IMPACT ASSESSMENT OF IFAD-COMMUNITY BASED AGRICULTURE AND RURAL DEVELOPMENT PROJECT ON THE LIVELIHOOD OF SMALLHOLDER CROP FARMERS IN KATSINA STATE, NIGERIA

J. A. Abdullahi [1], H. S. Kura[1], A. H. Abdullahi[2] and A. Lawal[2]

[1]*Department of Agricultural Extension and Economics, National Agricultural Extension and Research Liaison Services, Ahmadu Bello University, Zaria, Nigeria*

[2] *Department of Vocational and Technical Education, Ahmadu Bello University, Zaria*

Corresponding Author: alhjamilu30@gmail.com Phone No. 08028448193

ABSTRACT

The paper assessed the impact of IFAD-Community Based Agricultural and Rural Development Project on the livelihood of smallholder crop farmers in Katsina State. A multistage sampling technique was used to select 347 participating farmers from the twelve participating communities in the study area. Also, three hundred and fourty-seven (347) non-participating farmers were selected using systematic random sampling from the neighbouring communities to serve as control group, this gave a total of 694 respondents. Also, 3 IFAD-CBARDP officials from each LGA were randomly selected as respondents. Data were analyzed using descriptive, chow test and Z-test statistics. On the impact of the programme activities on yield, income and level of living, F-Chow analysis revealed that for yield, F-calculated (21.66) was greater than F-table (9.89), for income, the F-calculated (13.62) was greater than F-table (9.89) and for level of living, the F-calculated (140.09) was also greater than F-table (9.89) which implied that the project had impact on the yield, income and level of living of the participating farmers. The finding also shows that all (100%) of the respondents indicated low counterpart funding from the State and LGAs as the major problem that constrained the implementation of the project. Based on the findings of this study, it was recommended that government and non-governmental organizations dealing with extension should embark more on the facilitation techniques of extension delivery used by the IFAD-CBARDP in the project areas. This would enable farmers to identify their problems, determine their needs and discover their potentials themselves rather than always feeding their clients with information. Funding of extension activities should be centrally coordinated, with contributions made by all the three tiers of government. Farmers are also advised to form themselves into viable and functional cooperatives for easy access to credit facilities, agricultural inputs and markets for their agricultural produce.

Keywords: Impact, IFAD-CBARDP, Livelihood, Smallholder Farmers

INTRODUCTION

About two-thirds of the developing world's 3 billion rural people live in about 475 million small farm households, working on land plots smaller than 2 hectares. Many are poor and food insecure and have limited access to markets and services. Their choices are constrained, but they farm their land and produce food for a substantial proportion of the world's population (George 2015). Andrea (2014) reported that approximately 1.5 billion people are engaged in smallholder agriculture across the world. They include 75% of the world's poorest people, whose food, income and livelihood prospects depend on agriculture. Similarly, Jonathan (2002) reported that majority of the world's extremely poor people live in rural areas and have livelihoods which are bound closely to smallholder agriculture as farmers, laborers, transporters, marketers and processors of produce and as suppliers of non-agricultural services to households whose income is

principally agriculture-derived. In Nigeria, agricultural production which is the major livelihood activity for the rural dwellers is still largely practiced at subsistence level, due to the fact that most of the farmers are smallholder farmers who use unimproved inputs and traditional production tools that are capable of generating only very small income. Atala *et al. (*2012) noted that peasantry is the dominant mode of agricultural production and livelihood in Nigeria with over 70 percent of the population engaged in agricultural activities as a career and largely feeding the nation. He stressed that extension can be a powerful instrument for transformation of the country`s agricultural industry and eradication of extreme poverty and hunger in the rural areas. Poverty reduction in Nigeria will not be possible without rapid agricultural growth. Over the years, rural development in Nigeria has been closely associated with agriculture. This is not surprising as agriculture is the most important sector in the whole development process. Agriculture still remains the mainstay of the economy of most African states of which Nigeria is among.

In an attempt to improve the quality of life of the people living in the rural areas and to reduce their level of poverty, the Nigerian government has put in place several agricultural development programmes such as the Agricultural Development Project (ADP) River Basin and Rural Development Authorities (RBRDA) Extension Programmes and the establishment of Research Institutes. In relation to this, Ijere (1992) asserted that the Nigerian government had made effort in transforming the rural areas through various policies programmes. Most of the efforts failed due to "top-down non participatory approach in which development programmes are structured regardless of people's opinions or their felt needs" Ijere (1992). Babatunde (2006) reported that the concern over increasing poverty levels especially in the developing countries such as Nigeria and the need for its alleviation as a means of improving the standard of living of the people has led to the conceptualization and implementation of various targeted poverty alleviation programmes worldwide. An example of this is the International Fund for Agricultural Development - Community Based Agriculture and Rural Development programme (IFAD- CBARDP).

The International Fund for Agricultural Development (IFAD) support to the Nigerian Government's poverty reduction programme in rural areas targets large numbers of smallholder farmers and is essentially people-cantered. IFAD supports programmes and projects that work with communities, with smallholder farmers as the key players. The organization also promotes commodity-based interventions that provide technical and financial support along several value chains – such as livestock products, rice and other cereals, roots and tubers, vegetables and agro forestry products (IFAD, 2013).

The objectives are to empower poor rural people, especially women, by increasing their access to resources, infrastructure and services; and to promote the management of land, water and common property by local communities, helping to overcome environmental degradation. IFAD-supported programmes and projects address issues such as erosion and the loss of soil fertility, as well as coastal zone natural resource management.

IFAD directs assistance towards:

- Empowering small-scale farmers, landless people and rural women to generate sustainable incomes from farming and other activities
- Supporting pro-poor reforms and local governance to expand access to information, effective transport systems, village infrastructure and technology
- Improving access by poor rural communities to financial and social services.

At the government level, IFAD helps build capacity and strengthen institutions that provide services to poor rural people. It assists with

necessary policy changes, developing local organizations to enhance their effective participation, and it promotes initiatives to foster rapid poverty reduction and economic growth led by the private sector (IFAD, 2013).

The programme was launched on 31st January 2003 with a completion date of 31st march 2013 in eight states of northern Nigerian where poverty is widespread namely; Jigawa, Kano, Katsina, Kebbi, Sokoto and Zamfara in the north-west, and Borno and Yobe in the north-east (Bukar, 2005). It builds on the project previous experience with implementing community-based projects in the northern states of Sokoto and Katsina, and its objective is to help the most vulnerable groups improve their incomes and living conditions.
The major objectives include-

i. the improvement of the livelihoods and living conditions of the rural poor with emphasis on women and other vulnerable groups;

ii. empowerment of poor rural communities to enable them identify their needs, implement a broad range of agricultural and rural development (ARD) initiatives, and

iii. Institutionalize and internalize community-driven development (CDD) into government policies and procedures.

The programme targets a large section of the rural population, especially women, landless people, nomadic pastoralists and small-scale farmers, and those with only marginal lands. It was designed to empower these groups to participate in development activities. Specifically, the programme works to:

- Promote awareness and build the capacity of public and private-sector service providers to respond to the needs of poor rural women and men
- Empower poor communities to manage their own development and support vulnerable groups
- Improve agricultural practices, resolve conflicts between farmers and pastoralists, and intensify crop and livestock production
- Develop or upgrade safe water supplies, environmental sanitation, irrigation, and health and education facilities.

With about 70% of the country's food produced by smallholder farmers cultivating plots of land of less than 1.5 hectares, the agricultural sector accounts for 33% of the country's GDP (IFAD, 2011). Despite this, poverty is still a major problem in the country particularly in the rural areas where social services and infrastructure are limited. Farmers are highly dependent on rain-fed farming, with only 7% of land under irrigation (IFAD, 2011). Awolabi (2004) noted that despite the attack on persistent poverty in Nigeria and the progress during the past decade, the battle is far from being won, and progress has been slower than had been hoped at the beginning of the 2000s. Of course, the fight against poverty has not yet yielded any appreciable result considering the pervasive dimensions of mass poverty and its consequences in the country. Also, despite the existence of the IFAD Community Based Agriculture and Rural Development Project in Katsina State for over ten years, it is not clear whether the contribution of this project has made any remarkable impact on the livelihood of the participating farmers in the study area. It is on this basis that this study aimed at assessing the impact of IFAD- Community Based Agricultural and Rural Development Project on the livelihood of smallholder crop farmers in Katsina State Nigeria.

Objective of the study

The broad objective of the study was to assess the impact of the IFAD- Community Based Agricultural and Rural Development Programme activities on the Livelihood of Smallholder crop farmers in the study area. The specific objectives were to:

i. determine the impacts of the programme activities on the yield,

income and level of living of participating farmers;

ii. identify the major constraints to the effective implementation of the programme in the study area.

Hypothesis

The null hypothesis tested in this study was:

Ho_1: IFAD-CBARDP has no significant impact on the yield, income and level of living of the participating farmers in the study area.

Methodology

This study was conducted in Katsina State, one of the 36 States in Nigeria. The State lies between latitude 11^0 7' and 13^0 22' North and longitude $6^0$52' and $9^0$2'East of the Equator. The National population census of 2006 put Katsina State at 5,792,579 people. At 3.2% growth rate projection, by 2020, Katsina State's population was expected to have increased to about 9,003,009 people (NPC, 2006). Multistage sampling technique was employed to get the respondents. The first stage involved a purposive selection of the twelve participating LGAs; the second stage involved purposive sampling to select one community that had the highest participating farmers out of the three communities in each Local Government Area. The third stage involved the use of systematic random sampling technique to select twelve per cent (12%) of the population from the list of the participating farmers obtained from the extension agent of each of the selected communities. This gave a total of three hundred and forty-seven (347) participating farmers from the twelve participating communities. Also three hundred and forty-seven (347) non-participating farmers were selected from neighboring communities using systematic random sampling. In all, a total of six hundred and ninety-four (694) respondents were used for the study. In addition, 3 IFAD-CBARDP officials from each LGA were randomly selected as respondents. Chow test statistics supported by Z-test were used to examine the impact of the project on the yield, income and level of living of the participating farmers. According to Dougherty (2002), Chow test statistics is often used in programme evaluation to determine whether the programme has impact on the participating and the non–participating farmers. Also, in programme evaluation, the chow test is often used to determine whether the independent variables have different impacts on different sub-groups of the population. The chow test is an application of the F-distribution test; it requires the sum of squared errors from each of the sample group and from the pooled data. If F-chow is greater than F-table, then there was project impact on beneficiaries otherwise no impact. This was used to test the hypotheses on project impact on crop yield, income and level of living of the participants.

$$F^*chow = \frac{(Rss_3 - (Rss_1 + Rss_2)/k}{\frac{Rss_1 + Rss_2}{n_1 + n_2 - 2k}} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

Where:

F* is the test statistic

RSS_3 = residual sum of squares for the third regression (pooled data)

RSS_1 = residual sum of squares for the 1st regression (participants)

RSS_2 = residual sum of squares for the 2nd regression (non-participants)

K = t he total number of regression estimate (including the intercept term) for the sub -sample regression

2K = the total number of regression estimate (for the pooled data)

n_1n_2 = number of observations of the 1 st and 2nd regressions (participating and non -participating farmers respectively).

To further achieve objective 1, Z – test statistics was used to assess the impact of the project on income of the participating farmers in the study area. The model was used to compare the mean values of the income of the participating and non-participating farmers. The comparison provided a statistic for evaluating whether the difference between two mean is statistically significant or not, using the "with and without" concept and at the same time tested the hypothesis that the Project has no significant impact on the yield, income and level of living of the participating and the non-participating farmers. This was represented by the formula:

$$Z = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{s2_1 + s2_2}{n_1 + n_2}}} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (2)$$

Where: Z = z value

$\bar{x}_1$ = the sample mean of the income of the participating farmers in the communities.

$\bar{x}_2$= the sample mean of the income of the non-participating farmers in the communities.

s_1^2 = sample standard deviation for the participating farmer's income in the communities.

s_2^2 = sample standard deviation for the non- participating farmer's income in the communities.

n_1= sample size of participating farmers in the communities.

n_2 = sample size of non-participating farmers in the communities.

Table 1: Sampling design

LGAs	PARTICIPANTS			NON-PARTICIPANTS		
	Purposively selected Participating Communities	**Population size of Participating Farmers in the Communities**	**Randomly selected Participating farmers (12%)**	**Purposively Selected non-Participating Communities**	**Population size of non-Participating Farmers in the Communities**	**Randomly drawn Corresponding sample for the Non-Participating farmers**
Danja	Kahutu	492	59	Dabai	552	59
Kurfi	Rawayau	280	33	Gwanzo	378	33
Musawa	Tsabe	220	26	Jikamshi	380	26
Bakori	Jargaba	180	22	Makera	447	22
Baure	Hurtumi	135	16	Kawari	219	16
Bindawa	Yangora	171	21	Doro	320	21
Dutsi	Karawa	172	21	Danaunai	264	21
Jibia	Daga	125	15	Bugaje	218	15

Kaita	Baawa	415	49	Yandaki	643	49
Batsari	Yauyau	293	35	Madaddabi	432	35
Dutsinma	Yanshantuna	165	20	Karofi	241	20
Kusada	Kofa	246	30	Dan gamau	534	30
Total		**2894**	**347**		**4628**	**347**

Source: Reconnaissance Survey 2013

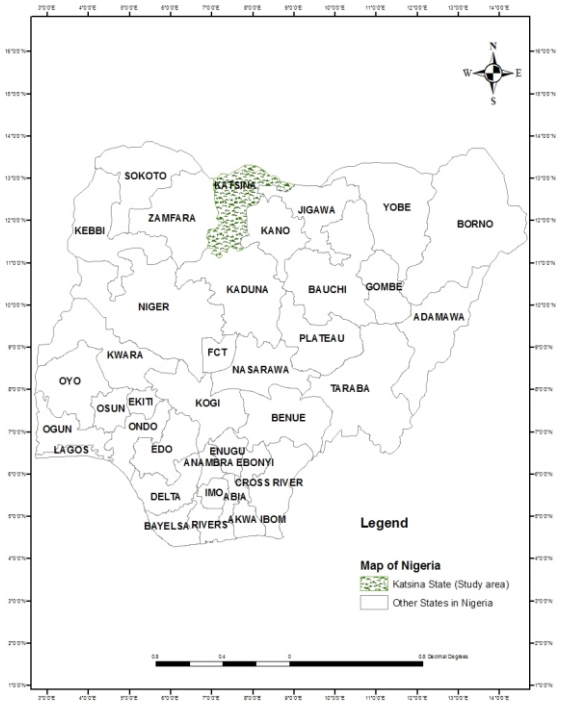

Figure 1: Map of Nigeria showing the the study area (Katsina State).

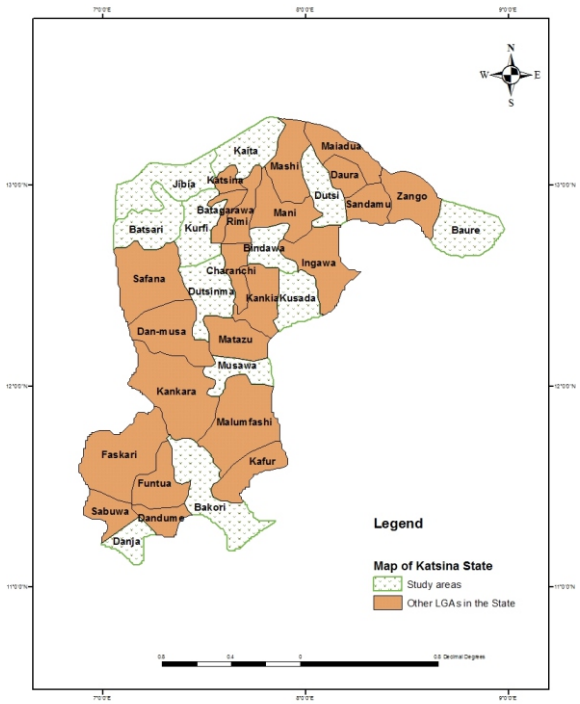

Figure 2: Map of Katsina State showing study areas [LGAs]

Results and Discussion

Impact on yield of participating farmers

The study revealed that the total farm area under cultivation in the study area by the participating farmers was 1,093 hectares and the non-participating farmers cultivated 533 hectares. Further analyses using the Chow-test to determine the impact of IFAD-CBARDP recommended practices on yield is as shown in Table 2.

Analyses show that F-chow is greater than the F-table; as such, the IFAD-CBARDP recommended practices had impact on the participating farmers in terms of their yield. This finding is in agreement with the report of the international Food Policy Research Institute (IFRRI, 2001) which shows that there was an increase availability of an access to food in rural areas of Bangladesh as a result of the intervention in the area. It also affirms the findings of Jacob *et al.* (2009) who found that enhanced capacity building resulting from training and group formation did strengthen the managerial capacities of producers. The result also corroborated the findings of Jacob *et al.*

(2009) in a study conducted on the impact of rural development projects on agricultural productivity, which stated that the projects had positive impact on productivity.

It was hypothesized that the IFAD-CBARDP has no significant impact on the yield of participating farmers in the study area. Therefore, using a degree of freedom (P=0.01), the result of the chow-test in Table 2 shows that F-calculated (21.66) is greater than the F-table (9.89); hence the null hypothesis is hereby rejected. It is concluded therefore, that there is significant difference between the yield of participating farmers and the non-participating farmers in the study area with a yield differential of 86.44%. This was attributed to the high-level of adoption of recommended practices by the participating farmers. The finding implied that the IFAD-CBARDP activities in the study area had increased the yield of the participants.

Table 2: Impact on yield of IFAD-CBARDP participating farmers

Group/Model	Regression	Residual	n_1+n_2	K	F- cal	F-table
Pooled	852091.81	2161546542.00	694	3	21.66	9.89
Participants	2703208.98	1868517967.00				
Non- Participants	380955.85	234366351.80				

Impact on income of participating farmers

The study found that the average income for the participating farmers was N 368,430.88 while that for the non-participating farmers was N 340,874.66 Further analyses using the chow test to determine the impact of IFAD-CBARDP recommended practices/activities on income of the participating farmers is as shown in Table 3. Analyses show that F-chow is greater than the F-table. This indicated that IFAD-CBARDP practices had impact on participant's income. This finding agrees with the findings of the international livestock research institute (ILRI, 2010) which reported that agricultural development project that seek to increase the asset holding of the poor not only contribute to sustainable poverty reduction, but also help to promote socially desirable and empowering behavior. Also, the null hypothesis tested in this research states that, there is no significant difference between the income of the IFAD-CBARDP participants and the non-participants. The decision rule state that if F-calculated (13.62) is greater than the F-table (9.89) then there was project impacts on the beneficiaries otherwise no impact. As such, the null hypothesis is hereby rejected. It is therefore concluded that there is a significant difference between the income of the IFAD-CBARDP participants and non-participants.

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Table 3: Impact on income of IFAD-CBARDP participating farmers

up/Model	Regression	Residual	n_1+n_2	K	F- cal	F-table
Pooled	235546.93	1558208158.00	694	3	13.62	9.89
Participants	489101.14	872065497.00				
Non- Participants	433803.32	626788232.80				

Impact on level of living of participating farmers

Findings in Table 4 revealed that both the participating and the non-participating farmers used the proceeds from the sale of their crop yield and money generated from non-farm activities to improve their level of living. The mean money spent by the participating farmers to improve their level of living was N 368,430.88 while the non-participating farmers used N 340,874.66 as the mean money to improve their level of living. The difference in the mean average between the participants and the non-participants revealed large margin of N 27,556.22. Further analysis using Chow-test to determine the impact of the IFAD-CBARDP practices on the level of living as regards to the properties acquired by the participants is shown in Table 4.

Analysis showed that F-chow calculated is greater than the F-table; this clearly indicated that the IFAD-CBARDP activities in the study area have greatly impacted on the level of living of the participating farmers. This significant impact could be attributed to the adoption of the recommend practices by the farmers. This result agrees with the findings of the international development research center (IDRC, 2003) whose findings revealed that projects implemented in Ethiopia that focused on agriculture and water management saved more than 25% of rural communities from starvation, malnutrition, diseases and death. The null hypothesis tested in this research states that there is no significant difference between the level of living of IFAD-CBARDP participants and the non-participants. The decision rule states that if F-calculated is greater than F-table, then there was project impact on the participants otherwise no impact. Using a degree of freedom (P=0.01); the result of Chow-test (148.09) is greater than F-table (9.89); therefore, the null hypothesis is hereby rejected. It is therefore

concluded that there is significant difference between the level of living of the IFAD-CBARDP participating farmers and the non-participating farmers in favor of the participants.

Table 4: Impact on level of living of IFAD -CBARDP participating farmers

Group/Model	Regression	Residual	n_1+n_2	K	F- cal	F-table
Pooled	255140.00	18956143.52	694	3	148.09	9.89
Participants	224294.28	17269677.55				
Non-Participants	104643.54	1385938815.78				

3.4. Z - test analysis of income of participating and non-participating farmers

To further, determine whether there was any significant difference in terms of income between the participating and the non-participating farmers, the income of the farmers were estimated using Z-test analysis. The result shows that the calculated Z - value (25.78) is greater than the table Z - value of 1.64 at one tail and significant at 5% level of probability. This further confirmed that there is significant difference between the income of IFAD-CBARDP participating farmers and the non-participating farmers.

Table 5: Z – test result of the income of IFAD-CBARDP participating and non-participating farmers

Variables	Participant's income	Non-participant's income
Mean	368430.88	340874.64
Known Variance	27556.3	11370.9
Observations	347	347
Hypothesized mean diff.	0.00	
Z	25.78	
P (Z < = z) one-tail	2.2	
Z Critical one-tail	1.64	

Major constraints to the effective implementation of IFAD-CBARDP

The result in Table 6 shows that all (100%) of the respondents (IFAD-CBARDP officials) indicated low counterpart funding from the State and LGAs as the major problem that constrained the implementation of the project. This has seriously affected the implementation of the programme in the sense that it caused delays in carrying out some projects activities . This agreed with the findings of Abubakar (2011) who reported that the key constraint of extension services of the ADPs was poor funding. Fund allocation from state government was found to be grossly inadequate and often disburse late. This low funding in addition to other factors led to the ADPs inability to meet their required logistics for attending REFILS workshop on annual basis. In addition, 88.9% of the respondent revealed that untimely disbursement of funds by the state and Local Government Areas had constrained the effective implementation of the project in the study area. Agricultural activities are time bound and therefore requires prompt disbursement of funds. This affirmed the findings of (Bello and Salau, 2009; Ajieh *et al*., 2008; Chukwuone *et al.* 2006; and Farrington 1994) in Umar *et al.* (2013) which noted that recent developments especially in issues of funding call for a rethinking about the future of

agricultural extension services in Nigeria. It also confirmed the findings of Inni and Dimetu (2013) who found untimely release of counterpart funds to be major constraints to participation in the Fadama III project. The result also supported the findings of Muhammad *et al*. (2010) and Joseph (2012) who noted that the major problems in the execution of programs by the Non-Governmental Organization (NGO) include lack of coordination and over dependence on foreign donors, limited community participation and lack of proper documentation of activities. Other factors that constrained the effective implementation of the programme in the state included inadequate mobility among the extension personnel with 86.1%, untimely distribution/high cost of inputs 77.8% and weak extension contact 75%. This finding also tallied with the findings of Joseph (2011) who identified inadequacy and instability of funding, poor logistic support for field staff, use of poorly trained personnel at the local level, ineffective agricultural research extension linkages, insufficient and inappropriate agro technologies for farmers, disproportionate extension agent to farm family ratio, dilution of extension agent's specific responsibility, lack of clientele participation in programme development, failure of input suppliers to ensure effective and timely distribution to farmers, irregular evaluation of extension programme and policy and institutional and programme instabilities of national agricultural extension systems to be the major problems of agricultural extension services in developing countries.

Table 6: Major constraints to implementation of IFAD -CBARDP (n = 36) (IFAD CBARDP officials)

Major constraints	*Frequency	%	Rank
Low counterpart funding	36	100	1st
Untimely disbursement of funds	32	88.9	2nd
Inadequate mobility of extension Personnel	31	86.1	3rd
Untimely distribution/high cost of inputs	28	77.8	4th
Weak extension contact	27	75.0	5th

***Multiple responses was allowed**

Summary, Conclusion and Recommendations

Analyses of F-chow revealed that the IFAD-CBARDP activities in the study area had impacted positively on the yield, income and level of living of the participating farmers. The study found that low counterpart funding from the State and LGAs as the major problem constraining the implementation of the project. Based on the success of this project in the study area, it is recommended that it should be replicated in the neighboring villages in the study area and beyond by the stakeholders. Also, rural development experts and policy makers should adopt this approach of community-based development approach in order to carry the beneficiaries along in the planning, implementation and evaluation of any project that concerns the community.

REFERENCES

Abubakar, S. Z. (2011). Constraints to Effective and Sustainable Financing of Public Sector Agricultural Extension Delivery System in Nigeria. *Nigerian journal of agricultural Extension.* 16 (1), 1-13.

Andrea, B. (2014). Linking Smallholder Farmers to Markets and the Implication for Extension and Advisory Services. MEAS Discussion Paper no. 4. United State Agency for International Development. https://mail.google.com/mail/?shva=1.

Atala, T.K. and Hassan, M.B. (2012). Adopted Village Concept and Vision 20: 2020. Paper presented at the North West Zonal REFILS Workshop, held at the Institute for Agricultural Research, Ahmadu Bello University, Zaria. 23-24 feb.2012.

Babatunde, O. (2006). Differential Poverty Reduction Impact of Small-Scale Irrigated Development between its Beneficiaries and Non-beneficiaries in Nigeria. Technical Report on the Agro polis Award

Bukar, T. (2005). Critical Challenges and Problems of Effective Programme/Project Implementation. Paper presented in a Workshop for Western and Central Africa, Bamako, Mali 8th – 11th March.

Dougherty, C. (2002). *Introduction to Econometrics*. Oxford University Press. Pp. 194 ISBN0- 19-928096-7

George, R. (2015). The Economic Lives of Smallholder Farmers. An Analysis based on Household Data form nine Countries. Food and Agriculture Organization of United Rome 2015

Ijere, M.O. (1992). "*Choice of Strategies for Rural Development*". ACENA Publishers Enugu, Nigeria. Pp. 19 – 25

Innih, C.D. and Dimelu, M.U. (2013). Participation and Attitude of Beneficiaries to the third National Fadama Development Project in Kogi State, Nigeria. *Journal of Agricultural Extension* 17 (2) 64-76.

International Development Research Centre (IDRC) (2003). Breaking the Cycle of Poverty in Ethiopia: Agricultural and Sanitary Practices, Improve Income and Health". IDRC Case Study Report (April). Website: http://www.idrc.ca/en/ev-29134-201-1-DoTopic.html.4p

International Food Policy Research Institute (IFPRI) (2001). Current Food Policy Issues in Bangladesh: Advisory Notes to the secretary of Food? Volume v., IFPRI, Washington DC, USA. 35p.

International Fund for Agricultural Development (IFAD) (2013). COSOP Mid-Term Review Operations. *Ifad.org/web/ifad/operations/country/ home/tags/Nigeria*-02/02/2015; 5:11

International Fund for Agricultural Development (IFAD) (2011). Enabling Poor Rural People to overcome Poverty htt://www.ifad.org/media/press/2011/53.

International Fund for Agricultural Development (IFAD) (2011). Project Assisted Community Based Agriculture and Rural Development Programme, Combined Diary/Reference Manual for Programme Staff Office & Field Activities in Nigeria.

International Livestock Research Institute (ILRI) (2010). Evaluating the Impact of Agricultural Development Programming on Gender Inequalities, Asses, Disparities and Rural Livelihoods. http://www.iri *org/node/*1176

Jacob, A. Y. and Victor, A. (2009). Impact of Rural Development Project on Agricultural Productivity in Selected Region of Benin. *African journal of Agricultural Research 4 (11), Pp 1120-1128.*

Jonathan, K. (2002). Agriculture and Rural Livelihoods; Is Globalization Opening or Blocking Paths Out of Rural Poverty? Agricultural Research and Extension Network AgREN, Network Paper No. 121, January 2002.

Joseph U. A. (2011). Problems and Prospect of Agricultural Extension Services in Developing Countries. In: Agricultural Extension in Nigeria (ed). Agricultural Extension Society of Nigeria. (AESON). Pp 216-229.

Muhammad, I.Y., Muhammad, T.A. and Sarwar, M. (2010). Issues and Problems of Non-Governmental Organizations (NGOs) Working for Literacy in Pakistan; International *Journal of Academic Research.* 2 (6), 1-5.

National Population Commission (2006). Population and Housing Census, Federal Republic of Nigeria Vol. 1.

Umar, S., Musa, M.W. and Shuaibu, H. (2013) Funding Agricultural Extension in Nigeria. Is Privatization the way Forward? In: The Proceeding of the 18th Annual National Conference of Agricultural Extension Society of Nigeria held at Nasarawa State. 18th – 23rd April.