

CREDIT INFUSION AS SMALL FARMER DEVELOPMENT STRATEGY: THE NTC—NSUKKA PROJECT

M. O. IJERE

ONE FACTOR often given for the slow growth in agriculture is capital shortage. Even where capital is available the greatest bottleneck can be the method of channelling it to the farmer in the amount, time, and conditions that will benefit him.

A Situation Report on Agricultural Credit in Nigeria by the Consortium for the Study of Nigerian Rural Development (CSNRD) asserts that “any agricultural credit institution to serve Nigeria adequately today, must be designed to inject credit in dual channels: one credit channel to Cooperative Societies and unions, and one credit to individual farmers” [3, p. 74]. Ayida, on the other hand, goes further and suggests that “external inputs for the agricultural sector should be channelled through technical assistance support” [1, p. 31].

Aware of the difficulty of this dilemma many Nigerian credit institutions and governments have gone to great pains to devise scheme upon scheme for farmers but with no appreciable success. Beyond these official efforts are the often ignored but more successful schemes of private commercial enterprises.

The philosophy of these commercial concerns in their small farmer credit schemes is to be a “broker” between credit-lending agencies, usually banks, and the borrowers, on the assumption that agencies and farmers “benefit” from getting together.

This paper deals with a pilot project by the Nigerian Tobacco Company (NTC), Nigeria, which follows the above strategy in six villages in Nsukka Division, East Central State. Our task is (a) to identify the location of operation as well as cultivation and credit practices in the area, (b) assess the ability of the project to meet the declared objectives, and (c) put the spotlight on certain policy implications and lessons from the experience.

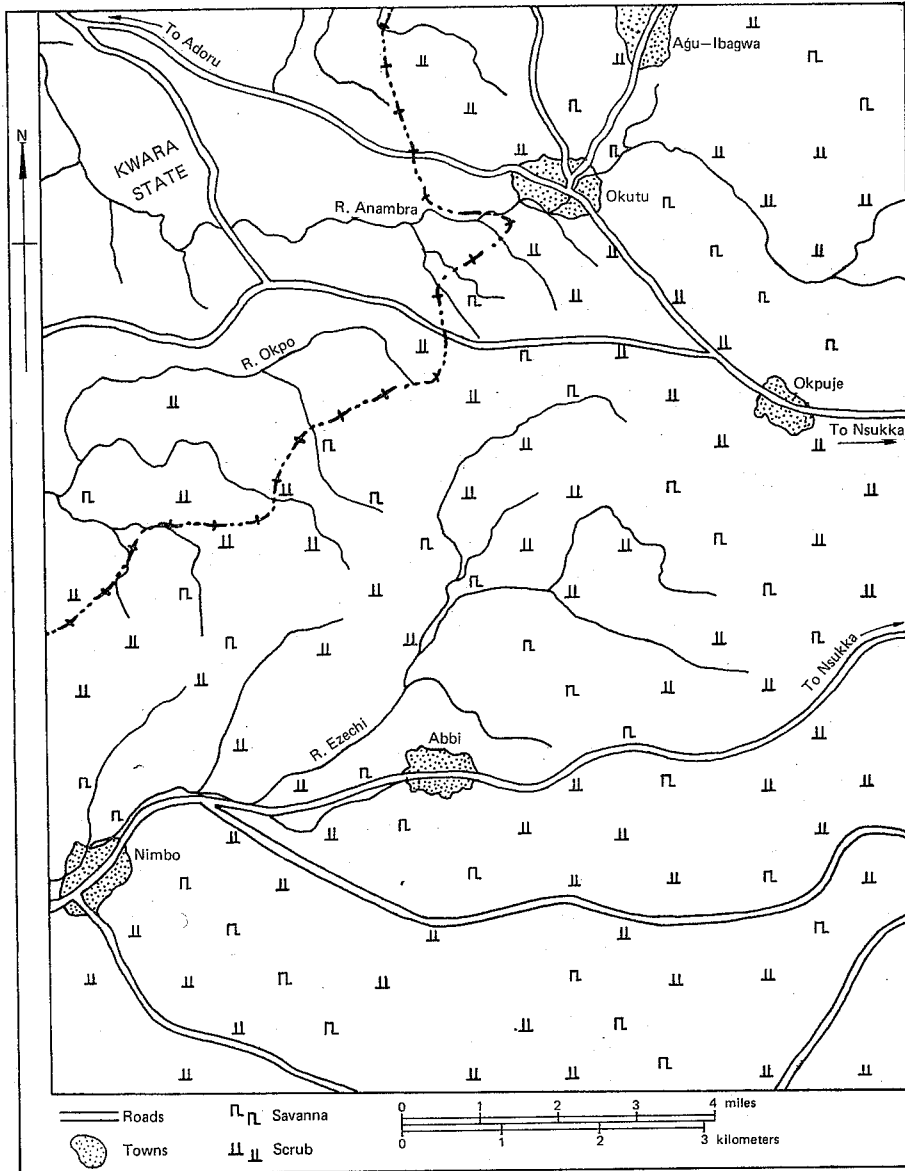
A. *Background on Area*

The six selected tobacco growing areas in Nsukka Division (see Figure 1) are Nimbo, Abbi, Okpuje, Okutu, Agu-Ibagwa, and Nkpologwu. Their populations, according to the 1963 national census are respectively 8,889, 6,730, 4,153, 5,046, 9,858, and 8,638.

Nsukka has three areas geologically classifiable as shale, coal measure, and sandstone. There are four main landforms corresponding to the above geological groups, a western lowland, a plateau zone, an escarpment zone, and an eastern lowland.

The tobacco areas are in the second area occupying the central part of Nsukka, with two main geological formations—false-bedded sandstones and upper coal

Fig. 1. Part of Nsukka Area and the Towns Growing Tobacco



measures. Most of the area is situated where there is a maximum thickness of 1,000 ft. There are outcrops of coarse-grained sandstones, carbonaceous shales, sandy shales, limestones, and subordinate coals.

General elevation is 900 ft. above sea level and the width of the dry valley varies from 5.6 km in the west to 7.5 km in the heart of the plateau.

Soils, in association with those of Nsukka have developed on loose sandy sediment, known as red ferralsol, which are strongly weathered, friable and

lack distinct horizontation. The soil on the lower slope appears to be more productive.

The climate of the area is humid and tropical with a mean daily minimum temperature of 69.8°F and a maximum of 85°F and a mean monthly maximum of about 75.5°F. The zone has a tropical wet dry climate from April to October, and a dry season often with harmattan winds between November and March. Rainfall is between 38.85 inches to 82.67 inches, with an annual average of about 65 inches.

Agricultural activity follows the traditional system of mixed cropping for one or two years followed by bush interspersed by grass-fallow for five to seven years. During this time, the area is set on fire to restore fertility to the soil [7, p. 3].

The project area has two basic units of farm land. (a) The compound farm or *ani-uno*, usually intensively cultivated with perennial crops. Soil fertility is maintained with barn yard manure. (b) The outer farmland or *ani-agu* lies outside the compound, and is larger in size, growing food and cash crops under various forms of shifting cultivation.

As a result of the land tenure system and population pressure the farms are small in size, operated on a subsistence basis. Each family has scattered plots averaging 0.8 acres as in Agu-Ibagwa [7, p. 11]. The total farm plots for each family range between 1.6 to 3.2 acres [4, pp. 1-2]. By inheritance laws at the father's death, the land is shared among the sons, the eldest son receiving the largest portion.

The farmer plants yams, cassava, pigeon peas, maize, and vegetables. Cash crops are palm produce, kola, oranges, and in recent years a few farmers have added tobacco.

The small-scale farmer is a mixed cropper, and he does this to assure steady income and stave off famine. Between 30 to 80 per cent of total production is consumed by the farm family. About 10 per cent of the farmers rent or pledge their land yearly, and in the last two years less than 1 per cent rented small additional portions to enlarge their farm operations.

Labor is generally supplied by the family, but as a result of the rural exodus of young people, help has to be hired in peak seasons especially for heaping, planting, harvesting, and stumping, often at exorbitant rates of 80 kobo-N2.50 per man-day excluding one full meal, drinks, and snuff. To meet the high cost of hired labor, age-grade groups have been formed to work for farmers in rotation.

Small-scale farming is devoid of mechanized farm devices. Land is cleared with machetes and trees felled with axes. Fire is indispensable for the farmer to clear large tracks of land as well as the cheapest and most practical method of removing cuttings from trees and shrubs. Hoes are used in cultural operations and shovels for drainage.

After cropping, livestock production and management are the most important activity. Despite high mortality rates from parasite infestation, each family has two or three sheep, and one or two goats. Both kinds of animals are highly

valued for the income they yield, and their manure, for sacrificial occasions, festivities as insurance against business or crop failures and the prestige they confer. Better-off farmers continually buy more animals.

Pigs are few and far-between, and in a village like Okpuje there is a religious taboo against keeping and eating pigs, since it is claimed the local juju "Ahumze" abhors them.

Chickens represent the greatest number of livestock in the six villages. They act as scavengers and usually fend for themselves till sold or eaten.

Prospects for livestock industry exist in the project area. The area abounds with guinea corn, maize, cassava, and coco-yams, the principal livestock feed, while there is grass and fodder in many locations.

Each village has at least one marketplace, lined with thatched houses and some time corrugated iron roof houses. The village markets are an outlet for local food and cash crops. About 80 per cent of farm crops are transported by head portage. There is no market for cattle, which do not exist in the area so it is not visited by the Fulani cattle dealers. Prices are determined by haggling and there are no market associations to influence price movements.

The average yearly income of the people is approximately N60 mainly from farm crops and livestock. About 25 per cent of the income comes from side occupations such as wine tapping, firewood selling, bricklaying, and grain processing which about 94 per cent of the farmers do.

There are no banks, cooperatives or post office savings services. Savings are done through the traditional institutions of *isusu*, communal cutting of oil palms, storing farm crops to be sold in times of scarcity. The degree of indebtedness is shown in Table I. Ten per cent of the respondents sought loans for marriage, 15 per cent for buying additional land, and 41 per cent for paying farm labor. Twenty-five per cent for consumption alone was the second highest priority for farmers. The survey shows how predominant and important consumption credit—often designated as agricultural loans—can be to farmers.

TABLE I
DEGREE OF INDEBTEDNESS

Reasons for Borrowing	No. of Farmers	% of Total
Marriage	6	10
School fees	2	3.3
Hospital bills	2	3.3
Start new business	1	1.7
Buy additional land	9	15
Consumption	15	25
Pay farm labor	25	41.7
Total	60	100

The greatest frequency of loans borrowed is in range N31–N40 and N41–N50 followed by N91–N100, in the production year 1973/74, as shown in Table II.

The estimated average size of loans from different sources in the 1973/74 season is shown in Table III.

TABLE II
FREQUENCY OF BORROWINGS
(1973/74 cropping season)

Amount (N)	Frequency
Under N10	8
N10-N30	6
N31-N40	18
N41-N50	15
N51-N60	13
N61-N70	8
N71-N80	6
N81-N90	9
N91-N100	12
N101 and over	5
Total	100

TABLE III
SOURCES AND SIZES OF LOANS

Sources	N2-N10	N11-N20	N40-N60	N81-N100
Cooperative society	—	—	—	—
Bank	—	—	—	—
Traders	—	3	12	6
Moneylenders	2	4	5	3
Relations	9	4	2	1
Friends	5	3	1	—
<i>Isusu</i>	1	10	1	—

In the absence of banks, farmers in need of credit turn to relations and friends for amounts of money lower than N60. The bulk of the loans is advanced by traders and merchants followed by moneylenders. The merchants in this case are largely NTC officials in their supervised credit program.

Security for loans ranges from land to livestock, farm and business equipment, third party guarantee, and a lien on agricultural crops. And the repayment is at the end of the planting season.

B. *The NTC Project*

Attempts to find a market in the eastern region for NTC products began as early as 1964. Encouraged by a successful demonstration plot in the Faculty of Agriculture Farm, University of Nigeria, Nsukka, the NTC was convinced that growing tobacco in Nsukka Division was feasible. But it was the Nigerian crisis of 1966 with an acute tobacco shortage that forced it to take the first realistic step. Successful soil tests in Nsukka were conclusive for a start in this direction. Thereafter desperate efforts were made to grow tobacco in the villages. But as hostilities increased and Nsukka was overrun the project was abandoned.

In 1971 another feasibility study confirmed the earlier report and six villages were immediately chosen for tobacco growing. In production activity with local farmers the Nigerian Tobacco Company had the following objectives:

(a) to advance credit to farmers and guide them in its use (credit to be given could be in kind or cash, but must be used exclusively for productive purposes under the supervision of NTC officials);

(b) to enable farmers to acquire the knowledge of scientific farming techniques and practices—in the use of modern tools, cultivation patterns, application of agrochemicals, and general care of farm business;

(c) to provide an assured market for farmers' tobacco, an important incentive to high production and productivity;

(d) to elucidate the problems encountered in small-scale farming, namely uneconomic size, scattered holdings, and insecurity of tenure;

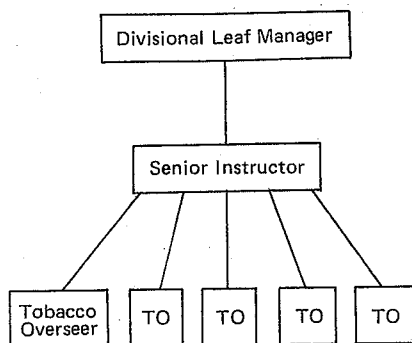
(e) to increase the living standards of the farming population by these activities through earning higher income and command of goods and services; and above all

(f) to expand the growing of tobacco for sale.

C. Organizational Setup and Operation

An organization was designed to achieve the objectives of the enterprise. The organigram (Figure 2) depicts in its essentials the functionaries carrying out NTC activities.

Fig. 2. Organigram



The mechanism provides for a divisional field manager to be the local administrative officer of the project, though frequently he participates in field operations. His deputy, the senior instructor, is the coordinating link between the divisional leaf manager and the tobacco overseers. He transmits relevant information on fieldwork to the divisional leaf manager while at the same bringing information from the field. At the base are tobacco overseers one for each village. They are the extension workers, living with the villagers, always on call and working with farmers on the project. They teach them the new cultivation patterns and prepare progress reports on their work.

Tobacco overseers functions are delineated as follows:

(a) to select suitable sites that are well drained, fertile, not shaded by trees or other natural growth;

(b) to select genuinely interested farmers;

- (c) to instruct and supervise the various farming operations;
- (d) the provision of inputs such as seeds, fertilizer, pesticides and fungicides;
- (e) the instruction, on behalf of farmers, of recruited labor for a sound knowledge of tobacco culture;
- (f) after harvesting the extension worker helps in grading, curing, transportation, and sale of the tobacco.

The NTC provides improved planting materials, namely, Harrison's special air-cured tobacco: North Carolina 95 and Virginia hybrid. The seedlings are raised in nurseries for later distribution. Fertilizers composed of NPK + MGO are distributed to farmers: type "B" for raising seedlings, and type "D" for transplanting time.

Under this scheme, farmers form themselves into groups of from ten to twenty people, with certain rules and regulations on farming. Each farmer is expected to own a minimum of one hectare, and adjudged of good character by a person known to the NTC officials.

Table IV shows the various activities connected to tobacco growing on an average hectare of 240 ridges and 100 tobacco stands for which each farmer is expected to be conversant.

TABLE IV

S/No.	Type of Activity	Duration
1.	Preparation of nursery beds	7 days
2.	Planting seeds in beds	4 days
3.	Watering	daily
4.	Transplanting seedlings	4 days
5.	Planting seedlings in ridges	4 days
6.	Weeding	4 times in season
7.	Topping of inflorescence	occasionally
8.	Sockery; the removal of ancillary buds and branches	occasionally
9.	Harvesting	8 days
10.	Stringing in barns	8 days
11.	Loading on to poles	4 days
12.	Curing (flue, air, sun, fire, smoke)	14 days
13.	Grading	10 days
14.	Baling in boxes and sacked cloth, jute twine, needles and nails	15 days
15.	Selling to NTC officials	8 days

D. Project Results

The NTC has functioned for only three years. This may be too short a period to provide definite assessment of the project results. However, there are several important achievements and lessons which must be admitted.

Since the inception of the project, the NTC has systematically supplied credit to farmers in cash and kind. It borrows from banks and makes the funds available to farmers. Most of the credit comes in the form of inputs and equipment. Table V gives the inputs a typical village obtains from the NTC; and the cost can be considerable.

TABLE V
INPUTS FOR AGU-IBAGWA STATION

Item	Quantity	Total Cost (N)
Flue pipes	9 sets of 11	356.40
Hooks		17.88
Coal	55 tons	715.00
Furnace roads	150	75.00
Curing thermometer	11	17.00
Pearl cord thread	151 lb	151.00
Watering cans	22	35.20
Fertilizer type "D"	75 bags	217.50
Chimney pipes	11	44.00
Barns & stores	11	760.00
Shovels	5	15.00
Total		2,403.98

TABLE VI
OVERALL COST ON FIVE VILLAGES

Area	Cost (N)
Agu-Ibagwa	2,403.80
Abbi	1,948.25
Okutu	1,335.10
Okpuje	1,785.30
Nimbo	2,027.55
Total	9,500.00

The expenditure of the five villages is given in Table VI.

The total input for 1973/74 was estimated at N9,500.00, the equivalent of credit given to farmers excluding administration cost.

There is a progressive trend in the income of the farmers from 1972-74. According to NTC records, a hectare of good tobacco earns about N350. Based on forty-two hectares (equivalent of forty-two units) the yield in 1972/73 season was N5,949.65 or N141.65 per hectare. In 1973/74 it was N8,105.00 or N192.97 per hectare. The estimated revenue for 1974/75 is N9,400.00 or N224.80 per hectare.

Considering the fact that the company has to deduct the cost of expenses (which in practice it could delay), the cost of operation is calculated as shown in Table VII.

TABLE VII
EXPENDITURE AND REVENUE FROM OPERATION

Period	Cost of Operation (N)	Income (N)
1972/73	10,928.60	5,949.65
1973/74	8,560.00	8,105.00
1974/75*	7,500.00	9,400.00

* Expected.

TABLE VIII
PROGRESSION OF REVENUE PER UNIT

Year	Expenditure (N)	Revenue (N)	Balance (N)
1972/73	260.20	141.66	-118.54
1973/74	203.80	192.97	-10.83
1974/75	178.57	223.80	+45.23

Source: *Sample Survey of 42 Units.*

Per hectare the cost worked out to N260.20 (1972/73), N203.80 (1973/74), and N178.57 (1974/75). If the farmers actually paid back the cost of inputs every year, the unit net revenue comes to as shown in Table VIII.

Since the company allows a few years of grace (two to three years), it follows that the farmers have not yet begun to bear the cost of operation as shown above and so revenue in the second column can be considered net.

E. *Comparison with Non-tobacco Growers*

The average incomes of a non-tobacco grower for the periods 1972-75 were estimated to N60, N75, and N144 respectively. Comparing the two types of farmers, the tobacco growers are in a very competitive position in terms of income and purchasing power. In these circumstances it would therefore be more profitable to cultivate tobacco than yams.

1. *Advantages of NTC credit system*

(1) As mentioned earlier, the NTC ensures the productivity of its loans by careful home and farm plan, close supervision of cropping practices at each stage of development, and advice on future use of income derived from farming.

(2) Repayment conditions are such that deductions are made from crop proceeds, taking into account the state of farming history. This policy relieves farmers of anxiety and engenders incentive and greater investment.

(3) The company's officials assist farmers to keep farm records and accounts, making it easy to see at a glance the level of production, prices of crops, income and expenditure, and the general fortunes of the farming program. The farmer can see if he is succeeding or failing, and what decision to make in the future. Since most farmers are illiterate, record keeping is guided by the field overseers, but the technique is gaining currency and farmers seem to understand the need.

2. *The impact of the project on land tenure*

For a successful credit operation, the land tenure system must be flexible enough to allow farmers to increase the size of farms, invest for short or long periods, and alienate their rights on land should circumstances demand. One striking effect of the NTC project is its ability to fit into the existing land tenure system.

The system requires that farmers simply consolidate their holdings to ensure an economic size of farm unit. By leaving the ownership and use of the land in the hands of farmers, a cordial relationship is forged with the company. It

TABLE IX
AVERAGE HECTARE PER FAMILY IN SIX VILLAGES

Year	Abbi	Nimbo	Nkpologwu	Agu-Ibagwa	Okutu	Okpuje
1972	2	1.5	2	2.5	1.5	1.6
1974	3.5	2.5	3.5	3.5	3.2	2.4

Source: *Sample Survey*.

TABLE X
SUB-DIVISIONS IN THE LAST DECADE (PERIODICITY)

Year	Abbi	Nimbo	Nkpologwu	Agu-Ibagwa	Okutu	Okpuje
1965	3	4	4	3	6	2
1966	6	5	6	5	8	4
1970	4	3	2	2	3	2
1974	2	1	1	1	2	1

Source: *Sample Survey*.

engenders healthy competition and further consolidation. The effect of the project on farm sizes is shown in the Table IX.

As the above table shows the average size of farms has almost doubled in each village. Either by exchange or gift or purchase, the tobacco farm families have access to more land to plant. The converse trend in farm size development is given in Table X.

In the above table the number of subdivisions has been considerably reduced. The high incidence of fragmentation in 1966 must be explained from the crisis conditions of the time when populations increased as people fled home. Immediately after the war, there was a sharp drop, as many again left for other parts of Nigeria or sought paid employment. In some cases, tobacco growers have bought up most of the land to benefit from present production prospects.

3. *Impact on marketing*

As pointed out in the first part of this study, the six tobacco villages have periodic markets which lie at strategic junctions and village squares and are again characterized by small-scale operations, with individuals combining transportation, advertisements, price determination, weighing, processing, storage, and possible transportation. Specialization is minimal, and each seller may have *egusi*, okra, maize, pepper, and beans for sale at the same time.

There are middlemen who collect quantities of produce in bulk from local market women, themselves farmgate middlemen, buying directly from the producers in small quantities. Then there are casual traders who buy in small quantities for immediate consumption.

The most common commodities transacted are yams, maize, cassava, rice, plantain, coco-yams, palm oil, pepper, cloths, hoes, and machetes.

NTC agricultural activities have altered the market situation greatly. With an assured market, some farmers have added tobacco, though it is not usually displayed in the open market. Prices correspond to different grades established by the company, namely:

Grade	Value
BM, TM	N1.05/kg
BB, TB	85k/kg
BD, TD	56k/kg
BG, TG	45k/kg
X	39k/kg
J	25k/kg

The company helps the farmers with other marketing social overheads also such as storage, handling, transportation, processing, and grading. Initially the village house was used for shelter and storage, but because of its ineffectiveness, the company has provided special outdoor airtight buildings solely for storing tobacco. In the same way, the company's vans regularly take the farmers' crops to the processing depots, where an intricate curing process is made by the field overseers under the watchful eyes of the farmers.

F. *Implications for Policy*

Merchant credit in the NTC model is supervised credit to further not only the commercial interests of the company but the agricultural production of the farmer as well. There is a fundamental understanding that the farmer's production activity should not be treated in isolation, but related to the marketing, distribution, and general living standards of the farmer through purposeful extension services.

It is a program of agricultural education to teach better farming methods and the assurance of a qualitatively viable family unit. Although the ultimate aim is profits, the company finds that it cannot achieve this except when the purchasing power and well-being of the people are improved. In other words, the higher the farmers' socioeconomic status the higher the company's return.

A scheme such as this has far-reaching policy implications for future credit institutions.

(1) The granting of credit in kind and cash is a major issue orienting the conceptualization of an agricultural scheme. This is achieved through a combination of technical advice with desired inputs. As farmers show signs that they can absorb additional credit, a lending agency should respond positively with more assistance. A sense of being part of an accepted community program coupled with visible prospects in farming are additional factors that enhance the efficacy of credit.

(2) Credit alone is not sufficient to bring about increased agricultural production. It must be integrated with farm planning, supervision, follow-up, and periodic evaluation. By combining all these factors, the NTC project was able to neutralize both the initial inertia of farmers in trying the new practices and their illiteracy which would have negated the quick appreciation of the program. As of now, the marketing facilities have become a reference point for non-tobacco farmers in the area, and an incentive to the growers.

(3) It might be argued, with some justification, that merchant credit entails a large overhead expense in administration, supervision, bookkeeping, and collection [5, p. 245]. This is equally true of any other credit institutions truly

interested in purposeful granting of credit and its retrieval. The economic well-being of the farmer, on whom a credit agency indirectly depends for its progress, would be jeopardised if the cost of credit is not borne by the lender himself.

(4) Merchant credit is to all intents and purposes quite large—up to 80 per cent or more, when the cost of all the inputs is computed. This underlines its popularity, which, according to Norton [6, p. 198ff.] is convenience, ignoring cost if the farmer approaches an agency; inability to get credit elsewhere and the farmers' unwillingness to pay cash.

(5) It should also be borne in mind that this form of credit can tie a community to the advantage of one monopolist. It may become a racket for merchants and bankers, and does not allow the farmer to buy or sell where he pleases.

These are valid objections which can be met by the injection of competition into the general credit system. As long as other public and private credit agencies have access to the community of farmers, there is no doubt that the farmer can exercise his freedom of choice as to which institution to patronize. In another way, the competition will eliminate the unwelcome aspects of the merchant credit scheme.

(6) The NTC—Nsukka project has shown that the pathological drive for land consolidation by law is not a prerequisite to increased agricultural production.¹ Experience in the Netherlands, Turkey, and Latin American countries points to the fact that consolidation by decree is long, involved, and irksome.² The present study has proved that the institutional framework can be adequate for advances in productivity by introducing improved technology.³

In the Nsukka project, land consolidation has become voluntary, and individual farmers under price incentive are trading plots, uniting them into larger and more rationally distributed holdings. The project has facilitated yield-increasing inputs and led to the achievement of the original objectives to the benefit of company, bank, and farmer.

These findings are validated in a study of the situation in Western Nigeria by the CSNRD. The organization advised that the National Agricultural Credit Bank "should pursue vigorously this method of extending credit to farmers" [2, p. 92], because it "has been much impressed by the success of this project

¹ See for example such writers as C. P. Kindleberger (*Economic Development* [New York: McGraw-Hill, 1966], p. 220) and T. F. Carroll, to whom it is a catalyst of a large chain of complex socioeconomic movements ("The Land Reform Issue in Latin America," in *Latin American Issues*, ed. A. O. Hirschman [New York: Twentieth Centuries Fund, 1961], p. 1975).

² Confer, H. Ozen, "Land Consolidation Programs in the Netherlands and Turkey: A Comparison," *Land Tenure Center Newsletter* (University of Wisconsin), December 1974, pp. 26–30.

³ This is the view of pragmatists like W. A. Lewis, *The Theory of Economic Development* (London: Macmillan & Co., 1955). For a validation of this stand in another part of the tropics, see Q. B. O. Antonio, and M. O. Ijere, *Uboma Development Project 1964–72: An Appraisal of a Technical Assistance Programme for Rural Development in Nigeria* (Shell International, 1973).

and considers that the basic principles involved could be used elsewhere for groups of farmers wishing to go into agricultural projects on a joint basis" [2, p. 4].

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