\right) - \left(\frac{1}{C}\sum_{j=1}^{C}\left(Y_{oja}-Y_{ojb}\right)\right)$$

Where

$DD^S$ = Income differences between the respondents

$Y_{1ia}$ = Income obtained by Trained crop Farmers After NFDP III AF II BHIDP(s)

$Y_{1ib}$ = Income obtained by Trained Crop farmers Before NFDP III AF II BHIDP(s)

$Y_{1oja}$ = Income obtained by Non-Trained crop Farmers After NFDP III AF II BHIDP(s)

$Y_{ojb}$ = Income obtained by Non-Trained crop Farmers After NFDP III AF II BHIDP(s)

P = Number of Trained crop Farmers NFDP III AF II BHIDP(s)

C = Number of Non-Trained crop Farmers NFDP III AF II BHIDP(s)

**RESULT AND DISCUSSION**

**Socio-economic Characteristics of the Respondents**

Table 2 shows the result for socio-economic characteristics of the respondents in the study area. The Table shows that majority (73.5%) of the Trained BHIDP(s) were male, while 26.5% were female. This indicates that more male BHIDP(s) took part in the project than female. This may be because male are the household heads and are saddled with family responsibilities. For the Non-Trained crop farmers, majority (70.2%) of them were male while 29.8% were female.

**Table 2: Socio-economic Characteristics of the respondents**

| Variable | Trained Frequency | Percentage | Mean | Non-Trained Frequency | Percentage | Mean |
|---|---|---|---|---|---|---|
| Age | | | | | | |
| 26-35 | 42 | 42.9 | 41 | 59 | 45.0 | 40 |
| 36-45 | 28 | 28.6 | | 43 | 32.8 | |
| 46-55 | 15 | 15.3 | | 16 | 12.1 | |
| ≥56 | 13 | 13. | | 13 | 9.9 | |
| Sex | | | | | | |
| Male | 72 | 73.5 | | 92 | 70.2 | |
| Female | 26 | 26.5 | | 39 | 29.8 | |
| **Marital Status:** | | | | | | |
| Single | 6 | 6.1 | | 11 | 8.4 | |
| Married | 84 | 85.7 | | 94 | 71.8 | |
| Divorced/Separated | 3 | 3.1 | | 5 | 3.8 | |
| Widow/Widower | 5 | 5.1 | | 11 | 8.4 | |
| **Educational Level:** | | | | | | |
| No- Education | 39 | 39.8 | **6** | 41 | 31.3 | **8** |

| | | | | | | |
|---|---|---|---|---|---|---|
| Adult Education | 7 | 7.1 | | 12 | 9.2 | |
| Primary | 12 | 12.2 | | 8 | 6.1 | |
| Secondary | 29 | 29.6 | | 45 | 34.4 | |

**Table 2: Socio-economic Characteristics of the respondents……Continue**

| | | | | | | |
|---|---|---|---|---|---|---|
| Tertiary | 11 | 11.2 | | 25 | 19.0 | |
| **Access to Farm Input:** | | | | | | |
| Yes | 98 | 100 | | 11 | 12.5 | |
| No | 0 | 0.0 | | 121 | 87.5 | |
| **Family Size:** | | | | | | |
| 1-4 | 34 | 34.7 | **6** | 54 | 41.2 | 6 |
| 5-8 | 48 | 49.0 | | 60 | 45.8 | |
| ≥9 | 16 | 16.3 | | 17 | 13.0 | |
| **Farm Size:** | | | | | | |
| 0.1-0.5 | 28 | 28.6 | **0.9** | 31 | 23.7 | 1.0 |
| 0.6-1.0 | 55 | 56.1 | | 76 | 58.1 | |
| ≥1.1 | 15 | 15.3 | | 24 | 18.2 | |
| **Income of the farmer:** | | | | | | |
| ₦30,000-80,000 | 0 | 0.0 | **₦189,489** | 33 | 25.2 | **₦90,181** |
| ₦81,000-131,000 | 10 | 10.2 | | 52 | 39.7 | |
| ₦132,000-182,000 | 31 | 31.6 | | 37 | 28.2 | |
| ₦183,000-233,000 | 51 | 52.1 | | 6 | 4.8 | |
| ≥₦234,000 | 3 | 7.1 | | 3 | 2.3 | |

**Source: Field Survey, 2020**

Evidence in Table 2 indicated that majority (85.7%) of the Trained NFDP III AF II BHIDP(s) and 71.8% of the Non- Trained NFDP III AF II BHIDP(s) were married implied that there were more married farmers who were enrolled into the NFDP III AF II than the Non- Trained NFDP III AF II BHIDP(s) in study area. About 6.1% of the Trained and 8.4% Non-Trained BHIDP(s) were single. Widows/widowers had the lowest class 3.1% Trained and 3.8% Non-Trained BHIDP(s) Maize and Rice crop farmers. From the findings of the study it was observed that majority of respondents were married people that have partners and children who could encourage them to participate in the program for increases in yield as a means of their livelihood improvement that would translate into more purchasing power. The result on the participant's marital status tallies with the findings of Atiku, (2015) who found that majority (97%) of the participating farmers and 86% of the non-participating farmers were married. From the result of the analysis on age of the respondents shows that most (42.9%) of the Trained and 45% of the Non- Trained were within an active age category of 26-35 years of age this was followed by 28.6% Trained BHIDP(s) and 32.8% Non- Trained BHIDP(s) within age class of 36-45 years. This implied that they are active, energetic and vibrant farmers in harnessing their farm operations.

The study further reported that greater portion (39.8%) of the of the Trained respondents and lesser percentage (31.3%) of the Non-Trained BHIDP(s) Maize and Rice farmers had no form of education while 7.1% Trained and 9.2% Non-Trained BHIDP(s) crop farmers had adult education. For formal education, lesser percentage (53.1%) of Trained BHIDP(s) Maize and Rice compared to 59.5% of the Non-Trained had a form of formal education or the other. Findings in Table 2 revealed that most (49.0%) of the Trained and (45.8%) of the Non-Trained BHIDP(s) crop farmers were within household sizes of 5-8 persons. However, mean household size of both groups (Trained and Non-Trained NFDP III AF II BHIDP(s) Maize and Rice farmers was 6.1 and 5.7 members respectively. This implies that the larger household size of the participants has advantages on labour supply for farm operations paying no or lesser on labour wages.

Furthermore, Table 2 indicated that 56.1% of the Trained and 58.1% Non-Trained NFDP III AF II BHIDP(s) Crop farmers operates farm size of 0.6-1.0ha with mean farmland size of 0.9ha and 1.0ha for the trained and Non-Trained respectively. The Trained respondents has lesser farmland size to the Non-

Trained in crop husbandry despite both categories operates on a farmland acquired through hiring. Those tilling above a hectare constituted the lowest class of 15.3% participants and 18.2 non-participants. This implies that most of the respondents in the study area were small holder farmers who accessed marginal parcels of land.

The result in Table 2 had also revealed that majority (52.1%) of Trained BHIDP(s) crop farmers had annual income ranging from ₦ 183000-233000. In the case of the Non-Trained BHIDP(s) crop famers most (39.7%) of them had income per annum between ₦81000-131000. Their mean annual income are ₦189489.2  Trained and for Non-Trained IDP(s) Crop famers ₦ 90180.85 from Maize and Rice.This finding revealed that Trained BHIDP(s) crop farmers had higher income per annum compared to the Non-Trained IDP(s) from both Maize and Rice enterprise. This implies that NFDP III AF II participation had greatly enhanced their income as compared to the Non-Trained BHIDP(s) Crop farmers in the study area.

Among the Trained NFDP III AF II IDP(s) crop farmers had contact with extension agents in 2017-2018 in form of follow-up to their program and also for the Non-Trained Maize and Rice farmers about 87.5% indicated that they had no contact with extension agents. This indicated that extension contact in the study area is very low and should be improved upon, to enable farmers get the necessary information required to enhance agricultural production.

**Level of participation of the Trained BHIDP(s) in NFDP III AF II Group Activities**

Table presents result for the level of participation of the Trained BHIDP(s) in NFDP III AF II in their various group activities with varied degrees of participation. The table reveals that highest level of participation was registered in selecting an enterprise with weighted mean scores of 3.00 from the Trained NFDP III AF II BHIDP's Maize and Rice farmers. This implies that the Trained BHIDP(s) crop farmers were freely allowed to make a choice of their enterprise between the two available options (Rice and Maize). That is to say they were allowed to identify their felt need base on their scale of preference between the two available options. This was followed by their participation in election of group/association executives (2.95) that is for the success of the program, trustworthy persons are needed to be held accountable for the fund and farm input disbursed. Attendance in group meetings took the third stage with weighted mean scores of (2.86). This is for effective acquisition of farming skills, economic and social benefits. Also, the study revealed that there are high levels of the participants in Decision Making and Financial involvement with weighted mean scores of 2.40and 2.02 respectively.

That is the members were highly involved in taking some major decisions as to what is to be done, how better to combine the available resources. There is a moderate levels of participation of the Trained NFDP III AF II BHIDP(s) in terms of Enlightenment to fellow members having a weighted mean score of 1.91. Furthermore, moderate level of participation was recorded in maintenance of local Market with a weighted mean scores of 1.74 because enacting the structure was a committee work where few individuals performs the professional skill building and maintenance of the

**Table 3: Participants levels of Participation in NFDP III AF II group activities**

| Activities | Levels of Participants Participation | | | | |
| | Highly | Moderately | Low | Mean | Ranking |
| --- | --- | --- | --- | --- | --- |
| Selecting an Enterprise | 98(3.00) | 0(0.00) | 0(0.00) | 3.00 | 1st |
| Attending Training Session | 91(2.79) | 3(0.06) | 4(0.04) | 2.89 | 2nd |
| Election of Cooperative leaders | 74(2.27) | 13(0.27) | 11(0.11 | 2.65 | 3rd |
| Attending Group Meetings | 75(2.29) | 12(0.24) | 11(0.11) | 2.64 | 4th |
| Decision Making | 62(1.90) | 13(0.27) | 23(0.23) | 2.40 | 5th |
| Financial involvement | 31(0.95) | 37(0.76) | 30(0.31) | 2.02 | 6th |
| Enlightenments to fellow members | 29(0.89) | 32(0.65) | 37(0.37) | 1.91 | 7th |
| Construction and Maintenance of local Market | 36(1.10) | 7(0.14) | 55(0.56) | 1.74 | 8th |

Source: Field Survey, 2020

**Extent of practicing the acquired improved faming Technologies by Trained BHIDP(s) respondents**

Table 4 shows the extent of use of the acquired improved farm technologies among the Trained Maize and Rice BHIDP(s) crop farmers in the study area. The Table revealed varied degrees of practising the acquired farm technologies leaned by the crop farmers. Fertilizer rate and time of application had the highest extent of being practiced with weighted mean of 2.92 implying high. This became vivid through change in colour from green to deeper green and change in the plant stem and growth. This finding is in line with the findings of Elizabeth *et al*. (2004) intheir study Assessment of Rural Sector Enhancement Program (RUSEP) in Nigeria which revealed that among the participating RUSEP farmers, they observed there is a higher extent of use of fertilizer application in Maize production. Seed Dressing has the second extent of use by the Trained NFDP III AF II BHIDP(s) with weighted mean scores of 2.85, implying high. The Trained respondents dressed their so as to increase on their seed viability by reducing attacks posted by micro-fauna such as centipedes and millipedes. Adekoya and Tologbonse (2005) to categorize adopters into the innovators, early adopters, early majority, late majority and the laggards/late adopters. The variation in the rate at which the NFDP III AF II BHIDP(s) Participating crop farmers adopted the different technologies is also attributed to the compatibility, relative advantage and complexity of the different technologies to their existing production system. The reason for the continuously applying the technology was that it had aided in reducing farm fatigue and speeded up weeding process. The table also revealed that there was high level of practising Post Harvest Operation having weighted mean scores of 2.66. This was in order to retain the quality of the farm produce as well attracting better market value.

**Table 4: The distributions of the extent of use of the acquired improved Technologies by participant (n=98)**

| Technologies | Highly | Moderately | Low | Mean | Rank |
|---|---|---|---|---|---|
| Fertiliser application Rate and Time | 90(2.76) | 8(0.16) | 0(0.00) | 2.92 | 1st |
| Seed Dressing | 87(2.66) | 8(0.16) | 3(0.03) | 2.85 | 2nd |
| Herbicide rate and time of application | 82(2.51) | 15(0.30) | 1(0.01) | 2.82 | 3rd |
| Post-Harvest Operation | 72(2.20) | 19(0.39) | 7(0.07) | 2.66 | 4th |
| Plant spacing and Time of planting | 61(1.87) | 37(0.76) | 0(0.00) | 2.63 | 5th |
| Seeds Rate/Ha | 64(1.96) | 12(0.24) | 22(0.22) | 2.42 | 6th |
| Formation of cooperatives | 17(0.52 | 69(1.40) | 12(0.12) | 2.04 | 7th |
| Insecticides/Pesticides rate and timing | 31(0.95) | 26(0.53) | 41(0.42) | 1.90 | 8th |
| Value Addition | 31(0.95) | 26(0.53) | 41(0.42) | 1.88 | 9th |
| Record Keeping | 24(0.73) | 33(0.67) | 41(0.41) | 1.80 | 10th |

**Source: Field Study, 2020**

It further revealed that Plant spacing and Time of planting and Seeds Rate/Ha had weighted mean scores of 2.63 and 2.42 respectively. Also, Formation of cooperatives took the seventh position with high extent of practices having weighted mean scores of 2.04. This was maintained to higher extent because they know the benefits in being a member of a group especially technical services and an opportunity to meet member awareness. In agreement with the finding are Etwire *et al.* (2013) who reported that majority (67.2%) the participants were members of Farmers Based Organisation. Variation in degrees of practicing the acquired farm technologies.

**Effects of NFDP III AF II on Respondents Income**

The result of the Double Difference analysis is presented on Table 5 below. The result indicates an average income earned by the respondents from Rice and Maize crops before and after NFDP III AF II and the differences within and between the respondents. The average income earned by the Trained BHIDP(s) Rice producers shows that prior to the expansion of Project Development Objectives (PDO) of the NFDP III AF II to include BHIDP(s), the Trained BHIDP(s) had an average annual income of about ₦

93, 282.61. After acquiring the technologies their average annual income increased to about ₦206,184.78. For the Non-Trained BHIDP(s) their average annual income had increased from ₦ 80,191.80 Before NFDP III AF II to ₦99,691.18 after the programme in the study area. The result also indicated that both respondents had increases in their average annual income from Rice production. The Trained BHIDP(s) (121.0%) greater than the 24.3% of the Non-Trained BHIDP(s).

The Table also shows the double difference result which revealed a positive changes in income of about ₦112,902.17. The implication of this finding is that there is positive relationship between application of the acquired improved farm technologies and income earning of the trained BHIDP(s) Rice farmers. Also this result presents clear return on investment of the programme to the financing agency.

**Table 5: Average Household Income from Rice Before and After NFDP III AF II**

|  | Before NFDP III AF II(₦) | After NFDP III AF II(₦) | Difference | Percentage Difference(%) | Double Difference(₦) | T-Value |
|---|---|---|---|---|---|---|
| Trained | 93,282.61 | 206,184.78 | 112,902.17 | 121.0 | 93,402.17 | 6.5*** |
| Non-Trained | 80,191.8 | 99,691.18 | 19,500.00 | 24.3 |  |  |

**Source: Field Study, 2020**
**Note *** Significant at 1%**

Table 6 presents the result of Double Difference for Maize among the respondents. From the result of the analysis, trained BHIDP(s) Maize farmers had experienced increases in an annual income earned from Maize farming from ₦94,196.08 before the introduction of the programme to ₦203,950.98 after attending the training session and utilising the acquired technologies. For the Non-Trained BHIDP(s), before the commencement of the project Non-Trained BHIDP(s) had an average annual income of about N77,747.27 from Maize farming. Both the Trained and Non-Trained maize farmers had recorded increases in their income with the earlier recording 116.5% and the later about47.0%. The Trained BHIDP(s) recorded greater positive changes. The Double Difference result indicated a positive average income of about ₦73,213.08 implying that there is a positive effect of the project on the Trained BHIDP(s) crop farmers. The difference in income with respect to the Trained BHIDP(s) Maize crop farmers of the improved farm technologies was significant at 1% level of probability.

**Table 6: Average Household Income from Maize Before and After NFDP III AF II**

|  | Before NFDPIII AFII(₦) | After NFDPIII AFII(₦) | Difference | Percentage Difference(%) | Double Difference(₦) | T-Value |
|---|---|---|---|---|---|---|
| Trained | 94, 196.08 | 203,950.98 | 109,754.90 | 116.5 | 73,213.08 | 3.4*** |
| Non-Trained | 77,747.27 | 114,289.09 | 36,541.82 | 47.0 |  |  |

**Source: Field Study, 2020. Note *** Significant at 1% Difference**

Generally, increases in the Non-Trained BHIDP(s) average annual income could be ascribed to the spill over effects where farmers interact with one another be it through group or individual contact. The findings in Table 5 and 6 conforms the findings of Simonyan and Omolehin (2012) in their study on the impact of FADAMA II on beneficiaries' income in Kaduna State, they reported that beneficiaries were better off than their non-beneficiaries counter participants in terms of income and productivity.

**Effect of NFDP III AF II on Type and Number of Assets owned by the Respondents**
Table 7 shows the result for the number and types of assets owned by the respondents. The number and type of assets owned by household shows a lot about living conditions of the farming household. A household with more and better assets could better adopt an innovations and vice versa. Comparison was made between the Trained BHIDP(s) and Non-Trained BHIDP(s).Table 7 presents the number and types

of assets owned by the respondents. The result showed that there have been an increase in the number of assets owned by the respondents. However, the percentage increase in assets ownership of the Trained BHIDP(s) were much higher than that of Non-Trained BHIDP(s) Maize and Rice farmers.

The result shows that highest (750%) changes was recorded Work Bull. Higher changes was registered in Goat/Sheep (645.5%), Mobile Phone (315.8%), Cars (300.0%), Purchase of Plot (172.3%), House (157.1%) Bicycle (127.7%). Also positive changes were recorded inters of Keke NAPEP (125.0%), Motorcycle (123.5%) and the least was purchase of farm land (120.0%). These increases could be attributed to the importance of these assets. Work Bull and Sheep/Goat serves as a labour in ploughing, transportation of farm produce back home during harvesting period and produces organic manure for soil fertility. Mobile Phone was useful in dissemination of farm technologies.

**Table 7: Distributions of assets owned by the respondents Before and After NFDP III AF II**

| Assets | Trained NFDP III AF II (n=98) | | | | Non-Trained NFDP III AF II (n=131) | | | |
|---|---|---|---|---|---|---|---|---|
| | Before | After | Difference | %Difference | Before | After | Difference | %Difference |
| Work Bull | 2 | 17 | 15 | 750.9 | 8 | 12 | 4 | 50.0 |
| Goat/Sheep | 11 | 82 | 71 | 645.5 | 7 | 22 | 15 | 214.3 |
| Bicycle | 18 | 41 | 23 | 127.7 | 21 | 24 | 3 | 14.3 |
| Motor cycle | 17 | 38 | 21 | 123.5 | 19 | 28 | 9 | 47.4 |
| Keke NAPEP | 4 | 9 | 5 | 125.0 | 5 | 3 | -2 | -40 |
| House | 7 | 18 | 11 | 157.1 | 8 | 19 | 11 | 137.5 |
| Purchase of Farm Land | 10 | 22 | 12 | 120 | 6 | 11 | 5 | 83.3 |
| Car | 0 | 3 | 3 | 300.0 | 1 | 2 | 1 | 100.0 |
| Mobile Phone | 19 | 79 | 60 | 315.8 | 12 | 36 | 24 | 200.0 |
| Purchase of Plots | 11 | 30 | 19 | 172.3 | 16 | 23 | 7 | 43.8 |

**Source: Field Study, 2020**

Bicycles, Cars, Keke NAPEP, cold be used for transportation of farm inputs to farm and market. Also the Keke NAPEP, Motorcycles and Cars could be for additional sources of income for better livelihood. In the case of Non-Trained BHIDP(s)Maize and Rice crop farmers, there have been an increase in the number of their assets it is lower as compared to the Trained BHIDP(s) farmers. The number of some of their assets have even decreased Keke NAPEP (-40.0%).

**Constraints hindering effective implementation of the acquired improved farm technologies by BHIDP(s) participants of NFDP III AF II**

Table 8 shows constraints hindering effective implementation of the acquired improved farm technologies by IDP(s) participants of NFDP III AF II. of the 98 respondents, 89 representing (90.8%) of the programme participating crop farmers identified land tenure as their major constraining factor because they are BHIDP(s) residing in a strange land where they have to pay for land before accessing the land which is contrary to the dependence of rural farmers on lands inherited. **Table 8: Constraints faced by the NFDP III AF II participants in using the acquired Improved agricultural technologies (n=98)**

| Constraints | Frequency | Percentage | Rank |
|---|---|---|---|
| Land tenure | 89 | 90.8 | 1st |
| Late arrival of the farm inputs | 82 | 83.7 | 2nd |
| Inadequate supply of the farm input | 76 | 77.6 | 3rd |
| No enough credit to procure additional inputs | 70 | 71.4 | 4th |

| | | | |
|---|---|---|---|
| High cost of farm labour | 67 | 68.4 | 5th |
| In adequate seed | 61 | 62.2 | 6th |
| Drought | 55 | 56.1 | 7th |

**Source: Field Survey, 2020**

Also, acquiring land mostly attracts extra cost of production. This result is in line with that of Akangbe *et al*. (2012) who reported that one of the major constraints to the trained farmers was insufficient land.

This was followed by late distribution starter packs (farm input) (83.7%) to allow use for the very season. The farm inputs supplied wasn't sufficient with 77.6%as against land specified for the adoption of the improved farm technologies. Other constraints identified by the benefiting IDP(s) are; there is no sufficient cash to procure additional farm inputs (71.4%), high cost of farm labour (68.4) inadequate seed supply and low viability rate (62.2%). Drought (56.1%) as a natural phenomenon became the least because during rain fed farming nature takes control as against dry season farming where a farmer determines water supply to his farm.

**Conclusion**

From the result of the study, it can be concluded that as a result of high rate of use of the improved farm technologies acquired by the trained NFDP III AF II IDP(s) Maize and Rice farmers had increases in their yield which puts to increases in their annual income. Both categories had recorded increases in their income but greater is among the trained IDP(s). The result indicated that trained IDP(s) income obtained increased by 93,402.17 at the end (after the training) of the NFDP III AFII among the IDP(s) from Rice. For Maize farming there is a double difference of obtained after the skills have been put into practice. This indicates that improved farm technologies acquired has positive effect on trained NFDP III AF II IDP(s) in both Maize and Rice crop enterprises.

**Recommendations**

Based on the findings of this study, the following recommendations were made:
1. Government should establish land to cater for the IDP(s) or cash to acquire land
2. There is a need for government to enact a law prohibiting discrimination of the IDP(s) by the host communities.
3. Cash should be made available so that trained IDP(s) can use them to procure additional farm input and pay for land to practice the acquired improved farm technologies
4. Programme follow-up should be carried out so to keep reawaking the fallen knowledge
5. Supply of farm inputs should be earlier before the commencement of farming activities.

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