

# Accelerating community development through provision of rural infrastructure: An appraisal of the third national Fadama development project in Ondo State

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## ABSTRACT

This paper presents an appraisal of the performance of the National Fadama Development Programme (FADAMA III) towards accelerating community infrastructural development in Ondo State, Nigeria, based on the author's practical assessment and oral interviews of project participants as well as a collection of secondary data in form of reports and surveys produced by the Fadama III Project in Ondo State during the implementation period. The secondary data collected include the status of the different classes of small-scale community-owned infrastructure, productive assets and Fadama Users Groups/Fadama Community Associations (FUG/FCA) access to these infrastructures. In addition, the study reported on the means of access to agricultural product market, value additions to the agricultural commodities produced by the FUGs and changes in income from sales associated with value-added products. Data collected were analysed using basic descriptive statistics. The results of the study show that crop production is the primary occupation for a large proportion of the groups, accounting for over 45.1% of total FUG, Fishery and Livestock production each make up 12%. A look at the available Productive Small-scale Community-owned Infrastructure across FCAs in the 18 LGAs of the State from the study show that seven new access roads were constructed; 46 feeder roads were rehabilitated; and 22 markets facilities were provided. Seven culverts and four foot bridges were constructed along with several assets to service the enterprises. Generally, the results indicate that income decreased at the project preparation stage only to stabilise and peak as the enterprises are consolidated. Average income of \$692.35, \$561.42, \$194.79 and \$100.39 for crop production, livestock, fishing and Non-Farm enterprises were obtained.

**Keywords:** Fadama, assets, infrastructure, FUG, FCA.

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## INTRODUCTION

Current FAO Statistics on the profile of rural development in Nigeria shows that 70% Nigerians live in the rural areas, 73% of the people are poor and rural dwellers, 95% of the extremely poor living below poverty line lives in the rural areas. Nigeria is thus categorised as low income food deficit country (FAO, 2012). Similarly FMARD (2001) reported that Nigeria's rural communities are characterized by the following features: Lack of portable water and therefore prevalence of water borne diseases, low income and employment opportunities,

inadequate access roads and means of transportation, malnutrition and under-nutrition, poor shelter, health, educational facilities with prevalence of environmental and ecological hazards e.g desertification and erosion.

Economists generally agree that a major way to break the pervading cycle of poverty is through an efficient infusion of capital, hence the eradication of rural poverty or the now fashionable expression "poverty alleviation" is the essence of rural development. Since this problem has become acute, the critical question in Nigeria had been

how to achieve the desired goals.

Rural development is both a strategy and process whereby significant improvements are brought about and sustained in the economic, socio cultural and political life of the rural population for the benefit of both the rural dwellers and on the entire nation FMARD (2001). As a result of this, the concept of integrated rural development has now become popular; because this is a process that is inter-sectoral, intergovernmental and multi-sectoral as well as symbiotic that is a composite program that involves many relevant sections e.g. agriculture, industry, education, health, housing, transport, employment. Several intervention programmes for poverty alleviation set up to address specific intervention areas were cited in Akinbamowo (2013). Unfortunately, most of these programmes become stunted and defunct soon after they are launched due to inadequate funding, ad hoc and inconsistent policies with faulty institutional structure. In any case, the failure of the various levels of government to accomplish these tasks and the strength of communities in the provision and maintenance of rural infrastructure has been documented by Akinola (2007), Ashok and Balasubramaman (2003). This is the baseline environment for the set up of the National Fadama Development Project (NFDP).

According to Hirschman (1958) in Olayiwola and Adeleye (2005), infrastructural facilities refer to those basic services without which primary, secondary and tertiary productive activities cannot function. Broadly this includes all public services like education, public health, transportation, communications and water supply. Likewise Kahn (1979) classified rural infrastructural facilities into three main types: namely, physical infrastructure – such as roads, water, rural electrification, storage and processing facilities; social infrastructure namely, health and educational facilities, community centres, fire and security services; institutional infrastructure which include credit and financial institutions, agricultural research facilities and social infrastructure.

According to Fakayode et al. (2008) and Aigbokhan (2000), there is the geographical dimension of poverty in Nigeria, meaning that poverty is higher in the rural areas than in urban areas. In 2004 for instance, the study found that urban population with access to water was 67%, while it was 31% in the rural areas. Kessides (1993) and Alaba (2001) pointed out that these individuals are poor because they do not have access to infrastructure services of necessary quality. Therefore, it has been established that improvement in rural infrastructural facilities through a community based development strategy can be utilized to confront rural poverty and subsequently low quality of human life (Olayiwola and Adeleye, 2005).

## FADAMA III PROJECT

The National Fadama Development Project (NFDP),

otherwise known as Fadama, has been in phases; NFDP I, NFDP II and NFDP III. The success recorded in the Fadama Phases I and II by participating States culminated in the third phase of the National Fadama Development Project (NFDP III) in the year 2009. In Ondo State, it covers the 18 Local Government Areas of the State at 10 Communities per Local Government Area and each Local Government Area has a Local Fadama Desk Office.

The development objective of National Fadama Development Program (NFDP III) is to sustainably increase the income of farmers and other economic groups and to empower Communities. The project anchored on the Community Driven Development (CDD) approach which gives the control of resources and decisions to the beneficiaries. It covers crops, livestock, processing, fisheries, pastoralist, rural road construction/rehabilitation, etc. It is for accelerating development of a participating rural community through a well applied micro credit.

The project is being funded by the World Bank FGN, State Governments, Local Government Councils and the beneficiary communities. This is a credit to the State but grants to the benefiting communities. The total grant portfolio to the state is \$7.8 m

The components proposed for NFDP III are:

- i) Capacity building, communication and information dissemination.
- ii) Small-scale community-owned infrastructure which consists of rehabilitation/construction of Fadama access roads, culverts and small bridges; improve water harvesting structure storage.
- iii) Advisory services and input support.
- iv) Asset acquisition: Provision of matching grant for various capital assets needed for income generation activities in crop production and non-crop activities).
- v) Project administration, monitoring and evaluation.

Farmers are registered as Fadama Users Group (FUG) with the State Cooperative Department as Economic Interest Groups (EIGs) on Arable crops, Livestock, Hunters, Fisheries, Agro processing, Marketing, Pastoralist and Beekeeping. Special consideration is also given to youths, vulnerable groups and women. Membership of each group to be between 20 and 30 farmers.

## METHODOLOGY

This appraisal of the Fadama III Project was conducted based on the author's practical assessment and oral interviews of project participants as well as a collection of secondary data in form of reports and surveys produced by the Fadama III project in Ondo State during the implementation period. Project reports and surveys utilized a combination of a structured questionnaire and Focused Group Discussion (FGD) sessions for data collection during the study.

**Table 1.** Distribution of productive small-scale community-owned infrastructure and FCAs' access.

S/N	Productive infrastructure type	Number	Average unit cost (\$'000)	Average distance covered in km/rooms	Numbers of FCAs accessing the infrastructure
1	Newly constructed access roads	6	15	5	8
2	Rehabilitated feeder roads	46	4.4	0.9	12
3	Culverts	7	3.5	NA	2
4	Open markets	11	11.9	176 rooms	21
5	Lock up markets	26	14.4	208 rooms	17
6	Wooden foot bridges	4	7.8	NA	2
7	Boreholes	55	10	1	NA
8	Open well	35	0.75	-	-

Source: ONSFCO (2012a).

Secondary data were collected for the distribution and status of different classes productive Small-scale Community-owned infrastructure and FUG/FCAs' access to these infrastructures. In addition, value additions to the agricultural commodities produced by the FUGs and increase in income from sales associated with value-added products is also highlighted. Data collected were analysed using basic descriptive statistics.

## RESULTS AND DISCUSSION

### Distribution of FUGs types and its composition

An assessment of the FUGs by economic interest indicates that crop production activity constitutes the major economic interest group across all the 18 local government areas of the state, accounting for over 45.1% of total FUG. This is followed by livestock production farming group which represent 12%, fish farming/aquaculture constitutes about 12% with agro processing as 8%vulnerable and women group 10%, while youth group, bee keepers and snail farmers groups put together accounted for 11%.

### Distribution of productive small-scale community-owned infrastructure

Table 1 shows the available Productive Small-scale Community-owned Infrastructure across FCAs in the 18 LGAs of the State. The table showed that during the project cycle, six new access roads were constructed, 46 feeder roads were rehabilitated, 37 markets facilities (11 open and 26 locked up) were provided. Only seven culverts and 4 small wooden bridges were constructed.

The Focus Group Discussions (FGDs) held with the members of the FUGs in the different FCAs fostered a further disaggregation of the road infrastructure in particular and helped to authenticate information obtained on the status of the Productive Small-scale Community-owned Infrastructure in general. It was ascertained that 2 of the newly constructed access road span 7 km, 1

covers a distance of 3 km, the remaining 3 range between 1.5 and 2 km.

Out of the rehabilitated feeder roads, 24 span over 3 km, 6 covered less than 2 km and the remaining 16 are in the range of 0.5 to 1 km. Furthermore, market infrastructure has provided marketing outlet for about 384 people while the 11 open market stall comprises of 176 spaces and the 26 locked up markets contain 208 rooms as indicated in the table.

The provision of productive SCI has impacted positively on members of the community as well as beneficiaries. On certain instances it transcends two or more FCAs as revealed in the study. It was observed that 8 FCAs have access to newly constructed roads and 12 FCAs are connected through the rehabilitated feeder roads. In specific term, the access/feeder roads, culverts/bridges and markets have considerably contributed toward achieving PDO through robust sales volume of farm produce, better price for commodities (owing to easy access to the community), influx of people to the community, competitive (lower) price for farm inputs, availability of farm inputs when needed and in general, boom in economic activities in the communities. It was discovered that 21 FCAs had access to the 11 open market stalls, while 17 FCAs had ready access to the 26 locked-up shops. While only two FCAs each had access to culvert and small bridge constructed in the locality.

### Fadama community associations' access to productive infrastructure

As a result of construction of some new access roads and rehabilitation of other feeder roads as indicated in by the respondents and corroborated through FGDs, the average waiting time to connect markets of about 1.5 km is 5 min, while a commuter waits for between 5 and 10 min to connect either motorcycle or motor vehicle to access a markets of about 2.5 km away. Those markets that are farther (over 3 km) require an average waiting time of 15 min. About 35% of the market could be

connected by head portage. This is made possible as a result of the nearness of these market facilities to people. Those that can be accessed by bicycle, motorcycle, motor vehicle, bicycle and motorcycle, motorcycle and motor vehicle accounted for 29, 15, 14, 9 and 8%, respectively. Markets that are connected through motorcycle and motor vehicle are those that attract buyers and sellers across FCAs and LGAs as a result of density of market participators cum availability of assorted commodities.

### **Class of productive assets acquired by FUGs**

Large number of different categories of assets has been acquired by the different FUGs to diversify their income generating activities in order to achieve the PDOs of Fadama III. The number and functionality of various classes of assets acquired by the FUGs/EIGs are listed on Table 2. It is evident that irrigation equipment were mostly acquired by the FUGs, followed by tillage tools, bee keeping, fishery equipment, and fishing equipment in that order.

It was ascertained from the FGDs, that all the equipment with the exception of few processing equipment were functioning effectively and efficiently. Majority (75%) of members of the FUGs and non-members (68%) confirmed their unrestricted access to these assets.

Assessing the level of utilization of the productive assets, shows that 6% of the respondent asserted that it was very satisfactory, 15% claimed that it was moderately satisfactory, 25% said that the utilization was just satisfactory and 54% said that the utilization was not satisfactory. Similar negative results were obtained on maintenance of the infrastructure, evident in the FUGs members' comment about the maintenance of their equipment which shows that 68% regard maintenance of assets as not satisfactory (9%) of the respondents classified maintenance culture of the management officers as very satisfactory, 13% described it as moderately satisfactory and the remaining 10% adjudged the maintenance style as only satisfactory. This might be because group ownership of assets advocated by the Project is a new innovation to the communities.

### **Effects of productive assets on value addition and income generation**

Although only primary value addition activities were carried out on most of the produce, the study showed that acquisition of processing equipment by various Economic Interest Groups in the rural area has helped to add value to key agricultural products and foster achievement of Project Development Objectives by increasing household income during the implementation period.

Table 3 shows the average income of production across FUG enterprise types evolving from 2009 to 2012. Since 2009 data is taken as the baseline for the implementation period 2010 to 2012, it can be seen that crop production has the highest average income of production for all the years considered. The grand average of income of crop production for the three years was \$692.35 per annum. Average income of production dropped drastically in 2010 and in 2011. The average income of production of livestock enterprise is the next highest compared with that of crop production for the three years and it stood at \$561.42. This value also fell slightly in 2010 but stabilized in 2011.

The income from fishing activities, which average value stood at \$194.79 experienced a steady rise in 2010 to 2012. The average annual incomes of production for non-farm FUGs were on the low side compared with that of other FUGs.

Generally, the results indicate that income decreased at the project preparation stage only to stabilise and peak as the EIGs' enterprises are consolidated. With this trend in income level, it might be possible for the FUGs, to meet the replacement target of 20% savings of the cost of the assets at the end of the economic life of those assets if they are committed to their savings covenants.

A comparison of average gross revenue generation from primary products and their value added output based on the tonnage obtained from the pick-up load for the primary outputs and its composite value added products is shown in Table 4.

It can be observed from Table 4 that value addition has enhanced household average gross income by at least 11.0%. Among the crop enterprises, processed plantain contributed additional 71.8% to the gross household income, followed by maize and cassava which added 67.1 and 44.9% respectively to family income.

For every pick-up load of cocoyam and palm oil processed and/or stored, an increase in the household gross earnings of 44.8 and 39.9%. It was observed that yam raised families spending power by 23.6%. All the value additions carried out on these crops were still primary. The level of value addition activities carried out by households in livestock and fish farming enterprises at present was very low and in some situation it was completely absent. Castration of young piglets and goat kids and fish smoking were the only values added. They contribute 113, 10 and 11% respectively to gross household income.

## **CONCLUSION AND RECOMMENDATIONS**

It could be concluded that the Fadama III project based on the considered reports and surveys has had positive impact on the socio-economic status of the FUG members. The rural infrastructure provided after five years of project life has surpass those reported by

**Table 2.** Distribution of assets acquired by FUGs and their condition.

S/N	Class of equipment and its components	Number	Average unit cost (\$)	Condition of equipment
1	Livestock equipment			
	Poultry housing and equipment	32	11,250	Functional
	Goatry	12	5,440	
	Pig housing	36	11,880	
Irrigation equipment				
2.	Pump hose	160	218.7	Functional
	Spraying pump	820	78	
	Watering can	75	4.06	
3	Tillage tools			Functional
	Cutlasses	544	7.5	
	Spades	42	5.6	
	Rakes	21	5	
	Hoes	157	9.3	
	files	95	1.87	
4.	Processing equipment			Functional
	Feedmill	1	15,625	
	Cassava processing	61	4,312.5	
	Palm oil	34	4,875	
	Rice processing	33	2,000	
	Cereal processing	15	812.5	
	Yam flour processing	4	2,812.5	
	Pepper Grinding machine	14	750	
Processing shed	49	2,812.5		
5.	Bee keeping			Functional
	Beehives and smokers	208	37.5	
	Bee mask	270	18.75	
6.	Fishery equipment			Functional
	Fish ponds	125	5,312.5	
	Fish tanks	1		
	canoes	167	65.6/plank	
7.	Fish cages	10		Functional
	Preservation equipment			
	Deep freezer	22	281	
	Weighing scale	19	93.75	
8.	Generator	4	507.5	Functional
	Micro business unit			
	Rental equipment	156	0.6	
	Tricycle	25	3,000	
	Wheel barrow	160	56.25	
	Snailery	2	5,062	
Grasscutter	2	812.5		

Source: ONSFCO (2012a).

Olayiwola and Adeleye (2005) under the operation of integrated rural development in Nigeria (1980 to 1983) in scope and effect.

It is evident from the result available in project documents that value addition activities on agricultural commodities has great propensity to significantly raise households

**Table 3.** Average income of FUG respondents.

Year	Crop (\$)	Livestock (\$)	Fishing (\$)	Non-farm (\$)
2009	638.08	540.98	154.00	94.06
2010	571.79	534.96	105.58	76.88
2011	564.64	541.57	173.47	75.14
2012	940.63	607.74	305.31	149.14
Average(2010-2012)	692.35	561.42	194.79	100.39

Source: ONSFCO (2012b).

**Table 4.** Comparison of income from primary products and their value added product by FUGs/EIGs.

S/N	Primary produce	Output of value addition	Revenue from primary product (\$)	Revenue from value-added product (\$)	Percentage increase
1	Cassava tuber	Garri	445	644.68	44.9
2	Yam tuber	Yam Flour	558	689.68	23.6
3	Maize	Grains	271	453	67.1
4	Plantain	Plantain flour	307	527.81	71.8
5	Coco yam	Tuber	529.06	765.94	44.8
6	Vegetable	-	260.46	NA	NA
7	Tomato	-	663	NA	NA
8	Palm oil	Palm oil	888.75	1243	39.9
9	Goat production	Castrated Goats	46.87	96.87	107
10	Pig production	Castrated Pigs	39.06	83	113
11	Egg production	Sorting/grading	4.06	4.06	NIL
12	Fish farming	Smoked fish	2.81	3.13	11

Source: ONSFCO (2012a).

income. However, there is still room for improvement in the value chains associated with each crop enterprise. It is therefore imperative to developed knowledge-based advisory services targeted at composite activities in the value chain of each commodity, so that rural households can maximally exploit the potential benefits inherent in it.

In order for benefitting communities to continue to enjoy the maximum benefit, it is recommended that FUG members should be encouraged to pay-up their beneficiary contribution. In addition they could be encouraged to take up insurance policy on all their productive assets and infrastructure. To address unwillingness to save which is a key sustainability safeguard among beneficiaries, especially women, incentive should be given to the groups that obey the rule of keeping at least 10% of the assets replacement cost.

## REFERENCES

- Aigbokhan BE, 2000. Poverty, Growth and Inequality in Nigeria, A case study. African Economic Research Consortium (AERC), Nairobi, Kenya.
- Akinbamowo RO, 2013. A review of the effects of government agricultural policy on agricultural mechanization in Nigeria. *J Agric Extens Rural Dev*, 8(12):1022-1027.
- Akinola SR, 2007. Coping with infrastructural deprivation through collective action among rural people in Nigeria. *Nordic J Afr Stud*, 16(1):30-46.
- Alaba AO, 2001. Economics of Water, Health and Household labour market participation. A final report submitted to the African Economic Research Consortium (AERC), Nairobi, Kenya.
- Ashok K, Balasubramam R. 2003. Role of Infrastructure in Productivity and Diversification in Agriculture. South Asia Network of Economic Research Institutes (SANEI). Pakistan Institute of Development, Islamabad, Pakistan, 1-39.
- Fakayode BS, Omotesho OA, Tsoho AB, Ajayi PD, 2008. An economic survey of rural infrastructures and agricultural productivity profiles in Nigeria. *Eur J Soc Sci*, 7(2):158-171.
- FAO, 2012. FAO Statistics. [www.fao.org/countryprofiles](http://www.fao.org/countryprofiles).
- FMARD, 2001. Rural Development Sector Strategy. Main Report.
- Kahn, 1979. *Social Policy and Social Services*. 2nd Ed. New York: Random House.
- Kessides C, 1993. The contribution of Infrastructure to Economic Development: A Review of Experience and Policy Implications: World Bank Discussion paper 213, Washington DC.
- Olayiwola LM, Adeleye OA, 2005. Rural infrastructural development in Nigeria: Between 1960 and 1990 – problems and challenges. *J Soc Sci*, 11(2):91-96.
- ONSFCO, 2012b. Report for a study on income generation, progression and sustainability under fadama iii implementation of the National Fadama Development Project. pp 28.
- ONSFCO, 2012a. Report of a study on Contribution of Small Scale Infrastructure to the achievement of the Project Development Objectives. Survey report of the Ondo State Fadama Coordination office. pp 41 - 46.