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EQUITY CONSIDERATIONS IN PLANNING AND IMPLEMENTING RURAL DEVELOPMENT PROJECTS IN NIGERIA: AN EVALUATION OF THE FUNTUA PROJECT

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Introduction

Rural development efforts in Nigeria during the Fourth Plan period (1981-1985) are being concentrated on agricultural development projects (ADPs), designed and implemented with the assistance of the World Bank. These projects began during the Third Plan period (1975-1980), during which they were initiated in 7 of the country's 19 states. Of these projects, three (Funtua, Gombe, and Gusau) had completed their initial investment phase by 1981.

The ADPs are the core of the country's Green Revolution programme which aims to help Nigeria achieve food self-sufficiency by 1985. The Green Revolution strategy has as its central feature reliance on the smallholder to increase food production (Government of Nigeria). Subsidies (up to 90 percent for fertilizer) are supposed to encourage increased use of modern inputs, and thereby the necessary production increases to achieve food self-sufficiency. As the Federal Government is the sole procurer and distributor of fertilizer, ADPs in the past received a disproportionate share of fertilizer, compared to non-ADP areas (Idachaba). Assuring widespread access to fertilizer, both within ADPs and between ADP and non-ADP areas, could thus be a determining factor in meeting the Green Revolution programme's production targets.

To assess the effectiveness of the ADPs as a smallholder strategy, their design, implementation, and distributional effects are examined, using the Funtua Project as a case study. The implementation of a project explicitly designed as an equity oriented project--the Guided Change Project (GCP)--is also briefly discussed.

The Funtua Project

The Funtua Agricultural Development Project (FADP), in Kaduna State, covers an area of 7,590 square kilometres, and includes over 80,000 farming families. The major objectives of the project are to increase agricultural productivity and incomes of rural people, and to improve their standard of living (D'Silva and Raza).

Project Design

To achieve its objectives, the project planned to develop rural infrastructures (feeder roads and dams), build Farm Service Centres (FSCs) in all the project's 72 villages, and distribute inputs such as fertilizer and improved seed through the FSCs. In addition, an extension worker/farmer ratio of 1/350 was planned (cf. 1/3,000 at the start of the project). Extension was to be the key to transferring already developed improved crop and mechanical technologies. Improved sole crop technological packages was available for sorghum, maize, cotton, groundnuts, and cowpeas, while none was available for crop mixtures, even though these were predominant in the area's cropping pattern. Sorghum and millet are the predominant food crops of the area, while cotton and groundnuts are important cash crops. Maize was introduced as a new crop because the area had been found to be well suited to its production.

The improved technology packages being transferred required higher levels of inputs than the traditional technologies. Hence, their adoption necessitated access to adequate amounts of fertilizer, improved seed, and labour.

Project Implementation

While the project was designed to reach a majority of the area's farmers, project management adopted a "progressive farmer" strategy in the implementation stage. The project classified farmers into three groups--large scale, progressive, and traditional. Large scale farmers (over 200 in the project area) farmed at least 100 acres and were assisted through the project's Farm Management Unit. Farm plans, soil maps, access to inputs (especially fertilizer), and assistance in acquiring commercial credit were among the services they received. Extension was concentrated on progressive farmers, who constituted approximately 30 percent of the area's farmers and received 60 percent of the visits. Farmers were classified progressive if the extension workers thought they were adopting recommended farming practices. Inputs, especially fertilizer, were allocated to progressive farmers on the basis of their intended cropping patterns. During the 1979/1980 season, progressive farmers could purchase 50-100 bags of fertilizer each, while traditional farmers were able to purchase 3-5 bags each (1 bag = 50 kg) (D'Silva and Raza).

The project management team concentrated on progressive farmers because they wished to implement an individual rather than group extension strategy, preferred the "trickle down" approach, and wanted to work through existing social institutions, and due to organizational and administrative reasons (Huizinga).

As access to fertilizer was important for the adoption of the improved technological packages, and since the project was the primary source of fertilizer in the area, the differential distributional mechanism used by the project (its emphasis on progressive and large scale farmers) could have adversely affected the distribution of income and wealth, thereby conflicting with the objectives of increasing the income and welfare of the majority of farmers. While over 70 percent of farmers in the project area received fertilizer as a result of the project, the differential amounts received suggest that those with larger resource bases (large scale and progressive farmers) would adopt the technologies and benefit from the resulting increased incomes. Differential degrees of access to fertilizer also suggest a larger income transfer for large scale and progressive farmers (those with larger resource bases) because of the subsidy.

Farmers with access to fertilizer were also able to sell it on the black market. During the 1978/1979 season, an estimated 7,700 of a total of 23,400 tonnes of project fertilizer were sold on the black market, at prices 69 percent higher than the project price. A larger percentage of traditional farmers (50 percent) than progressive farmers (42 percent) obtained black market fertilizer. This suggests that demand for fertilizer was high among all groups, and that progressive farmers could have acquired fertilizer from the project at a subsidized rate and sold it on the black market, generating a windfall income because of their preferential access (Amotsuka).

Categorization of Farmers and Access to Project Services

For the project to achieve its objective of increased agricultural productivity and farm incomes, access to the benefits of the project need to be widespread. However, if the project distributed benefits, especially access to inputs, on a predetermined basis, then inherent inequality would be maintained or accentuated rather than decreased (Idachaba).

We attempt to determine the extent to which farmers had access to project services, and how far the design and implementation of the project (i.e., the "progressive farmer" strategy) could have affected use of and hence benefit from project services.

Data utilized are from a survey of 350 households in the Funtua project area in 1980 to estimate project participation as well as adoption levels of improved technologies in the project area. As the project had classified farmers in the area into three groups, an attempt was made to determine if farmers were aware of the category into which they had been classified (project classification) and their perception of themselves (self-classification). An attempt was also made to determine the extent of their participation and use of project services by categories. Over 66 percent of the area's farmers were not aware of their project classification. This is not surprising; only the large scale and progressive farmers would be aware of the project classification, as they received fertilizer and other project services based on it. However, nearly 70 percent of all farmers were able to classify themselves into one of the three groups. There was variation in use of project services, both by type of service and by classification. Under both classifications, a larger percentage of the progressive farmers made greater use of project services than the other categories. Hence, it is evident that progressive and large scale farmers who have preferential access to project services use these services more than traditional farmers (table 1).

Table 1. Incidence of Use of Project Services According to Project and Self-Classification of Farmers

Use of Project Services	Project			Self-		
	Classification ¹			Classification ²		
	n=11	n=25	n=41	n=19	n=57	n=157
	A	B	C	A	B	C
Visit farm service centre (FSC)	40.0	80.0	51.0	26.3	62.7	45.0
Purchase fertilizer from FSC	90.0	92.0	80.0	84.0	88.2	74.2
Purchase seed dressing from (FSC)	40.0	56.0	26.0	57.9	41.2	25.2
See A.I. at FSC	50.0	52.0	9.8	21.1	25.5	19.2
Visit demonstration plot at FSC	20.0	28.0	4.9	10.5	19.6	8.6
Seek information on fertilizer at FSC	30.0	56.0	22.0	15.8	17.6	13.2
Visited by extension worker	70.0	72.0	53.0	52.6	43.1	33.1
Awareness of crop demonstration plots	70.0	76.0	63.4	57.9	76.5	51.0

¹Out of 335 respondents, 223 did not know the project classification.

²Out of 335 respondents, 78 did not know into which category they would classify themselves.

A = large scale, B = progressive, and C = traditional.

Perceived Deprivation of Project Services

While participation and use of project services appear related to the design and implementation of the project (i.e., classification of farmers), the study also attempted to ascertain the extent of perceived deprivations by farmers in the project area and related this to their classification (both project and self) and location of their land. Farmers were asked if the project provided services to others that they would like to receive. Responses to this question are presented in table 2. Nearly 57 percent of all respondents stated that they felt deprived of certain project services, particularly fertilizer. Extension contact, tractor hiring, availability of sprayers and ox ploughs, and a farm service centre were other perceived deprivations. The distribution of deprivations by project classification, self-classification, and location of hamlet was as expected. Since large scale and progressive farmers have easier access to fertilizer, improved seed, and other inputs, it is not surprising that a high percentage of those desiring these services were traditional farmers. As the farm service centres are located in the inner (or main) hamlets, and since project activities are concentrated in the main villages, the finding that farmers in the outer hamlets felt deprived of project services to a greater extent than farmers in the inner hamlets is likewise not surprising.

The Guided Change Project: An Equity Oriented Project

At approximately the same time as the Funtua project was being implemented, another rural development project, the Guided Change Project (GCP), was being implemented in an adjacent district on a smaller scale. The underlying philosophy for the project was: "...is it possible to build a project that is neutral in its effects as far as its sociopolitical impact is concerned, and that effectively reaches the large majority of peasant families, so as to obtain a maximum increase in agricultural production?" (Huizinga).

GCP focused on 12 villages divided equally into three categories: cash villages where inputs (in packages) were purchased by farmers for cash; credit villages where inputs were purchased by farmers through credit; and extension villages where farmers had access to inputs through credit and could also participate in the project's extension activities.

Participation in GCP was open to all farmers in the project area who wished to register as members. However, once membership was determined, no new members were enrolled. Participation ranged from 36 percent in the cash villages to 74 percent in the extension villages. Three types of input packages were distributed, comprising different input combinations of improved seed (for sole and mixed crops), fertilizer, and insecticide.

GCP introduced a ceiling of 4 bags of fertilizer, both out of concern for the equitable distribution of the possible benefits of its activities, and as fertilizer was in short supply. By limiting the number of bags of fertilizer per participant, GCP encouraged fertilizer use by a majority rather than a minority of farmers. GCP was also able to create a mechanism by which to operate outside the traditional hierarchical social structure, thereby assuring access to those who would otherwise probably not have benefited. For example, a survey of farmers in the project villages on access to fertilizer under a government programme known as Operation Feed the Nation (OFN) found that 83 percent of the villagers did not receive fertilizer, while a majority who acquired fertilizer was part of the village hierarchy.

Table 2. Incidence of Deprivations by Project and Self-Classification and Hamlet Location of Farmers

Deprivations ¹	N	Project Classification			Self-Classification			Location	
		A	B	C	A	B	C	Inner	Outer
		Percent							
Fertilizer	54	0.0	14.8	85.2	1.9	20.4	50.0	21.0	79.0
Tractor hiring	27	11.1	11.1	77.8	3.7	22.2	55.6	40.0	60.0
Farm Service Centre	17	5.7	0.0	70.6	23.5	0.0	70.6	0.0	100.0
Improved seed	8	0.0	0.0	100.0	0.0	12.5	87.5	37.5	62.5
Extension service	27	0.0	3.7	85.2	7.4	7.4	74.1	23.0	77.0
Demonstration plot	14	0.0	14.3	85.7	7.1	21.4	57.1	50.0	50.0
Loans/credit	8	0.0	25.0	75.0	0.0	25.0	37.5	71.0	29.0
Fertilizer and improved seed	22	9.1	13.6	77.2	4.5	13.6	50.0	18.0	82.0
Fertilizer and other inputs	18	0.0	5.6	94.4	0.0	11.0	73.0	23.0	77.0
Sprayer and ox ploughs	25	4.0	12.0	84.0	8.0	28.0	56.0	20.0	80.0

¹Based on responses of 200 out of 350 farmers.
A = large scale, B = progressive, and C = traditional.

GCP distributed nearly 600 tons of fertilizer to 4,100 farmers or approximately 150 kg/farmer. As equity in access to a scarce input like fertilizer was part of the project, the impact of this scheme needs to be determined. GCP attempted to measure the influence of the fertilizer distribution scheme on the level of incomes in the project area by constructing models to represent different distribution systems. In System A (like GCP) 90 percent of the fertilizer was distributed in an extensive manner, while in System C (like FADP) 70 percent of the fertilizer was distributed in an intensive manner to a small select group of farmers; e.g., progressive farmers.

GCP's analysis showed that using the pre-project conditions of fertilizer use as a base (i.e., 5 kg/ha) and the quantity of fertilizer distributed by GCP, System A led to an increase in the value of production of N723,000 (US\$1.2 million) compared to N313,200 (US\$517,000) for System C. Hence, increased access to fertilizer by a majority of farmers led to a significant increase in incomes in the area, as well as assuring a wider distribution of income due to equity in participation in the project (Huizuinga).

Conclusions

Nigeria's rural development efforts during 1981-1985 will be concentrated on ADPs, which could be viewed as input distribution schemes, especially for fertilizer. While the ADPs could lead to increased agricultural production as a result of increased fertilizer use, they could also lead to worsening income and wealth distribution due to differential access to productive inputs such as fertilizer. Hence the design and implementation of these projects should be critically evaluated. The excess demand for fertilizer at present subsidy levels, as seen in the Funtua project, suggests that government policy towards distribution and pricing of fertilizer should be reviewed. If the present system of fertilizer subsidy is maintained and if ADPs are viewed as the major source of fertilizer for farmers, there is a possibility of worsening income distribution within ADPs, and between ADP and non-ADP areas. If fertilizer supplies continue to be limited, a mechanism for distribution based on equality of access, such as GCP, needs to be developed. This would lead to both increased agricultural production and a wider income distribution, and aid in meeting the country's rural development objectives.

Note

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