

*Full Length Research Paper*

# Impact of UNDP microfinance programme on poverty alleviation among farmers in selected local government areas of Kaduna State, Nigeria

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Accepted 7 September, 2009.

**This study assessed the impact of the UNDP Micro-finance Programme on the poverty status of farmers in the study area, examined the impact of UNDP's micro-credit scheme on the beneficiaries, determined the profitability of agricultural enterprises engaged by the farmers, determine the relationship between inputs used and the effect on farmers output and identify the constraints associated with UNDP's micro-credit scheme. The study was conducted in three (3) Local Government Areas, namely, Ikara, Makarfi and Kauru of Kaduna State. Purposive sampling technique was adopted in selecting the Local Government Areas and farming communities. Data was collected through the use of structured questionnaire and oral interview. A total of fifty four farmers (twenty-seven participating and twenty seven non-participating) were purposively selected from the study areas. The data collected was analysed using descriptive statistics, independent t-test and Cobb-Douglas production function model. The result of the gross margin analysis shows that the average income of participating farmers rises from ₦48,609.30 to ₦189,187.00 after participating in the Programme. The study also established that income of the participating farmers in the study area was higher than that of non-participating farmers. The analysis shows that participating in the UNDP programme had a positive impact on the income and profit level of the farmers. This study recommended that the amount of credit facilities provided should be increase so as to increase productivity. The study also recommended that the repayment of credit facilities should be extended to more than a year.**

**Keywords:** Impact, microfinance, programme, poverty, alleviation, farmers

## INTRODUCTION

Agricultural development is the foundation for economic development and the agricultural sector is undoubtedly the prime area of concentration for economic progress. Despite, the importance of this sector and the fact that 72% of Nigerian households which are engage in agriculture, most of these farmers are wallowing in abject poverty (FOS, 1996).

In consideration of the importance of agriculture to the Nigerian economy, various Governments have made efforts to develop the agricultural sector in order to improved the living standard of Nigerian farmers.

This vision necessitates the need for the transformation of the traditional subsistence agriculture, characterized by the use of crude implements like, hoes and cutlasses. Most of the farmers therefore resort to credit to acquire improve farm implements, improved seed and other inputs necessary for the change. However, Nigerian banks are not favourably disposed to lending to agriculture and where they do, it is usually short term financing due to risk associated with agriculture. The banks perceive agricultural financing as a risky venture, forgetting that agriculture is the foundation of the economy. Failure of agricultural lending in the past has been because of wrong appraisal of the project by the lending banks and the short term tenure of such lending (Aghato, 2000). In 1987, the repayment rate of the Nige-

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rian agricultural and Cooperative bank (NACB), the apex lending institution in the agricultural sector ranged from 18 to 25%. The case was similar with the credit institutions operated by State Governments. Commercial banks are required to lend a certain portion of their loan portfolio to agriculture, nevertheless; many receive the risks to be so high that they prefer to increase the penalty for non-compliance imposed by the central bank of Nigeria (World Bank, 1989). The experience on micro-credit and documented experience on micro-credit administration under various donor-assisted programmes gave birth and led to policy guidelines of United Nations Development Programme (UNDP) poverty reduction programmes in Nigeria. UNDP delivers most of its services through its 132 country offices but also engage in global and regional advocacy. It conducts analysis to increase knowledge, share best practices, mobilize resources and promote enabling frameworks including international target for reducing poverty. UNDP works largely with Non-Governmental organization (NGOS) in pursuit of its poverty alleviation Programme. In Nigeria their operation is concentrated in rural area by promoting cottage and small - scale industries through supply of equipment and tools such as cutlasses and hoes etc (CBN, 1999).

The lack of adequate and appropriate agricultural credit is one of the constraints of agricultural growth in the country. Costs of improved inputs have been unstable, cost of farm investments in small-scale irrigation for example have gone beyond the reach of small-scale farmers to pay for them in cash. Thus, demand for rural credit has expanded (World Bank, 1989).

Most small farmers cannot finance their farming operation from their limited savings. These farmers will therefore require assistance in the form of production credit in order to adopt relevant technologies to improve their farm productivity and income (Ater et al., 1991). The UNDP micro - credit scheme was designed to help the underprivileged and marginalized poor to have access to credit to develop and finance productive income generating activities including farming. Availability of micro credit and the establishment of micro finance institutions are on the increase in Nigeria (Anyanwu, 2004). Microfinance involves the provision of credits, saving repositories and other financial service to low income earner or poor household to create or expand their economic activities, to improve their standard of living (Olaifa, 2001). Microfinance has been successful in opening economic opportunities for the poor, increasing access to resources and contributing to their confidence and well being (Khadker, 1998).

In view of the above, the broad objective of the study is to assess the impact of UNDP's micro - credit programme on the poverty status of the farmers and specifically to determine the profitability of agricultural enterprises engaged by the farmers, to determine relationship between input available and the effect on farmers output and to

identify constraint of UNDP's micro - credit scheme.

## METHODOLOGY

Study was conducted in Makarfi, Ikara and Kauru Local Government Areas of Kaduna State. The State is situated in the northern Guinea savannah ecological zone. Kaduna State is located between latitude 90°N and longitude 6°E of the prime meridian. The State has a population of about 6,066, 562 million people with a total land mass of 45,456 7 sq. km and arable land of 2.02 million hectares (National Population Commission, 2006).

The State is characterized by alternating dry and wet seasons with an annual rainfall range between 1270 and 1524 mm. The rainy season extends from April to early October. The dry season extends from November to April. With a mean maximum temperature ranging from 27°C in the rainy season to 35°C in the dry season (FOS, 1996). This condition is suitable for the crops grown in the State. The major crops grown include sorghum, maize, millet, cotton, groundnut, cowpea, onion, rice, ginger and vegetables, liver stock kept include cattle, goats, pigs, sheep and poultry.

To achieve the objectives of the study, primary data were collected from three villages, namely, Pampaida, Dorayi and Tudun-Kachirga of Ikara, Makarfi and Kauru Local Government Areas of Kaduna State. The villages were selected purposively based on the considerable number of micro - credit participants. In each village eighteen (18) farmers were selected making a total of fifty four (54) comprising of 27 beneficiaries and 27 non beneficiaries. The study used structured questionnaire and focus group discussion to collect the data. Information were collected on farm household characteristics, resource endowment, inputs and output variables, income before and after, source of credit and problems faced by the farmers. Analytical tool used include descriptive statistics, farm budgeting technique and productive function analysis.

The gross margin analysis was employed as the budgeting technique. Budgeting technique is a useful planning tool in situation where fixed capital is a negligible portion of the farming enterprise as is the case in subsistence agriculture. It is specified as:

$$GM = GI - TVC$$

Where; GM = Gross Margin (₦ /ha), GI = Gross Farm income (₦ /ha), TVC = Total variable income (₦ /ha).

## Production function analysis

This give the technical relationship between the various levels of inputs needed in the production process and output obtained. Several functional forms were tried and the Cobb - Douglas production was found to be the most fitted. This was determined using a combination of criteria such as, coefficient of determination ( $R^2$ ), the level of significance of the overall equation (F-statistic), the level of significance of each coefficient (t-statistics) and the correct sign of the co-efficient relative to a-priori expectations. The double log function is specified as:

$$\log Y = \log a + b_1 \log x_1 + b_2 \log x_2 + b_3 \log x_3 + b_4 \log x_4 + b_5 \log x_5 + b_6 \log x_6 + b_7 \log x_7 + b_8 \log x_8 + b_9 \log x_9 + b_{10} \log x_{10} + e$$

Where;

Y = Income of micro-credit participant in UNDP.

$x_1$  = Age (years)

$x_2$  = Education level (years)

$x_3$  = Household size

$x_4$  = Number of visit by extension agent

$x_5$  = Participation in the UNDP micro credit scheme (dummy variable) Participant score 1 while non participant 2

**Table 1.** Improvement in the farmers Income, before and after participation in the UNDP micro-finance programme.

Difference	Before		After	
	Frequency	Percentage	Frequency	Percentage
Little	22	81.5	2	7.4
Much	5	18.5	7	25.9
Very much	0	0.0	13	48.1
Great	0	0.0	5	18.6
Total	27	100	27	100

$x_6$  = Farm size (ha)  
 $x_7$  = Hired labour ( man hour)  
 $x_8$  = Agrochemicals ( litres )  
 $x_9$  = Fertilizers (kg )  
 $x_{10}$  =Seedlings ( kg)  
 $a$  = constant term  
 $b_1$ -  $b_{10}$  = estimated coefficients  
 $e$  = Error term.

## RESULTS AND DISCUSSION

### Impact of the UNDP micro-finance programme on farmers' income

Table 1 indicates that there was a great improvement in the farmers' income after their participation in the programme compared with when they had not participated. The result in Table 1 shows that 82% of the farmers indicates that they had just little improvement in their income before their participation in the programme, while 7.4% of the farmers had little improvement in their income after participation and 19% of the farmers had much increase in income before participation compared with 26% who had much improvement in their income after participation. None of the farmers indicates that they had very much or great increase in income before their participation in the programme. The result show that 48 and 19% of respondents indicated they had very much and great improvement in their income after participating in the programme respectively. This result implies that the programme had a positive impact economically on the farmers' income.

### Social impact of the UNDP microfinance programme

The result in Table 2 shows that as a result of economic improvement of the farmer's status due to their participation in the programme, the revenue derived by the farmers from the farm were spent on training their children, which is a very important development that would result to development if farmers go through special skills. The result in Table 2 also shows that 7.4% of the farmers used their income in marrying more wives, while 15% of the farmers used theirs to built houses and 22.3% of the farmers used their income on consumption by

buying items such as bicycles, motorcycles and vehicle which also aid transportation of their farm inputs and produce and 14.9% of the farmers spends theirs on clothing, feeding, celebration of festival and re-investment in the next farming season.

### Cost and return analysis

The result in Table 3 indicates the costs and returns of the sampled farmers using the gross margin analysis. The analysis shows that the mean gross margin for participants was ₦183,595.50, while that of non-participant was ₦79,002,20, implying that the levels of profit of participant is higher than those of non-participant, there by putting the former at a financial advantage over the latter. The less income obtained by the non-participants was partly due to lack of subsidy on farm inputs, inadequate fertilizer and non-usage of improved farm practices which affects productivity. The result of the independent sample T-test between the mean gross margin of participant and non participant is 31767 which are statistically significant at 5%. The result shows a significant difference between the gross margin of participant and non-participant.

### Production function analysis

Among the functional form analysed, the result of Cobb - Douglas model shows that the  $R^2$  (square value) of 0.875, implies that 87.5% of the variance of the output can be predicted from age, educational level, participation level, household size, number of visit by the extension agent, farm size, hired Labour, agrochemical, fertilizer and seedlings the Adjusted R square shows that 84.6% of the variance was explained by the variables included in the model. The analysis shows that household size, number of visit by extension agent, farm size, hired Labour, agrochemical, fertilizer and seedling were positively related with income, while age, educational level and Level of participation were negatively related to income earned by the farmers. Among these variables, farm size was the most significant followed by fertilizer, hired Labour and number of visit by the extension agent. This implies that a unit increase in these variables will

**Table 2.** Social impact of the UNDP micro-finance programme on participated farmers.

Effect	Frequency	Percentage
Training of children to school	11	40.7
Marrying more wives	2	7.4
Building of Houses	4	14.8
Buying of Bicycle/vehicles	6	22.2
Others	4	14.9
Total	27	100

**Table 3.** Average costs and returns analysis of participating and non-participant farmers.

Cost/income of item	Participant	Non-participant
Cost of seed, fertilizer, chemicals etc	₦37,194.40	₦34,597.00
Cost of hired labour	18,857.70	12,905.60
Cost of marketing produce	7611.70	4,610.00
Total variable cost	63,663.80	52,112.60
Gross farm income	247,259.30	131,114.80
Gross margin	183,595.50	79,002.20

**Table 4.** Multiple regression estimates of farmers production variables.

Variable	Co-efficient	T-value	Sig.T-Value
Constant	4.372(0.9875)	20.229	79.2018
Age	- 0.315(0.4219)*	- 2.551	0.7298
Education levels	- 0.088(0.4780)	- 1.147	0.9158
Household size	0.069(0.5172)	0.943	1.0714
Number of visit by extension	0.105 (0.5262)*	1.901	1.1107
Level of Participation	0.694(0.3332)**	- 7.260	0.4996
Farm size	0.470(0.6154)*	5.471	1.5999
Hired labour	0.316 (0.5783)*	3.192	1.3716
Agrochemicals	0.026 (0.5065)	0.444	1.0263
Fertilizer	0.240(0.5597)*	4.305	1.2712
Seedlings	0.026 (0.5065)	0.757	1.02663

\*p < .05 , \*\* p>.0.10, R<sup>2</sup> = 0.875, R<sup>2</sup> = 0.846.

raise the farmers' income at 5% level of significant (Table 4).

#### Problems associated with UNDP microfinance programme

The result in Table 5 shows that 78% of the farmers considered the farm credit disbursed to them as too small. Further more, the processes engaged upon before securing the farm inputs was considered time-wasting by 44% of the total respondents, while 26% of the farmers considered the amount of equity capital contribution as being high.

#### Summary, Conclusion and Recommendations

The result of the study shows that the programme had positive impact on the target beneficiary. Most of the farmers indicate that the programme has enabled them to train their children, buy inputs, built houses, buy motor-cycles and vehicles to ease transportation of their farm inputs and produce. The result of the gross margin analysis shows that the average income of participating farmers rises from ₦48,609.30 to ₦189,187.00 after participating in the Programme. The multiple regression estimates for the variables of production show that age, educational level and level of participation all had a negative relationship with farmer's income. Farm size, ferti-

**Table 5.** Farmers assessment of problems with the UNDP micro-finance.

	Small loan	Time wasting in processing	Tenure of loan repayment too short	High amount of equity capital contribution
Num. of respondents	27	27	27	27
Frequency	21	12	16	7
Percentage	77.8	44.4	59.3	25.9

lizer, number of visit by extension agents is all statistically significant with respect to income after participation in the UNDP Micro-finance Programme. The study has shown that the UNDP Micro-finance was of optimum benefit to the farmers in terms of improvement in their income and standard of living. However, despite the enormous benefit of the Programme, problems such as small amount of credit facilities, time wasting in processing of credit facilities, delayed in the provision of credit facilities, high amount of equity contribution were recorded.

Based on the findings from this study, the following recommendations are made so that adequate steps should be taken for the improvement of service delivery practices in the UNDP micro-finance programme in Kaduna State and other parts of Nigeria.

1. Credit facilities should be made available to farmers, so as to enable them acquire more modern farm implements and other inputs which could lead to increase productivity.
2. The amount of credit facilities provided should be increased so as to increase productivity.
3. The processes involved before securing the credit facilities need to be reduced.
4. Time for repayment of credit facilities should be extended to more than one year.
5. The Programme should be extended to other farming communities in the State, so as to accelerate the reduction of poverty among rural dwellers.
6. Government should evolve policies that will facilitate availabilities of farm inputs and subsidy on those inputs.

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