



The Effect of Agricultural Development Project (ADP) on the Rural Farmers in Adamawa State, Nigeria

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Abstract

Majority of communities in Nigeria are rural dwellers and agrarian by occupation. Development strategy for a country whose rural population are mainly farmers cannot be achieved without first sustained growth in rural income and standard of living primarily from agriculture. It was based on this that the state wide Agricultural Development Project (ADP) was established to raise productivity, income and standard of living of rural farmers in Nigeria. This study assesses the effect of the ADP activities on the wellbeing of the rural farmers in Adamawa State, Nigeria. Data for this study were collect on annual crop output, annual income, farm size, use of improved technology, access to credit among farmers, farmers' training and rural infrastructure development. The data were sourced using structured questionnaire and personal interviews. The statistical analysis used to determine the effect to the project on the participating farmers include, descriptive statistics and comparability test for difference (T-test) analysis. The results indicates that Adamawa ADP had positive and significant impact on rural farmers productivity, income, access to credit, standard of living as measured by assets ownership. However, the project did not have significant impact on the rural infrastructure, adoption of improved technologies and farm sizes, even though the change from before and after ADP activities was positive. The study recommends that much attention should be paid to the provision of rural infrastructure and the needed improved technologies. The study also recommends that the two tiers of government in Nigeria should adequately fund the project to efficiently cope with its responsibility of developing the rural sector.

Keywords: Effect, ADPs, Rural, Farmers

Introduction

The average Nigerian farmers still produces crops and livestock at a subsistence level, and this low productivity stems partly from inadequate support from the government. At the same, the continuing increase in the size of the nation's population has created high demand for food which was not being met with existing traditional technologies. This has caused the government of Nigeria to establish several agricultural development projects to increase

food productivity and subsequently, the welfare of the rural farmers (Adejo, 1983; Umar, 2005; Dennis, 2007; Omonona, 2009). Some of these programs include Operation Feed the Nation (OFN), Green Revolution, National Accelerated Food Production Program (NAFPP), River Basin and Rural Development Authority (RBRDA) and Agricultural Development Projects (ADPs).

There is strong and urgent need to transfer and extend new practices, knowledge and skills of production to rural farmers to improve efficiency and thus improve the living standard

and quality of life of the majority of the rural poor as well as improved the economy of the country. Rural people in Nigeria seem to have unique opportunities to benefit from the well tested package of the improved technologies of the Agricultural Development Project (ADP) strategies. It is the focus of this study therefore, to investigate the effect of the Adamawa ADP on the quality of life of the rural farmers.

Overview of the Agricultural Development Project (ADP)

The concept of Agricultural Development Projects (ADPs) evolved from the desire of the federal government to throw its might behind the state government's efforts in the development of agricultural projects. This desire was buttressed in the Third National Development plan in which it was recognized that rapid economic development cannot be achieved within defective institutional framework (Nwoko and Mabawonku, 1983). ADPs were established in 1975 as three enclave projects in *Funtau, Gombe, and Gusau*. Presently, ADPs have evolved into state-wide project which covers the whole states of the country (Omonona, 2009). The main objectives of the projects are to promote agricultural and rural development especially among the small scale farmers. Some of the objectives of ADPs include:

- The supply of farm inputs through farm services centres.
- The supply, improvement of extension staff and farmers' training.
- Introduction of new credit and marketing services
- Provision of improved seeds
- Provision of rural infrastructure such as rural roads, construction of dams and boreholes for water supply.

In their integrated supply of farm inputs and infrastructural support and in their efforts to revitalized and revamp extension systems, the ADPs represent a truly innovative approach to agricultural and rural development in Nigeria.

Methodology

The study was conducted in *Adamawa* State of Nigeria. It is located in the north eastern part of the country. The state lies between latitude 12.20° N to 11.52° N and longitude 7.0° E to 7.5° E. Adamawa State is bordered by the states of Borno to the northwest, Gombe to the west and Taraba State to the southwest. Its eastern border forms the international border with Cameroon. Based on 2006 population and housing census, the state has an estimated population of 3,194,781 (NPC, 2006).

To achieve the objective of the study, primary data were collected in five (5) local governments' areas of the state, namely Gombi, Hong, Maiha, Mubi North and Michika. These local government areas were selected based on considerable number of participating ADP farmers. In each local government area selected, 20 farmers were randomly selected making a total number of 100 famers selected for the study. Structured questionnaire and personal interviews were used to collect the data used in this study. The data were collected on farmers' characteristics, total annual output, income per annum, farm sizes, adoption of improved technology, access to credit and farmers training. The analytical tools used include, descriptive statistics and statistical test for difference (T-test). The selection of the t-test is based on its proven capability to determine the difference between two means (Dehejia and Wahba, 2004). In this study, T-test is used to test for difference in the mean of explanatory variable before and after participating in ADP.

Result and Discussion

Socio-economic and demographic profiles of the respondents

The socio-economic characteristics of the respondents are shown in Table 1. The results indicate that 60% of the participating farmers were males, with about 70% of them falling below 51 years of age. The farmers' level of education in the study area is generally low as 33% had no formal education and another 26% obtaining only primary education. This means that majority of the farmers are illiterates, and thus the new practices introduced by ADP have suffered poor understanding.

Table 1: Socio-demographic Characteristics of the Respondents

| Variable | Categories | Frequency | Percentage |
|-------------|------------|-----------|------------|
| Gender | Male | 120 | 60 |
| | Female | 80 | 40 |
| Age (years) | 20 – 30 | 29 | 14.5 |
| | 31 – 40 | 51 | 25.5 |
| | 41 – 50 | 60 | 30 |
| | 51 – 60 | 50 | 25 |
| | Above 60 | 10 | 5 |
| Education | None | 66 | 33 |
| | Primary | 52 | 26 |
| | Secondary | 63 | 31.5 |
| | Tertiary | 19 | 9.5 |

Source: Field work, 2009

Total Annual Crop Output of the Farmers

The study investigated if participation in ADP activities has influenced increase in output of the farmers and consequently increases in their income. The result shows that there was improvement in the output of the participating farmers as a result of the ADP activities. There is disproportionately high difference between the total output of the farmers before and after ADP activities. The statistical test for difference as shown in Table 2, indicates that there is a significant difference in total output before and after ADP activities at $p = 0.05$. This is consistent with findings by Kwa (1992), Ayichi (1995), Rahman & Lawal (2003) that crop output increased substantially among the ADP participants due to the project’s activities.

Total Annual Income of the Farmers

The total annual income of the ADP participants was examined before and after participating in the project. There is substantial and positive impact of the ADP on the income of the participants. As shown the Table 2, there is a remarkable improvement in the incomes of the beneficiaries of this project. The statistical test for difference, indicates that there is a significant difference in their incomes before and after participation at $p = 0.05$. This achievement may not be unconnected with increase in output realized by the farmers. Farmer’s income is to a large extent determined by crop out. Similar findings by Kwa (1992), Umar (2005), Dennis (2007), farmers participating in ADP activities have achieved substantial increase in income due to the project’s activities.

Table 2: Summary of T-test Analysis of Parameters Used to Measure Effects of ADP

| Parameter | Mean Before | Mean After | T-statistics | P - Value |
|----------------------|-------------|------------|--------------|-----------|
| Total output | 764 | 1528.86 | 1.186 | 0.0276** |
| Annual Income | 402.02 | 523.12 | 4.783 | 0.0123** |
| Farm Sizes | 716,02 | 746.2 | 2.389 | 0.0743 |
| Improved Techn. | 417.06 | 435.02 | 2.594 | 0.0667 |
| Access to Credit | 409.5 | 422 | 5.764 | 0.00359** |
| Farmers’ Training | 435.6 | 562.8 | 3.236 | 0.01345** |
| Property Acquisition | 356,4 | 452.78 | 3.142 | 0.01545** |

** = significant at 5%

Farm Sizes of the Farmers

The introduction of the ADP system did not assist farmers in the study area to realize much increase in their farm sizes. The farm sizes of

the participating farmers never witnessed substantial increases over the period of participation in ADP activities. The result from the field as shown in Table 2 above indicates

that there is no significant difference in the farm sizes of the farmers before and after participation at 5% level of significance. Even though, the number of plots increased for individual farmers, the increases were not significant. One of the criteria for measuring the status of rural farmers is their farm sizes (Dennis, 2007). Considering this result therefore indicate that a good number of farmers are not sure of their regular farming plots and this is detrimental to proper farm planning and job security needed for population stabilization and the development of the rural areas.

Adoption of Improved Technology

The study investigated the use of improved technology among the participants which included tractors and related machines, improved seeds, use of chemicals, among others. Little achievement is made in the area of technology use among farmers in the study area. Statistical test for difference from before and after participation shows that there is no significant changes at $p = 0.05$ (see Table 2). Even though there is a difference in the mean from before and after, the improvement is not statistically significant. This non application of improved technologies may not be attributed to unwillingness by the farmers, but relative scarcity, cost and poor management of some of the technologies e.g. tractors (Dennis 2007; Umar 2005).

Acquisition of Assets by Farmers

Participation in ADP activities has improved the lot of the farmers in Adamawa State. Generally there is increase in income which subsequently led to substantial increases in the number of assets owned by the farmers. T-test analysis of assets acquire by farmers before and after participation as shown in Table 2 above shows that there is significant difference at 5% level of significance. The farmers have acquired modern gadgets ranging from modern houses, motorcycle, pick-up, TV sets, videos, satellite dish, etc.

Access to Credit Facilities by Farmers

Access to credit facilities among the farmers participating in ADP activities in Adamawa State has improved over the period of the

project's operation. The result as shown in Table 2 above indicate that there is substantial difference in access to credit before and after ADP activities. The statistical test for difference (T-test) between before and after participation shows significant difference at $p = 0.05$ (Table 2). This difference may be attributed to the awareness campaign and trainings provided by the project on the importance of credit, source of credit and how to access credit facilities. However, Dennis (2007) in his findings revealed that the average loan received by ADP farmers was grossly inadequate to influence meaningful agricultural activities. The importance of credit to farmers is not debatable, thus it is regrettable if farmers access to credit is poor because no meaningful agricultural investment can be made.

Farmers' Training

Farmers in Adamawa State have received one form of training or the other from the ADP. These includes techniques of storage, compost making, land preparation, cooperatives, importance of credit, fish farming and animal husbandry among others. The data as gathered from the respondents indicates that substantial impact is made by the ADP in the area of farmers' trainings. Statistical test for difference (T-test) at $p = 0.05$ suggests significant difference in the number of farmers trained during pre-ADP and post-ADP operations (see Table 2). These trainings have enabled the farmers to understand and apply the innovations introduced by the ADP to some extent.

Infrastructure Development by ADP

The performance of ADP in the provision of rural infrastructure in the farming communities in Adamwa State as stipulated was its objective is not encouraging. One of the objectives of the ADP was provision of rural infrastructure such as bore holes, rural feeder roads, culverts, irrigation dams, tube wells, wash bore, etc. the field data shows that no bore holes were provided, only 22 tube wells out of targeted 936 were provided by the project in the study area. Rural roads, dam and food storage constructions recorded zero achievement, while only 542 km roads out of targeted 2489 km roads were rehabilitated

Table 3: Rural Infrastructure Development by ADP

| infrastructure | 1991 | 2003 | Target |
|---------------------|--------|--------|---------|
| Bore holes | 0 | 0 | 1,200 |
| Road construction | 0 | 0 | NA |
| Roads rehabilitated | 201 km | 341 km | 2489 km |
| Culverts const. | 18 | 11 | NA |
| Tube wells | 16 | 6 | 936 |
| Wash bores | 13 | 77 | 3540 |
| Water pumps | 0 | 200 | 2352 |
| Irrigation dams | 0 | 0 | NA |

Source: Field work, 2009

This is a good indication that Adamawa ADP did not perform up to expectation in the area of rural infrastructure provision. The targets set by ADP were not met in any year. This is shared by Ekpo and Olaniyi (1995) that ADP performed poorly in infrastructure development during its operation. Poor roads in the farming communities has forced the farmers to sell at lower price as it is not feasible to transport produce to urban market for better prices. It has also incapacitated the farmers to increase productivity due to poor access to farm inputs.

Conclusion and Recommendations

The results of the findings have shown that Adamawa State ADP has positively on the livelihood of the farmers in the state. The project has influenced the rural farmers in the study area to realize increased in crop output, income, access to credits, ownership of assets and trainings. However, the project's impact on farm size, adoption of new technologies and rural infrastructure were not found to be statistically significant, though some level of positive changes were notice from before and after participation in the project. These findings suggest that ADP's impact on the rural development in Adamawa State is pronounced as it has contributed significantly to rural farmers' wellbeing.

Based on the findings and experience gathered during the course of this study, the following recommendations are hereby made to address some of the problems:

- The scarcity of tractors, other needed technologies and their relative cost has been an impediment to adoption of new technologies among the rural

farmers. The farmers expressed willingness to use these technologies, but always resort to traditional methods due to non availability. It is therefore recommended that any technology introduced should be made available to farmer at subsidized rate through farmers' cooperatives.

- Rural farmers have not been receiving better price for their commodities due to bad road network that makes it difficult and costly to transport their produce to the urban centres where better prices are obtained. Bad roads also hinder evacuation of produce and supply of farm inputs. Portable water supply borders on the health of the farmers. The funding level of the ADP could not support the provision of these amenities. It is imperative that the government set machinery in motion to provide portable water supply and good access roads in all rural areas to support the activities of the farmers.
- Finally, it is observed that even the farmers are worried that there is dwindling activities of the ADP and wished it will catch up again with its past glory. The funding level of ADP is not commensurate with its activities. The federal and state governments should as a matter of urgency reconsider funding the project to enable bounce back to its role in developing the rural areas.

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