EFFECT OF SOCIO-ECONOMIC VARIABLES OF PARTICIPATING FARMERS IN THE IFAD/CBARD PROGRAM ON THEIR PRODUCTIVITY IN KATSINA STATE, NIGERIA

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Abstract

The study examined the impact of socio-economic variables on the production of farmers due to the intervention of International Fund for Agricultural Development/Community Based Agricultural Rural Development (IFAD/CBARD) Program in Katsina State, Nigeria. A total of 109 respondents who were beneficiaries of the program were randomly selected from the 12 participating local government areas. Data were collected using structured questionnaires and analyzed using descriptive statistics, regression analysis and students t-test. Result showed that majority of the respondents were males, aged 41years, married with mean household size of 13 and had one form of education or another and practice crop production as their major farming activity. Among the socio-economic variables studied, farming experience, household size and type of occupation were significant at P<0.01. Some of the constraints identified with the program includes delay of counterpart funding by the stakeholders and intrusion of political office holders into the program. Conclusively, IFAD/CBARDP has succeeded in impacting positively on the farmers' activities in both production, management and social interaction. It is recommended that co-sponsors (States and Local Governments) should make timely disbursement of funds to save time and prevent delay in project implementation. It is imperative that extension experts be appointed as local government planning officers and state coordinators to enhance information flow and implementation of the designed action.

Keywords: *Socio-economic variables, IFAD/CBARD, projects, beneficiaries, credit facilities*

Introduction

Agriculture is a key sector in the Nigerian economy. Its importance is particularly glaring in a developing economy like Nigeria where land and labour resources are relatively abundant and the industrial sector poorly developed. The contribution of agriculture to overall development especially in the developing countries like Nigeria include provision of increased food supplies, provision of gainful employment, provision of capital and capital formation, increasing foreign exchange for development and increasing rural welfare. The agricultural sector's contribution to economic growth and sustained rural development remains to be fully exploited (FMARD, 2006). The contribution of agriculture to GDP was 64% in 1960, declined 35% in 1988 and presently, the agricultural sector in Nigeria contributes less than 30% to GDP, with crop production accounting for an estimated 85% of this total, livestock for 10% with forestry and fisheries contributing the remaining 5% (Awotide and Akerele, 2010) .

It was observed by Tasie and Offor (2013) that currently Nigeria agricultural sector, cannot finance its own development, because of the belief that agriculture, for various reasons, is not in a strong competitive position in relation to other sectors to acquire or obtain investment from

the usual financial institutions. It is indeed not only an irony but an embarrassment that Nigeria, a vast agricultural country endowed with substantial natural resources which include: 68 million hectares of arable land, fresh water resources covering about 12.6 million hectares, 960 kilometers of coastline and an ecological diversity which enable the country to produce a wide variety of crops and livestock, forestry and fisheries products (Sha'aib *et al.*, 1997), should find itself in the unenviable group of low-income, food deficit nations in Africa (FAO, 1996).

IFAD's emphasis on smallholder farmers who represent the developing world's largest group of private sector entrepreneurs aligns with Canada's international development focus on supporting the growth of micro and small-sized businesses. It is important that the 450 million small farms worldwide on which a third of the world's population depends are adequately supported and equipped with products and services, especially knowledge and technology. Increasing the productivity and nutrition of smallholder farmers will result in increased incomes and health for their families and their communities (International Fund for Agricultural Development, 2013).

Statement of the Problem

Both IFAD and other co-partners have spent huge sum of money over the years in the programme areas. Yet poverty persists in the rural families with clear evidence of gender marginalization. The significant proportion of the farming population depends on donor intervention agencies for new production technologies, inputs and credits which if not properly supplied and effectively managed will lower the general productivity. Poorly fed citizens of any nation cannot be expected to perform at any appreciable level of efficiency. According to Olawoye (1991), if a country is unable to produce enough food to its requirement, its population will either be under fed, or its scarce foreign exchange is spent on importing food. Consequently, the intervention of IFAD in Katsina State is imperative in improving the productivity of the farm family and enhancing rural solidarity. A considerable amount of time has elapsed from the inception of the programme to date. The study will therefore address the following questions: does the participating farmers' socio-economic characteristics affect their production activities? And what are the major constraints of the programme?

Objectives of the Study

The main objective of the study was to assess the farmer's behavioral change due to activities of IFAD's Community BasedAgricultural and Rural Development Programme (CBARDP), in Katsina state, Nigeria.

The specific objectives were to:

i. identify the Socio-Economic Characteristics of the Beneficiaries of IFAD/CBARDP,
ii. determine the Economic Activities of the Respondents,
iii. determine the Effect of socio-economic variables on the production of the respondents
iv. determine the constraints of the IFAD /CBARDP programme in Katsina state

Methodology

Katsina State is located between latitude $11^{O}08'N$ and $13^{O}22'N$ and longitude $6^{O}52'E$ and $9^{O}21'E$. The area has an estimated population of 5.081 million people and a total land area of 23,938 square kilometers (NPC, 2006). The study area experience two seasons that is, rainy season and dry season. The rainy season starts in April/May and ends in October/November with an annual rainfall of 700mm to 900mm per annum. The dry season which start in December is characterized by cold and harmattan dust which ends in March/April.

The vegetation of the study area belongs to the Northern Guinea Savanna Zone, which continued up to the Sudan Savanna Zone. The topography of the state is made of undulating plains, which generally rise gently from 360m in the north-east to 600m above sea level in the south-west. The southern part of the state is largely covered by clay soil, about 5 meters in depth and very fine in texture, while in the north, the drift deposits are coarser resulting in light sandy soils of buff or reddish colours of low medium fertility (Adamu, 1993). The major occupation of the people in the state is farming and they mostly cultivate crops such as millet, sorghums, groundnuts, cotton and maize, they also engaged in the production of small ruminants.

Simple random sampling technique was used to select one participating village each from all the local government areas in Katsina State which gives a total of twelve villages out of 36 participating villages throughout the state. A structured questionnaire was administrated to the respondent with the aid of planning officers of the local government areas to the leaders of rural enterprise groups of every selected village and ten randomly selected farmers from each selected village. A total of one hundred and thirty two (132) questionnaires were distributed. The items in the questionnaires were interpreted orally by the enumerators to enhance understanding of the questions, purpose of the research, and cooperation of the respondents. A data collected was analyzed using descriptive statistics, t-test and Regression.

Results and Discussion

Socio-Economic Characteristics of the Beneficiaries of IFAD/CBARDP

Table 1 show that the age of the respondents ranges from 15 to above 56 years. However, those within the ages of 36 – 45 years constituted 23.85%. This was followed by those in the age bracket of 26 – 35 years with 22.93% while respondents at the ages of 46 – 55 years and 56 and above years were 19.26% and 18.34% respectively. About 17% were in the ages of between 15 and 25 years. The mean age of the respondents was 41 years with those between the ages of 26 – 45 years representing the highest proportion. It implies that they are within the active age of economic production. This is important because as youth, they may be willing to assume greater risk in anticipation of profit than the older or much younger ones that are often more risk averse. This finding conforms to that of Jabil (2009), Haruna (2002) who reported that farmer's age may influence his/her resources allocation, reasoning and management ability. On the other hand Jabil (2009), opined that middle aged people are loaded with societal responsibilities and therefore with high expectation of life. The dependent population relies significantly on the working population. Therefore, they are forced to engage in economic activities to live up to expectation.

Sex describes the femininenes or maleness of a person, whom are biologically classified as men and women (Jabil, 2009). Fifty five percent (55.96%) of the respondents were men while 44.04% were women (Table 1). This may be due to the fact that most families in the rural areas are headed by men and that agriculture is the main source of income in the study area. Therefore, more men were into agricultural production to sustain the family. The results in Table 1 showed that 66% of the respondents were married. This may be attributed to the fact that they were mostly young and mostly dependent. Majority of the young people were into schooling or learning one trade or the other. Therefore, often they were not settled to participate in such agricultural programme or invest and manage resource economically. This result is in accord with the report of Adamu (2005), who said that 95% irrigated tomato farmers surveyed in Hadeja-Jama' are River basin, Nigeria were married while only 5% were unmarried. The need to meet with the demand for food, health, education of children, housing and clothing, etc. forces people into different economic activities (occupation/trades) especially farming.

Household size represents the total number of individuals (wives, children, grandchildren and extended family members) that live and feed from the household. Household size is an important socio-economic indicator of labour. In this study, 33.94% of the respondents had family size of between 11 – 15 persons, 24.77% had 16 – 20 persons, and 14.67% had 6 – 10, while another 14.67% also had 21-25 persons in their household. Only 10.09% had family members between 1-5 persons. The average family size, however was 13 persons (Table 1). Adamu (2005), had earlier reported that 74% of the surveyed farmers in Hadejia Jama' are River Basin had between 6 and 20 members in their household. It is therefore, logical to state that most of the beneficiaries IFAD/CBARDP in Katsina state had family size of 13 persons. The larger family size may be linked to the polygamous system of marriage practiced in the community. This is an indication of a readily available and cheap family labour for any economic activity in the study area.

Education refers to the formal or informal training acquired by an individual. This is represented by the number of years a person spent in formal or informal school. The result showed 33% of the respondents acquired Qur'anic education, this shows the influence of religion (being predominantly Muslims) on the societal way of life. And most of these respondents are among the aged. While about 30.3% had primary level of education, about 14% had tertiary education most of which showed appreciable change in the educational state of the study area. Only 9.17% of the respondents completed their secondary school, some of which may likely further their education. Another 1.17% had attended adult education classes, this indicated the out dated nature of this form of education. About 5% of the respondents had not attended any form of education.

The result of the study implies that education is very important in identifying economic opportunities, participation in meaningful societal or communal programmes and efforts in making better living conditions. The well-educated individuals are better exposed to economic opportunities as they can read, analyze and try many ideas. The higher the number of years in formal education, the greater the implication for participation in policy matters and general developmental responsibilities. Njoku (1999) observed that education is a healthy situation because through education people could acquire skills and knowledge, which are important in

obtaining and analyzing information about agriculture and other economic situations, thereby increasing their output, social and economic wellbeing. It is also important in management of risks associated with agricultural and economic activities in the study. Formal education has a positive influence on adoption and trial of various innovations.

Experience represents the technical skills or knowledge acquired in participation or practicing a particular trade. Experience is measured in years an individual have had as a client to a particular programme. It enables beneficiaries adequately organize and manage their business in expectation of high profit. The result of the experience of the respondents is also presented in Table 1. The result of this study revealed that 25.68% of the respondents had occupational experience of 11 – 20 years, and 24.77% had between 21 – 30 years. It also indicated that respondents with 41 – 50 years and above 51 years constituted 9.17% each, while 16.51% were in production for 1 – 10 years. About 14.67% had experience between 31 – 40 years.

Economic Activities of the Respondents

The respondents were distributed based on their participation in the listed economic activities as presented in Table 2. The result showed that 36.69% of the respondents were into crop production, 27.52% were into artisanship such as blacksmith, leather work etc while 19.26% were livestock producers and only 4.58% were fishermen. 11.92% participated in other trades that are not directly related to agriculture. Agricultural production is a typical economic activities of the rural areas. It is the main occupation of about 75% of the Nigeria population (Daneji, 2006). The interventions of IFAD were mostly invested to increase production of food and improve the living conditions of the farmers and the entire community.

Table 1: Socio-economic Parameters of the Respondents

Parameter	Frequency	Percentage
Ages (Years)		
15 – 25	18	16.51
26 – 35	25	22.93
36 – 45	26	23.85
46 – 55	21	19.26
56 – above	19	18.34
Sex		
Male	61	55.96
Female	48	44.04
Marital Status		
Single	72	19.24
Married	21	66.05
Divorce	5	4.58
Widow	11	10.09

Household Size (Persons)		
1 – 5	11	10.09
6 – 10	16	14.67
11 – 15	37	33.94
16 – 20	27	24.77
21 – 25	16	14.67
26 – above	2	1.83
Educational Status		
Primary	33	30.27
Secondary	10	9.17
Tertiary	15	13.76
Qur'anic	36	33.02
Adult Education	10	1.17
None	5	4.58
Farming Experience (Years)		
1 – 10	18	16.51
11 – 20	28	25.68
21 – 30	27	24.77
31 – 40	16	14.67
41 – 50	10	9.17
51 – above	10	9.17

According to Albert & Deekor (2014) the types of projects implemented by IFAD as revealed by the respondents include training of women, men and youths in skills acquisition, fishing, cassava processing, provision of credit, renovation of schools and leadership training/seminar.

Table 2: Economic Activities of the Respondents

Activity	Frequency	Percentage
Crop Production	40	36.69
Livestock production	21	19.26
Fishing	5	4.58
Artisans	30	27.52
Others	13	11.92

Effect of socio-economic variables on the production of the respondents

The results as presented in Table 3 show that the experience of the respondents is found to be highly significant ($P < 0.001$) indicating that the more the experience (years) the faster a farmer adopt new technologies. Household size and type of occupation of the respondents are significant at 1% ($p<0.01$) each. This explains that the larger the household the faster the adoption, most likely due to increase in family labour which increases scale of production. Age

and marital status gave significant (P<0.05) respectively. This explains that the higher the age the lower the rate of adoption or change in attitude and vice-versa. These findings conforms to that of Jabil (2009) and Haruna (2002) who reported that farmer's age may influence his/her resources allocation, reasoning and management ability. Most of the respondents were married (66%), so the higher participation and interest of the married in practical agriculture may be as a result of the need for more economic status. The need to meet with demand for food, health, education of children, housing and clothing etc. forces people into different economic activities (in most rural areas) farming. But the coefficient of marital status is negative this contradict the above expectation. Primarily may be due to the fact that most of the respondents are in their prime age. The sex of the respondents is not significant; this can directly attributed to the gender friendliness of the programme where women were treated equally with their men counterpart.

The R^2 value shows that 92.6% of the variations in testing the effect of the selected socio-economic variables to change in their production is reflected on the regression result. According to Tasie and Offor (2013) the important effect of participating in IFAD programme on the farmers is increase in farm income and output which is ranked first, followed by increase in farm holdings which ranked second. Other lower ranked items such as increase in nutritional status, procurement of more working capital (fertilizers, farm implements and improved seeds), ability to meet short-term expenditure (payment of children's school fees and medical expenses), purchase of means of evacuation of farm produce, building and repair of dilapidated buildings had also showed significant improvement after IFAD credit supply. Albert and Deekor (2014) also reported that IFAD projects/programmes were accepted to have had positive effects on participating people and communities in the study area. They brought about improvement in agricultural productivity, reduction of youth restiveness through increased employment opportunities, improvement of rural people income. The implication of this result is that IFAD presence is felt by the people but more needed to be done especially in the areas of provision of adequate credit and storage facilities for agricultural production since most of the people are farmers.

Table 3: Regression of the Effect of Socio-economic Variables on Production Due to Activities of IFAD/CBARDP

Predictor	Coefficient	Std Deviation	t – ratio	P
Constant	20.169	2.109	9.56	0.000***
Age	-1.1781	0.4962	-2.37	0.019*
Sex	-0.6144	0.7977	-0.77	0.443
Marital Status	-0.3898	0.4459	-0.87	0.040*
Household size	0.23266	0.07549	3.08	0.003**
Education	0.1647	0.3097	0.53	0.596
Occupation	0.0059	0.2667	0.02	0.002**
Experience	0.86842	0.04298	20.21	0.000***
Model Summary - R = 4.014 R-square = 93.0% ; R-square (adj) = 92.6%				

* Significant (P<0.05); ** Highly significant (P<0.01); ***Very highly significant ((P<0.001).

Constraints of International Fund for Agricultural Development/Community Based Agricultural Rural Development Programme in Katsina state

This programme like any of its kind has some problems which count against the smooth implementation of the designed action plan. The study identified the following as the major constraints as shown in Table 4. Delay of counterpart funding from the stakeholders (IFAD, States & Local governments):- It is often found that one or two of the stakeholders delay release of money or materials to the right organ as at when prescribed. This may be due to bureaucratic proceedings which at the end affect the time table of events at a particular time. The delay is sometime due to lack of available funds.

The result indicated that 55.05% of the respondents voted for this to be the most serious constraint of the programme. Insufficient mobility for the staff of the programme:- in any programme like this people have to move from place to place. This call for the need to provide facilities that will enhance the movement considering both distance and terrain. The staff in particular need to visit participating communities to meet, monitor and evaluate the progress or otherwise. This is ranked third problem of the programme from Table 4 as 18.34% voted for it. Interruption of political officers into the affairs of the programme such as appointments of desk officer of the local government, CDD committee members and staff of the programme at local government level. This also happen in some status when appointing the state coordinator and his subordinates. The interruption can even affect the selection of the villages to benefit from the programme, or influence the choice of the community on what project will be done. The result showed 46.7% of the respondents agreed that this affected the success of the programme. Other identified problems include; in some cases, the elites hijack most of the benefits, too much committee meetings that interrupt farmer's working time and poor farmers are not necessarily interested in the programme. Factors such as lack of funds, non-payment of counterpart fund, and counterpart fund not provided in time are among those militating against the activities of IFAD (Albert & Deekor, 2014). Ojarikre (2012) and Sam (2012) reported that disputes arise between the executive and the legislators over the release of budget allocation for IFAD activities as counterpart fund from Federal, States and Local Government Councils. Such situations have hindered the smooth and effective implementation of the donor agency's projects.

Table 4: Constraints of the International Fund for Agricultural Development / Community Based Agricultural Rural Development Programme

Constraint	Frequency	%	Rank
Delay Counter Funding	60	55.05	1
Interruption of Political Officers	51	46.7	2
Insufficient Mobility	20	18.34	3
Elite domination	15	13.76	4
Fatigue	4	3.66	5
Lack of Interest by farmer	2	1.83	6

Recommendation

Based on the results of this study , it is hereby recommended that **c**o-sponsors (States and Local Governments) should make timely disbursement of funds to prevent delay in project implementation, and that Extension experts should be appointed as local government planning officers and state coordinators to enhance information flow and implementation of the designed action.

Conclusion

The activities of IFAD/CBARDP have contributed immensely to change the farmer's activities towards community development into community driven. The programme has helped in shaping the farmers attitude in conducting economic activities as well as developmental projects with the hope for continuation of IFAD/CBARDP which has become the major catalyst for transforming rural areas into economically active areas.

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