



## IMPACT OF FADAMA III PROJECT ON POVERTY REDUCTION AMONGST RURAL WOMEN BENEFICIARIES IN KANO STATE, NIGERIA

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### ABSTRACT

The study analyzed the impact of Fadama III project on reducing poverty amongst rural women beneficiaries in Kano state. A simple random sampling technique was employed to select 5 Local Government Areas (LGAs) and 30 beneficiaries from the selected LGAs to form a sample size of 150 respondents. Data were collected using focus group discussion (FGD). Data obtained were analyzed from the 20 participating LGAs through the use of descriptive statistics, Foster Greer and Thorbecke and Student t-test. Results revealed that 50.7% of the beneficiaries had ₦10,000-₦20,000 before the program and 30.9% had ₦20,000-₦30,000 after the program. Using FGT analysis the results showed that majority (91.3%) of the beneficiaries were poor, before the program while only 38.0% were poor after the program. This showed that there was high poverty incidence before the program as compared to after the programme participation. Thirty-five (35.0%) and 10.0% was the poverty gap required to lift the poor beneficiaries before and after the program, respectively. It could be concluded that the program succeeded in reducing poverty amongst the women beneficiaries by 28%. Thus, the approach of the National Fadama III project should be adopted for intervention programs going by its impact on poverty reduction.

**Keywords:** Fadama III; Poverty; Rural women beneficiaries

### INTRODUCTION

Poverty is a pronounced deprivation in wellbeing and of comprises many dimensions. It includes low income and the inability to acquire the basic goods and services necessary for survival with dignity. Poverty also encompasses low level of health and education, poor access to clean water and sanitation, inadequate physical security, lack of voice and insufficient capacity and opportunity to better one's life (World Bank, 2006). Poverty goes beyond material deprivation to include insecurity, vulnerability and exposure to risks, shocks and stress. It specifically includes not having enough to eat, poor drinking water, poor nutrition, unfit housing, a high rate of infant mortality, low life expectancy, low level of energy consumption, low education opportunity, low employment opportunities, inadequate health care, lack of active participation, indecision making process (Ajakaiye and Adeyeye, 2008)

Poverty is one of the gravest challenges facing the world today, with a staggering 40 percent of the world's population living with the reality or the treat of extreme poverty, and one in five persons living in a state of poverty, so object that it threatens survival (Gustavo and Kostas, 2007). Globally, extreme poverty continues to be a rural phenomenon despite increasing urbanization. And out of the world 1.2 billion extremely poor people, 75% live in rural areas and they largely depend on agriculture, forestry, fisheries and related activities for survival (Gustavo and Kostas, 2007).

Poverty in Africa is predominantly rural; more than 70 percent of the continents poor people live in rural areas and depend on agriculture for food and livelihood, yet development assistance to agriculture is decreasing (IFAD, 2013). The Food and Agriculture Organization (FAO) of the United Nations estimates that 239 million people in sub-Sahara Africa were hungry/undernourished in 2010 and Africa was the continent with the second largest number of hungry people (FAO, 2011). The incidence of poverty is increasing faster than the population, in 2008, 47 percent of the population of sub-Saharan Africa lived under \$1.25 a day or less (United Nation, 2012).

The number of Nigerians living in poverty is increasing significantly, revealing a perplexing contrast between the nation's economic growth and minimal welfare improvement for much of the population (World Bank, 2013). The United Nations Development Programme (UNDP) Human Development Index (HDI) ranked Nigeria as 153 among the 186 countries in 2013. Unemployment rate have been steadily increasing and younger Nigerians are encountering increasing difficulty in finding gainful employment (UNDP, 2013). According to Nigeria National Bureau of Statistics, the number of poor is rising; in 2004 55% of people were living in absolute poverty. By 2010 this had risen to (61%). The situation is particularly bad in northern states where over three quarters of the population live in absolute poverty (NBC, 2011).

Kano state is the 15<sup>th</sup> poorest state in the federation with a poverty index of (61.9%), above the national average of 54% (Bello, 2016). This implies that nearly 7.5 million people in the state live below the poverty line (poverty line is a monetary cost to a given person at a given place and time of a reference level of welfare). For example, poverty line recommended daily per person is 1\$ per day. Access to public services, water supply, education and health are severely constrained. The grim statistics says it all: water vending is perhaps the fastest growing industry in the state as only (12.8%) of households had access to improved sources of water piped into their dwellings. Adult literacy rates are (34%) for male and (15%) for female, only approximately 50% of children of primary school completion rate of 15% and less than (30%) of children of secondary school or higher education (Muhammad, 2008). Health indications are more pathetic; 70% of infant health are caused by prenatal infections and parasitic illness which are preventable, only 35% of women receive anti-natal care one or more times during pregnancy: and Kano along with six other Northern States are responsible for 70% of maternal mortality in the country. For every 100,000 women, over 7,000 dies during childbirth compared with the national average of 800/100,000 (Garba, 2006).

Agricultural production methods have remained underdeveloped despite many years of efforts on technology generation and transfer in Nigeria. Rural financial supports are scarce and rural finance policies implemented previously have impaired rather than assisted (Simonyen and Omolechin, 2012). However, in an attempt to alleviate poverty among rural Nigerian and also increase the incomes and productivity of the rural inhabitants as an approach of meeting up with the Millennium Development Goals (MDGs) of food

sufficiency and poverty eradication, the Federal Government of Nigeria through the pooled world bank loan came up with Fadama project to finance the development of Fadama lands by introducing small scale irrigation in states with Fadama development potentials. Fadama is a Hausa word meaning the seasonally flooded or floodable plains along savannah rivers and or depressions or adjacent or seasonally or perennially stream and rivers (World Bank, 2006). The huge potentials for irrigated agriculture in the Fadama and flood plains are unquestioned. According to Baba and Singh (1998), the Fadama lands have high potentials and agricultural values several times more than the adjacent upland. Fadama development use atypical form of small-scale irrigation practice characterized by flexibility of farming operation, low inputs requirement, high economic values, minimal social and developmental impact and hence conform with the general criteria for sustainable development (Akinbile *et al.*, 2006).

However, the main objective of the programme is to sustainably increase the income of Fadama users by increasing their incomes, the project would help reduce rural poverty, increase food security and contribute to the achievement of a key millennium development goal. Also sustaining the increase of income of Fadama resource users by directly delivering resources to the beneficiary rural communities.

Poverty has always been an issue of major concern all over the world. It is a plague affecting people worldwide. In Nigeria, the plague is on the increase and many programs had been put in place in order to address the menace, but the situation has worsened over the years.

Feminization of poverty-almost everywhere in the world, women are segregated, have very limited access to education (for political, religion or social reasons) and are sometimes forbidden to work or restricted to tedious ones (Restlessstories.com, 2011). There are obvious (political and social) interests in keeping women in the state, and it's always recommended when fighting against poverty to start with empowering women in every possible way to solve a great deal of problems. Being the corner stone of the family, women can have a great impact not only on the household income but also on the education of children (including sanitation) and avoidance of child deaths due to bad habits sanitation or improper food and water (Chant, 2006).

Fadama III is among the various strategies to reduce poverty among rural populace and had also a special package for women and the vulnerable, thus the need to conduct a survey to assess the role of Fadama III in reducing poverty among its women beneficiaries. Hence this study provided answers to the following research questions: to identify the different activities introduced to the beneficiaries in the study area; to determine the income of beneficiaries before and after the project and to determine the poverty status of the beneficiaries before and after the project.

## **MATERIALS AND METHODS**

### **Description of the Study Area**

Kano state is geographically located between latitude 11°0'0" N to 12° 0'0" N and longitude 8° 0'0" E to 9° 0'0" E (Ahmad, 2010). Kano state is situated in the northern part of Nigeria, it is bordered to the north by Katsina state, to the south by Kaduna state, to the west by Bauchi and to the east by Jigawa state (Barau, 2007). Kano has a total land area of 20,760km<sup>2</sup> with a population of 9,383,682 (NPC,2006), Kano state has 44 Local Government

Areas (Marafa, 1992). The climate of Kano state is characterized by mono model rainfall distribution averaging 500 mm to 1000 mm per annum. The length of growing period is 90-165 days with the most rain occurrence between May and September, the mean annual maximum and minimum temperature are 33° (91°F) and 15° (60°F), respectively (Olofin and Tanko, 2002). The main crops grown include maize, cowpea, millet, groundnut and sorghum while livestock reared include cattle, goat, sheep and poultry (Marafa, 1992).

### Sampling Procedure and Sample Size

The target population for the study was the women beneficiaries of Fadama III project in Kano State. Five Local Government Areas were randomly selected out of 20 Local Government beneficiaries. The Local Government Areas were: Bunkure, Makoda, Kura, Shanono, and Gezawa. Thirty (30) women beneficiaries were selected from each local government, therefore a total of 150 beneficiaries will form the size of the study.

### Data Collection

Primary data were collected using questionnaire which was designed in such a way as to capture the stated objectives of the research, and focus group discussion (FGD). Secondary information was sourced from journals, past projects and other literature.

### Data Analysis

A combination of different analytical tools were employed in analyzing the data obtained. Both descriptive and inferential statistics were used to analyse the data generated. Foster Greer and Thorbecke (FGT) poverty index measure was also used analyse the poverty status of the beneficiaries. Hypothesis of the study was tested using student t-test. The FGT poverty index is expressed as follows:

$$P\alpha = n^{-1} \sum_{i=1}^q (Z - y_i/Z)^\alpha$$

Where:

n = Total number of beneficiaries

Z = Poverty line (using the 2/3 of mean per capita annual income).

y<sub>i</sub>= income of the beneficiaries

q= Number of beneficiaries with income below the poverty line.

σ = The degree of poverty aversion

## RESULTS AND DISCUSSION

### Activities introduced by Fadama III Project

The Focus Group Discussion (FGD) revealed that the Fadama III project provided livestock, grinding machine, milling machine and sewing machines. Majority of the beneficiaries (97%) were given animals (sheep, goat and chicken) while only 3.0% were given rice milling machine and sewing machine respectively. This is because majority of the beneficiaries were not crop producers but animal rearers. Livestock play an important role in

supporting women and improving their financial situation and woman were heavily engaged in the sector (FAO, 2011)

### Total Income of the Beneficiaries before and after the Programme

The distribution of the total income in Table 1 revealed that more than half (50.7%) of the beneficiaries with total income of ₦ 10,000 to ₦ 20,000 before the program and (30.9%) of the beneficiaries with total income of ₦ 20,000 to ₦ 30,000 after the program. These showed that beneficiaries after the program had higher income, due to the income generated on livestock and other income generating facilities acquisition offered by the program (sewing machine, milling machine and grinding machine). This corresponds with Kudi (2008) who examined the impact of Fadama II on poverty alleviation and reported increase in income of beneficiaries.

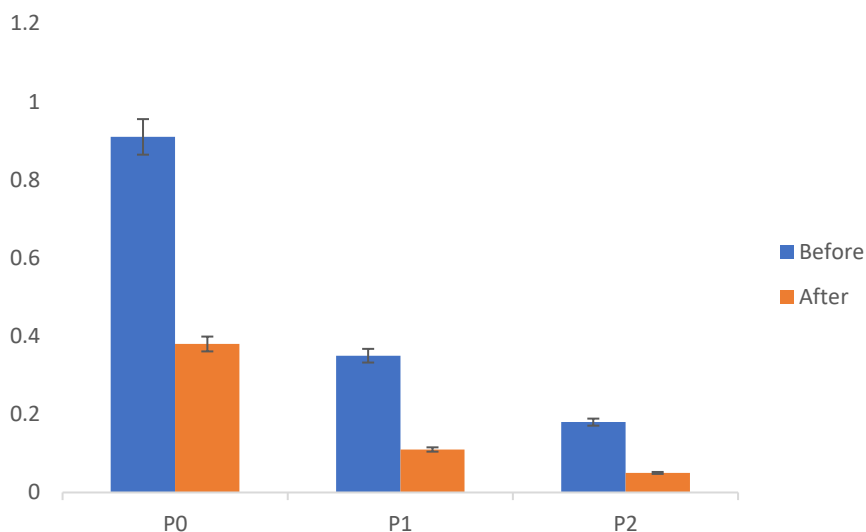
Table 1: Distribution of total Income of beneficiaries per annum (n=150)

Income Class (₦)	Before		After	
	Frequency	Percentage	Frequency	Percentage
<10,000	28	18.1	6	4.2
10001-20000	76	50.7	23	15.4
20001-30000	25	16.9	46	30.9
30001-40000	11	7.4	33	22.9
40001-50000	1	0.7	19	12.8
50001-60000	1	0.7	5	3.3
60001-70000	1	0.7	4	2.7
70001-80000	2	1.4	1	0.7
80001-90000	1	0.7	1	0.7
90001-100000	0	0	3	2.1
>100,000	4	2.7	9	6.1

### Poverty Indices before and after the Programme

Figure 1 showed that the incidence of poverty before the programme was 0.913333, the implication of the result is that about 91% of the beneficiaries were poor before the program, the poverty depth of beneficiaries as 0.34902 before the program. This implies that an intervention or income transfer that will raise the income of poor beneficiaries by 34% is required to lift the poor beneficiaries before the program. Figure 1 further present poverty severity as 0.177174. This is similar to findings of Ephraim *et al.* (2008) which indicates that the effect of Fadama III had less immediate impact on poverty reduction among the poorest beneficiaries.

After the project's intervention the incidence of poverty reduced to 0.38, which implies that the program had reduced the number of poor beneficiaries by 57%. The figure further presented the poverty depth of beneficiaries as 0.108217 after the program. Hence, that only 10% is required to lift the poor beneficiaries above the poverty line after the program. The Figure also presented poverty severity as 0.048221 after the program. These results showed that the program has made an appreciable impact on poverty reduction among beneficiaries given the percent of beneficiaries that fall within the poverty depth



P0 = Poverty incidence, P1 = Poverty depth, P2 = Poverty severity

Figure 1: Poverty status of beneficiaries before and after Fadama III Project

### Income Differences between before and after the Programme

In Table 2 the test of difference (₦17531.3) of means showed that beneficiaries earned higher income after the programme than before (t-value= 12.410,  $P < 0.001$ ) therefore, null hypothesis that there is no significant differences between income before and after the program was rejected. This could be attributed to the income generated on livestock and other facilities acquisition offered by the program.

Table 2: Income difference between before and after

Estimates	Before	After
Mean	22508.0	40039.3
Standard Deviation	24969.338	35344.467
Mean difference		17531.3
t-value		12.410***

\*\*\*(significant at 1%)

### CONCLUSION

It could be concluded from the result of this research that women are heavily involved in income generating activities apart from the usually daily maintenance of the household and childcare. It could also be concluded that Fadama III project had a positive impact on income of the beneficiaries. It could also be concluded that most of the beneficiaries had favourable attitude toward Fadama III project. Finally, there was high poverty incidence before the program but less after the program.

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