THE DESIGN OF AN AGRICULTURAL CREDIT SYSTEM FOR SMALL FARM FAMILIES IN LIBERIA

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DEDICATION

This thesis is dedicated to my dear late mother, Yongor Sevé, who sowed but never reaped.

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CHAPTER I

INTRODUCTION

Liberia, which became independent on July 24, 1847, is located on the West Coast of Africa bounded on the south by the Atlantic Ocean, north by Guinea, west by Sierra Leone, and east by the Ivory Coast. Liberia did not achieve any significant economic growth until the post World War II period. In order to accelerate this growth process, President W.V.S. Tubman launched the Open Door Policy Program to entice foreign investment and skilled manpower for the development of iron ore mining, cocoa and rubber plantations and other vital industries.

As a consequence of this program, the monetary sector of the Liberian economy grew quite rapidly between 1950 and the early 1970s. Liberia had an estimated per capita income of $530.00 in 1982.[1] However, the pattern of growth which evolved from the iron ore, rubber and cocoa concessions left the vast majority of the population unaffected; for example, while the enclave sector produces a per capita GNP of $1,620, the large majority of the population which lives in the rural sector has a per capita income of about $160.[2] This rapid economic growth rate of the economy became relatively stagnant as a result of the falling prices of iron ore, cocoa, coffee and rubber prompted by international economic conditions of the 1970s. As a result of world price fluctuations of these major exports, which made government revenue uncertain and vulnerable, the government had to search for potential new sources of growth. Agriculture was identified as a potential source of growth that had not been adequately explored.

One Liberian dollar equals one U.S. dollar.

At this point the importance of agriculture (which had been underrated) was realized and, hence, a development thrust via agriculture began. Its significance was viewed from two broad perspectives: (1) this sector provided employment opportunities for 80 percent of the economically active population at that time and (2) the sector is and can continue to be a principal source of foreign exchange earnings and subject to exchange rate instability. However, traditional agricultural methods, which are the modes of production, yielded low output. Hence, the need for modernizing agriculture became evident.

Modern agriculture requires the use of inputs and technologies which can enhance production and incomes. New methods of farming, whether on a large or small scale, involve investment; thus, farmers must have access to finance. But since traditional farmers have very little or no savings beyond their liquidity requirements, how then can they meet these requisite capital requirements? Agricultural credit has been identified as a means to facilitate their access to using these inputs, and hence, through such channels, contribute to economic growth.

The precise role of credit in agricultural development is not easy to determine. Credit can be regarded as a primary factor in promoting agricultural development; a factor which by itself cannot cause structural change. J. I. Galbraith noted, for example, "that credit can become an instrument for progress only after there has been some development." Similarly, John W. Mellor asserted that "rural credit programs might better accompany or follow programs of technical change, not precede them."[3] Thus, credit is considered here as a facilitating factor that enables

the borrower to take advantage of opportunities which he could not otherwise. It is a resource which the borrower can either use in borrowing or hold in reserve.[4] However, the decision to borrow largely depends on the anticipated returns from the credit in use or in reserve. Hence, returns provide the incentives to borrow.

The moneylenders, (mainly traders, friends and relatives), play an important role in providing informal agricultural credit, but due to lack of data, their activities cannot be quantified. In addition, there are three major sources of formal agricultural credit: (1) the Agricultural and Cooperative Development Bank (ACDB); (2) the Development and Investment Bank; and (3) commercial banks. The discussions on the formal agricultural credit here will be concentrated on ACDB. It is noteworthy that the Liberian small farmers'* main source of financing beyond their own savings was the informal sector where moneylenders charge an exorbitant annual interest rate of 25 to 300 percent on loans.

Thus in August of 1976, ACDB was established by the government of Liberia (GOL) and became operational in 1978 with one of its objectives being to provide credit for small famers. However, as the ACDB authorities have pointed out, their major problem is the administration of an effective credit delivery program for small farmers in the rural areas; ACDB is not yet capable of performing this essential role. ACDB is an attempt by GOL to devise a credit program which will free the small farmers from bearing the high interest costs of the moneylenders.

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*Small farmers here refer to farmers who operate 25 acres of land or less.

It is expected that relatively low cost credit, along with the other necessary inputs for agricultural development, will enable small farmers to produce beyond their current near-subsistence levels, thereby, realizing a marketable surplus. The availability of such a surplus generates monetary income and hence, leads to the farmers' social and economic well-being. This increased production is based on the assumption that an atmosphere with the following conditions exists:

1. adequate infrastructure
2. adequate producer incentives for small farm families
3. regionally differentiated prices that are established considering transportation costs (or proximity to market)
4. a package of economically viable technologies available
5. adequate and relevant consumer goods available for farm families, and
6. effective and viable storage programs and facilities.

The major focus in this thesis will be to design a viable credit program for small farm families because they form the largest proportion of the population and hence, their access to credit opportunities in the formal sector (public or private) can have a significant impact on agriculture, through increased productivity, output, and higher rural net incomes. Additionally, as Gordon[5] argued:

> A necessary and important ingredient of any development strategy is to search for new productive possibilities in the countryside, with agriculture and related activities as the most probable engine of rural economic growth.

The criteria for the design of the improved program include increasing production and farmers' incomes, generating sufficient interest and repayments to make the credit program economically viable, and channeling credit to large numbers of Liberian small farmers. These criteria are consistent with the characteristics of small farmer credit programs (SFCP) identified by Baker[6] as being capable of enhancing the farmers' perception of permanence and value of the program. The most important characteristics on his list include: (1) a self-supporting rate of interest on borrowed funds in the program, (2) a whole line of credit for farmers, and (3) simple and accessible credit with flexibility in the use of loan proceeds.

The rural per capita income of $160 is low and, therefore, needs to be raised in relation to the estimated national per capita income of $530 if balanced economic growth is envisaged. The small farm families are predominantly engaged in production in the Liberian food economy, yet food imports in Liberia have continued to rise over the years from 1968 to 1982 as seen in Table 1.1 which shows expenditures on food imports and related commodities rose from $13.3 million in 1968 to $80.5 million in 1981. Liberia could be more self-sufficient in food.

In order to reduce these food imports, it is my suggestion that improvement in agricultural development be pursued for the short run by operating the present farm size instead of increasing farm size and using large mechanical equipment for farm operations. These latter measures--increased farm size and use of capital equipment--can be applied after most of the farmers reach a certain threshold.

TABLE 1.1. LIBERIA FOOD IMPORTS FROM 1968 TO 1982
($ million in Current Dollars)[1]

Year	Amount
1968	$ 18.3
1969	14.6
1970	20.7
1971	24.4
1972[2]	25.5
1973	35.5
1974	45.5
1975[3]	35.0
1976	37.8
1977	52.0
1978	56.0
1979	63.2
1980	74.3
1981	80.5
1982	74.4

Sources: 1. $1 Liberia = $1 U.S.

2. Africa South of the Sahara, 1971, (years 1968-75), p. 450.

3. Economic Survey of Liberia, 1982, (Ministry of Planning and Economic Affairs, Years 1975-82, Monrovia, Liberia, December 1983), p. 20.

According to Livingstone and Ord, this former approach

> relies heavily on agricultural extension, the provision of technical and economic advice to the farmer, supplemented by efforts to improve the existing situation by removing specific bottlenecks, perhaps by construction of feeder roads, or the provision of credit.[7]

The Statement of the Problem

Modernizing agriculture requires the purchase of new inputs which are produced off the farm. To buy these additional inputs, the farmers must have accumulated savings or have ready access to credit. Income in the small farm Liberian agricultural sector is very low and hence, savings are likely to be almost negligible, especially savings beyond the liquidity required for risk management. So, credit is considered as one of the vital elements for the development of this sector. But there is insufficient formal credit available to the agricultural sector. The lack of an adequate and reliable source of formal credit, especially for the majority of the farmers, can restrain the agricultural modernization and development process and add to costly forms of liquidity to manage risk.

In response to this problem of insufficient formal credit availability, the Government of Liberia (GOL) established ACDB in 1976 to "pursue the twin objectives of providing credit facilities, especially to small farmers, assisting in the development of cooperatives in Liberia, and expanding banking and saving facilities throughout the rural areas of Liberia."[8] Hence, the establishment of ACDB was the first step towards meeting the credit needs of small farmers and farmers' cooperatives while simultaneously fulfilling the need for effective methods of channeling funds to the agricultural sector. It was hoped that effective credit was one means of achieving its national agricultural development objectives of: (1) increasing the involvement of the large mass of Liberian farm families in the development of the agricultural sector; (2) stimulating increased productivity, employment, and income of Liberian farmers; (3) promoting equitable

access to means of production and the corresponding widespread and equitable distribution of benefits from agricultural development; (4) promoting diversification of production in the agricultural sector; and (5) expanding agriculture as a base for self-sustaining development.

These objectives can only be achieved if there is an efficient marketing and pricing system for farmers' products. The price structure in the Liberian marketing system until recently had been a major limiting factor to production incentives. The price policy for domestic rice, for example, was operated by the Liberian Produce Marketing Corporation (LPMC), a corporate marketing body wholly-owned by the Liberian Government.[9] Under this scheme, prices of domestic agricultural products were held relatively constant regardless of changing market conditions. The price of domestic rice for instance, was $0.26/kg* in 1976 and remained unchanged until 1981, when a new price was established. As a result of the low prices, sales of rice to LPMC declined drastically and, hence, three government rice mills operated by LPMC remained virtually idle for some years.

On the other hand, prices of imported rice were allowed to change with marketing conditions. Hence with a flexible price policy for imported rice, rice imports made up a large share of marketed supply; thus government control of rice prices has had a major impact on marketed supplies in both rural and urban areas.[10] The price differentials between domestic and imported rice are cited in Table 2.4.

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*1 Liberian $ = 1 U.S. $.

The GOL has recently recognized the important contributions of an efficient marketing and pricing system for domestic agricultural products to increase domestic production and achieve its national agricultural development objectives (outlined above). Hence, it has initiated changes in its rice prices that have elicited strong producer response. The Liberia Agricultural Sector Review states:

> Before tariffs on imports were first imposed only about 16 percent of rice farmers reported sales and the amount sold was only about 5 percent of the total rice production. Estimates of total sales of domestically produced rice in 1971/72 were only about 17,000 mt of paddy. But by 1976/77 market participation increased dramatically. The proportion of farmers selling rice nearly doubled to 29 percent and total sales were nearly 40,000 mt paddy or about 16 percent of total production. The increase in marketed supply occurred in response to a real change in prices of about 75 percent. The magnitude of the increase sale suggests a marketed supply elasticity of 1.8.[11]

The new price of $0.40/kg mentioned above has generated some response; farmers increased their rice sales to LPMC. This suggests that small farm families in Liberia can be motivated to become more productive and increase their incomes if the right market conditions prevail.

It is my assumption that small farmers in Liberia can be motivated to increase their production beyond their current near-subsistence levels if they are given economic opportunities such as access to formal credit, price incentives, inputs, and so forth. In this regard, I am supported by Monke in his chapter in Rice in West Africa when he states:

> Liberian agriculture has in the recent past demonstrated the ability to adapt to new cash cropping opportunities; the rapid adoption of coffee and cocoa are cases in point. Cash cropping was uncommon until the 1950s, and by 1960, coffee and cocoa exports were still each less than 100 metric tons per year. But the completion of basic road networks improved the linkages between Monrovia and the interior, and in 1967, the government began to implement an effective floor price scheme. By 1976, coffee exports were 4,182 mt and cocoa exports were 3,174 mt. Sugar cane has also become an important cash crop. In 1971, only 6 percent of farmers grew cane, but by 1976, this level had increased to 17 percent, and sugar cane had become almost as important as coffee and cocoa.[12]

Objectives

The overall objective of this thesis is to examine previous public policies relating to agricultural credit and to design an effective and viable agricultural credit program for small farm families in Liberia producing both export and domestic agricultural commodities. The specific objectives are:

(1) to describe and evaluate the current credit system in Liberia, with specific reference to ACDB;

(2) to examine its performance and its effects on small farm families;

(3) to examine briefly the credit programs of Zambia, Ivory Coast and Tanzania in order to draw from their experiences conclusions which might be adapted to Liberia; and

(4) to design an improved economically viable credit system for small farm families in Liberia.

This design will include recommendations on credit delivery, interest rates, repayment and default policies, lending procedures, administrative

structure, and lending costs to make a rural development bank economically viable.

Methodology

The description of the Liberian economy in Chapter II reveals two major points: (1) the Liberian Government neglected agriculture until recent years, and (2) the traditional Liberian farming system which involves predominantly small farm families still is (a) labor intensive; (b) uses little fertilizer or herbicides; (c) has poor physical access to markets; and (d) has little access to formal agricultural credit. The traditional agricultural sector is the principal source of domestic food.

To achieve the thesis objectives, information on agriculture and financial markets in Liberia were gathered. The principal sources of the data were reports and statistics published by the Ministry of Agriculture, Ministry of Planning and Economic Affairs, the World Bank-Liberia Agricultural Sector Review, ACDB Annual Reports and General Information, and the USAID Liberia Agricultural Credit Bank project.

In addition, the literature on the role of credit in agricultural development, and the credit experience in Zambia, Ivory Coast, and Tanzania were reviewed (Chapter III).

The importance and performance of formal and informal credit markets in Liberia are discussed in Chapter IV as is ACDB. The importance of finance in raising the economic status of the borrower is evaluated based on hypothetical data using the growth model adapted by Barry et al. Based on the results of this model and advantages and

disadvantages of the two markets, it can be proved that the Liberian small farm families are likely to improve their economic status if they have access to formal credit sources. However, access to these sources must be simple and informal, and the credit terms should be flexible enough to consider the social and economic needs of the small farm families.

The performance of the current Liberian agricultural credit system with reference to the Agricultural Cooperative Development Bank (ACDB) is described and evaluated in Chapter IV based on available data from ACDB and the Liberia Agricultural Credit Bank Project. Bottomley's lending cost model is restricted to two years, (1980 and 1981) due to the scarcity of data. On the basis of the model, it is hypothesized that ACDB can improve its present performance and become a viable financial institution. This hypothesis was tested by the lending cost model using three different scenarios with different sets of variables, for example, administrative costs, default rate, and cost of funds, which affect the bank's performance.

Overview of the Study

This paper is organized as follows: the present section serves as the introduction. Chapter II discusses the role of agriculture in and previous attempts to stimulate agricultural development in Liberia. Chapter III provides an overview of the financial markets in Liberia, reviews the credit experience in Zambia, Ivory Coast, and Tanzania and discusses problems generally associated with government credit programs (namely, low interest rates, high administrative costs, high defaults, and so forth). Chapter IV discusses and evaluates the performance of ACDB. Chapter V identifies the major weaknesses of the present credit system and designs an improved credit system. Chapter VI discusses policy recommendations and contains the summary and conclusion.

FOOTNOTES

CHAPTER I

1. Liberia Agricultural Sector Review, Vol. I (World Bank, Washington, DC, 1984), p. 1.

2. Ibid., p. vi.

3. Adams, Dale, Gordon Donald and J. D. Pischke, Rural Financial Markets in Developing Countries: Their Use and Abuse (Baltimore and London: The Johns Hopkins University Press, 1983), p. 59.

4. Barry, Peter J., John A. Hopkins and C. B. Baker, Financial Management in Agriculture (Danville, Illinois: The Interstate Printers and Publishers, Inc., 1979), p. 206.

5. Donald, Gordon, Credit for Small Farmers in Developing Countries (Boulder, CO: Westview Press, 1976), p. 3.

6. Baker, C. B., "Role of Credit in the Economic Development of Small Farm Agriculture," Spring Review of Small Farmer Credit, Vol. 19 (Washington, DC, 1973), pp. 1-27.

7. Livingstone, I., and H. W. Ord, Agricultural Economics for Africa (London and Ibadan: Heinaemann, 1981), p. 204.

8. ACDB Annual Report 1981 (Agricultural and Cooperative Development Bank, Monrovia, Liberia, 1981), pp. 3-4.

9. Liberia Agricultural Sector Review, Vol. II, p. 10.

10. Ibid., p. 10.

11. Ibid., pp. 10-12.

12. Monke, Eric A. "Rice Policy in Liberia," Rice in West Africa (Stanford, CA: Stanford University Press, 1981), p. 152.

CHAPTER II

ROLE OF AGRICULTURE IN LIBERIA

Agriculture, which is the mainstay of the Liberian economy, can be divided into two broad distinct sectors: the traditional sector and the plantation sector* (mainly rubber), including the foreign-owned and the few Liberian-owned. Like most developing countries, Liberia's agricultural sector plays a vital role in her economic development. This sector comprises hunting, fishing, forestry and agriculture.

The importance of this sector can be viewed from two perspectives: the percentage of the population engaged and its contribution to economic growth and development. A World Bank publication states that agricultural production contributed 35 percent of the Gross Domestic Production (GDP) in 1979[1] and that more than 70 percent of the labor force (of about two million people) are engaged in agriculture as shown in Table 2.1.

Additionally, the sector serves as a major source of foreign exchange earnings. Table 2.2 indicates the major agricultural exports of Liberia which have contributed, on average, about 30 percent of the total exports from 1978 to 1982 and thus provide substantial amounts of foreign exchange earnings. It will be noted iron ore has become an increasingly important export during these years as are demands.

Based on these and other data, it is safe to assert that the contributions of agriculture to the economic growth and development of an economy as outlined by Mellor and Johnston[2] holds also for Liberia:

(1) Supplying of food for both rural and urban sectors.

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*Plantations are 75 acres or more of rubber, coffee or cocoa.

(2) Providing exports which generate foreign exchange earnings that can be used to import capital and consumer goods.

(3) Transferring of labor to the expanding industrial sector.

(4) Contributing to capital formation via savings.

(5) Providing a market for industrial products.

TABLE 2.1 TOTAL POPULATION AND THE PROPORTION IN AGRICULTURE, LIBERIA SELECTED YEARS, 1970-1981

	Population		Economically Active Population		
Year	Total	In Agriculture	Total	In Agriculture	Percent in Agriculture
	(000)	(000)	(000)	(000)	(%)
1970	1,335	1,010	531	402	75.6
1975	1,574	1,145	603	439	72.8
1977	1,684	1,205	635	454	71.6
1978	1,742	1,236	651	462	70.8
1979	1,802	1,268	667	469	70.3
1981	1,994	n.a	n.a	n.a	n.a

Source: Africa Today, 1981, p. 746.

n.a = not available

This sector of the Liberian economy has served as a major source of labor supply for her principal industries especially mining; the mines[3] employ about 12,000 workers and the rubber plantations 42,000.

Table 2.2 shows that the value of Liberia's export earnings rose until 1980 and fell materially since then. Variations in export earnings reflect changing world prices. All the agricultural exports' earnings increased from 1978 to 1980 but fell (except for cocoa) in 1981 - the

TABLE 2.2 VALUE OF MAJOR EXPORTS: LIBERIA SELECTED YEARS, 1978-1982

(in million $)

	1978		1979		1980		1981		1982	
	Value	%	Value	%	Value	%	Value	%	Value	%
Rubber	69.2	14.2	87.8	16.4	102.2	17.0	86.7	16.4	53.4	11.1
Palm products	3.6	0.7	5.9	0.9	4.9	0.8	3.7	0.7	4.1	0.8
Palm kernels	(n.a)		(0.1)		n.a		(n.a)		(n.a)	
Palm kernel oil	(2.3)		(2.6)		(1.4)		(1.2)		(1.1)	
Palm oil	(0.6)		(1.7)		(3.0)		(2.2)		(2.6)	
Expeller Cake	(0.7)		(0.6)		(0.5)		(0.3)		(0.4)	
Coffee	25.3	5.2	27.1	5.1	33.0	5.5	19.4	3.7	22.8	4.8
Cocoa	14.4	3.0	11.0	2.0	10.5	1.7	13.8	2.6	8.8	2.0
Logs	46.1	9.6	50.1	9.3	65.1	10.9	32.5	6.1	29.2	6.1
timber	8.1		8.5		7.2		4.3		3.4	
Iron ore	274.1	56.4	287.0	54.0	310.2	51.7	325.4	61.5	311.1	65.2
Diamonds	30.0	6.2	39.6	7.4	33.5	5.6	23.4	4.4	26.3	5.5
Other domestic	5.6	1.1	6.9	1.3	8.0	1.3	7.5	1.4	5.0	1.0
Re-exports	8.8	1.8	10.6	2.0	25.6	____	12.5	2.4	13.3	2.8
Total Exports F.O.B.	486.4	100.0	536.6	100.0	600.4	100.0	529.2	100.0	477.4	100.0

Source: Economic Survey of Liberia, 1982, p. 15.

year in which the military government came to power.

The value of iron ore export earnings has continued to increase over this period except in 1981. Iron ore export earnings accounted for 65.2 percent of total export earnings in 1982 compared to 56.4 percent in 1978.

In spite of the above, the agricultural sector is characterized by low productivity due to poor state support for research, government low price policies, and pressure over the years from concessions for the best land for mining, rubber and export crops. Another possible cause of low productivity can be attributed to the population movement to the urban sectors leaving fewer people to till the soil; for example, the urban population increased from 21 percent in 1960 to 33 percent in 1980.[4] This movement of people to the urban, mining, and industrial sectors, which depend on purchased food, has resulted in a growth of demand for marketed food that is in excess of the rate of increase in food production.

The agricultural sector contributed 24 percent of Gross Domestic Product in 1964, and 23 percent in 1970, 31 percent in 1978 and 32 percent in 1982 (Table 2.3). The agricultural sector's growth rate in constant prices was 3.2 percent from 1970-75 and 2.3 percent from 1975-77.[5]

The value of total agricultural production rose slightly from an index of 91 in 1968 to 126 in 1978 but declined to 122 in 1979 (Table 2.4). The food production index during this same period, experienced continued growth from 93 in 1968 to 128 in 1979; food production increased at 3.3 percent per year. However, per capita

TABLE 2.3 GROSS DOMESTIC PRODUCT (MILLIONS OF LIBERIAN DOLLARS) SELECTED YEARS, 1964-1984

	1964	1970	1977	1978	1980	1982
Gross Domestic Product	275.4	407.8	699.7	670.0	800.0	716.4
Agriculture (%)	24	23	30	31	32	32

Sources: Africa Today, 1981, p. 747.

Liberia Agricultural Sector Review, Vol. I, 1984, p. 64

1 Liberian $ equals $1 U.S.

agricultural production has declined from an index of 100 in 1968 to 92 in 1979 and food production per capita rose from 99 in 1968 to 105 in 1974 but fell to 95 in 1979 (Table 2.4).

TABLE 2.4

Agricultural Production Indices (1969-71 = 100), Liberia, 1968-1979

	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
Agri-culture	91	91	102	106	108	112	116	114	114	117	126	122
Per Capita	100	102	96	102	81	92	109	81	75	92	94	92
Food	93	94	101	105	108	112	120	118	121	123	127	128
Per Capita	99	97	101	102	102	101	105	100	99	98	98	95

Source: Africa Today, 1981, p. 474.

The main crops produced for domestic consumption are rice, cassava, sweet potatoes, plantains, eddoes, bananas, plums, oranges, and green vegetables (peppers, bitter buds, etc). Among these, rice and cassava are the staple foods. Table 2.6 shows changes in acreage, production and yields of

TABLE 2.5 LIBERIA: CHANGES IN ACREAGES AND PRODUCTION OF MAJOR CROPS, SELECTED YEARS, 1969-1981

	ACREAGE (000 HA)							PRODUCTION (000 MT)						
	1969-71	71	77	78	79	80	81	1969-71	76	77	78	79	80	81
Coffee	15	16	25f	25f	25f	28f	28f	5	5	9*	9f	8*	13	13f
Cocoa	5	9	7f	8f	10f	11f	11f	2	3	3*	3f	3f	4f	4f
Rubber	n.a	55	59	58	59	57	n.a	80	85	78	78	79	81	82
Rice	154	200	206	210f	210f	197	180	184	245	256	264	249	243	216f
Roots and Tubers	83	80f	80f	80f	84f	90f	92f	304	310f	316	319	346	346f	361f
Cassava	79	75f	75f	75f	82f	85f	87f	264	265	270f	272f	300*	300f	315
Sweet Potatoes	1	2f	2f	2f	2f	2f	2f	13	15f	16f	16f	15f	15f	16f
Total	337	437	454	458	462	470	400	852	928	948	967	1000	1002	1157

Sources: FAO Production Yearbook 1978, Vol. 32, 1969-78, pp. 98, 109, 114, 116, 184, and 186; 1981, Vol. 35, 1979-81, pp. 98, 109, 114, 116, 183 and 185.

Liberia Agricultural Sector Review, Vol. III, pp. 2, 22.

NOTE: MT = metric ton
HA = hectare
* = unofficial
F = FAO estimate
n.a = not available

some of these principal Liberian food crops for the selected years 1970-81.

Land Use

Liberia has a land area of 43,000 square miles with a population of about 2 million people. The population density was 19.1 per square kilometer in 1979.[6] Only 5.3 percent [7] of the total land area was being cultivated in 1983.

Table 2.5 shows the acreage and production in major crops for selected years. The total acreage planted increased from 392,000 hectares in 1969-71 to over 400,000 hectares in 1980. However, the acreage in rice production (the major food staple) declined from 200,000 hectares in 1971 to 180,000 hectares in 1981. In 1971, 46 percent of the land in production was planted to rice, 18 percent to tubers and roots, 17 percent to cassava and 13 percent to rubber. In 1981, assuming rubber acreage had not changed since 1980, 39 percent was in rice, 20 percent in tubers and roots, 19 percent in cassava and 12 percent in rubber.

Principal Crops

The principal export crops include rubber, palm kernels, cocoa, coffee and timber. Rubber and timber are major earners of foreign exchange, as are coffee and cocoa (Table 2.2). Rice production rose until 1978 to 264,000 metric tons but fell each year thereafter. This production decrease is accompanied by a drop in rice yield from 1,243 kg/ha to 1,200 in 1981 (Table 2.6). The decline in both production and yeld account for the continuous increase in rice imports (Table 1.1).

Liberia is considered to be the leading producer of natural rubber in Africa; its output constituted 2.7 percent of total world production and 40 percent of the African production in 1970.[8] In 1980, Liberia supplied 2 percent of the total world rubber exports of approximately 3.3 million metric tons, and was ranked the fifth largest rubber producing country in the world. The total production increased from 77,700 metric tonnes in 1970 to 88,500 metric tonnes in 1974; after 1976, production declined continuously until 1980. On an average, 57.31 thousand metric tonnes were produced on concessions and 24.3 thousand on Liberian farms or 42 percent was produced on Liberian farms during this period. In some years, exports exceeded production due to carryover from the previous year inventories.

TABLE 2.6 LIBERIAN PRODUCTION AND EXPORT OF RUBBER
(in thousands metric tonnes)

	Production			Exports
Year	Concessions	Liberian Farms	Total	Total
1970	54.7	23.0	77.7	83.6
1971	57.9	22.4	80.3	84.8
1972	60.0	21.8	81.8	83.1
1973	59.2	26.8	86.0	85.9
1974	56.8	31.7	88.5	86.4
1975	58.1	24.2	82.3	81.0
1976	61.6	22.9	84.5	73.4
1977	55.3	22.5	77.8	69.8
1978	54.0	24.0	78.0	71.8
1979	52.7	26.2	78.9	75.1
1980	58.3	23.1	81.4	76.7
1981	59.3	23.0	82.3	76.9

Source: Liberia Agricultural Sector Review, Vol. III, 1984, p. 2.

(a) Coffee and Cocoa

Liberia also produces coffee and is a member of the International Coffee Organization. Coffee is the third largest source of export crop revenue. However, the export values vary in accordance with world market prices and the quantities smuggled from the neighboring countries. Coffee exports were between 4,000 and 5,000 tons from 1967-76 and rose to 10,000 tons in 1977.[9] Cocoa and palm kernels also form part of the Liberian agricultural exports, cocoa exports averaged around 3,000 tons annually. The Liberian Produce Marketing Corporation, a public corporation, has a monopoly on the purchase and sale of cocoa, coffee and palm kernels.[10]

(b) Rice

Rice production is the most important economic activity in the traditional sector. Rice production rose until 1978 to 264,000 metric tonnes but fell each year thereafter.

However, domestic production is still inadequate to meet demand; the gap is met by imports particularly in the urban areas, as indicated in Table 2.7. Thus, importation of rice to supplement the local output has increased since the 1950s; 3,800 tons of rice were imported in 1953; imports rose to 23,000 metric tons by 1960 and to 50,000 tons annually in the 1970s.[11]

To further illustrate the importance of rice in the economy of Liberia, Monke states:

TABLE 2.7 RICE AVAILABILITY AND CONSUMPTION IN LIBERIA: VOLUME AND VALUE OF RICE IMPORTS

Year	Domestic Production (000 mt)	Imports		Net Availability (000 mt)	Consumption Per capita (kg)	Imports as Percent of Rice Consumption
		Quantity (000 mt)	Value (million $)			%
1970	127	49	9.7	168	125	29
1971	134	54	10.9	176	127	31
1972	141	42	7.6	166	116	25
1973	151	46	12.3	170	116	27
1974	166	35	15.8	168	112	21
1975	153	31	13.6	176	114	18
1976	161	38	12.9	179	113	21
1977	168	56	19.8	203	125	28
1978	161	61	22.9	202	121	30
1979	171	74	26.0	223	130	33
1980	144	87	34.4	212	120	41
1981	188	95	44.6	242	132	39

Source: Liberia Agricultural Sector Review, Vol. II, 1984, pp. 35 and 36.

> Rice plays an important role in the provision of two-thirds of total employment and involves roughly half of the population in its production. The annual national survey of crop production estimates the traditional agricultural population at 826,000 or 54 percent of the total of 1.5 million.[12]

Table 2.7 shows domestic rice production and the quantity and value of rice imports from 1970 to 1981. Domestic production has increased at 4.5 percent annum during this period; however, imports have doubled.

(c) Livestock

Animals also form an important part of agricultural production. It was estimated that there were 37,000 cattle, 10,000 ducks, 98,000 pigs, 61,000 sheep, 128,000 goats and 104,000 chickens in 1978.[13] Table 2.8 shows livestock production for the selected years, 1969-81. While

TABLE 2.8 LIBERIA: LIVESTOCK PRODUCTION SELECTED YEARS, 1969-81

	Livestock (1000 head)						
	1969-71	1976*	1977*	1978*	1979*	1980*	1981*
Cattle	28	35	36	37	38	39	40
Goats	145	175	180	185	190	200	210
Sheep	151	176	180	185	190	200	210
Chickens	166	2000	2080	2130	2300	2400	2600
Pigs	82	93	95	98	100	103	107
Ducks	145	190	200	209	215	220	226

Sources: FAO Production Yearbook 1978, Vol. 32, pp. 201, 204, 207.

*FAO Production Yearbook 1981, Vol. 35, pp. 202, 205.

domestic production is substantial, the importation of livestock is increasing, especially from other African countries like Mali, Guinea, Sudan, and Ivory Coast. The value of imports of food and live animals rose from 12 percent in 1977 to 15 percent of total imports in 1979.[14] Therefore, Liberian agricultural production has not kept pace with the domestic demand thus necessitating continuous importation of food and live animals over the years.

(d) Fishing

The Atlantic coastline of Liberia provides good fish resources. Also, fish farming is gaining interest in the country. The government is encouraging this interest by opening fish farms at the Suacoco Research Institute; private individuals also are undertaking fish farming.

Hence, this industry has experienced significant development. The discovery of shrimp fishing grounds in Liberian territorial waters between 1969 and 1970 and improvements in fish marketing and local processing techniques have greatly contributed to this development.[15]

(e) Forestry

Liberia has an estimated enclosed forest area of about 8 million acres in addition to other scattered forests of an additional 2 to 3 million acres which places her among the few West African countries with great potential for the development of a forest industry.[16] However, transportation difficulties hinder the progress of the development of this viable industry. Despite this, the incentive of favorable prices for tropical hard woods and the development of road networks have led

increasingly to the opening up of the forest areas in recent times. The increasing importance of the development of this industry is evident from the statistics in Table 2.9 which indicates that forestry's value-added to GDP increased from US $6.4 million in 1977 to US $23 million in 1980 in 1971 constant factor costs but fell to $12.3 million in 1981 due to a marked decline in world prices.

TABLE 2.9 LIBERIA: FORESTRY VALUE-ADDED AND EXPORTS

Year	Forestry Value-Added ($ million - 1971 Prices)	Forestry as Percent of GDP (%)	Value of Forestry Exports ($ million)
1970	4.1	1.0	5.9
1971	6.4	1.6	8.1
1972	6.4	1.5	8.2
1973	9.8	2.4	16.6
1974	7.5	1.8	17.6
1975	12.5	3.0	14.6
1976	16.4	3.8	34.6
1977	16.4	3.8	29.3
1978	21.2	4.8	54.8
1979	23.3	5.0	58.6
1980	23.0	5.2	72.5
1981	12.3	2.9	41.1

Source: Liberia Agricultural Sector Review, Vol. II, 1984, p. 96.

Furthermore, the export earnings of this subsector rose from US $5.9 million in 1970 to $72.5 million in 1980 but fell to $41.1 million in 1981, a 44 percent reduction from 1980. (Table 2.9; this source has different estimates than Table 2.2).

About 12,000 workers were engaged in forestry and saw milling activities including some 700 workers in private small-scale furniture industries in 1980.[17]

Problems of Agricultural Development in Liberia

Agricultural development in Liberia is both a political and a technical process. The emphasis over the years has been on production of export crops which generate greater foreign exchange. Usually, this has been in the form of plantation farming which did not include the majority of the people. Even though the result has been generally good as a source of foreign exchange earnings, self-sufficiency in food is yet to be achieved.

Economic development of a country must involve its people in providing education. As Schumacher in his book Small is Beautiful[18] states: "Development does not start with goods, but starts with people and their education, organization, and discipline." Liberia has much to do in the development of her human resources; the illiteracy rate, of 80 percent of the adult population, is high.[19] This is one of the factors affecting the agricultural development of Liberia.

(a) Population

An important factor affecting agricultural development is the rate of population growth. The population grew at 3.1 percent per annum from 1960-1970 and 3.3 percent per annum from 1970-1980.[20] Hence, from this high fertility rate the age structure in Liberia is young and so the percentage of population economically active is lower than in another country with a lower fertility rate.

The serious impact of this population growth problem is stated by Mellor when he defines economic development as:

> a process by which a population increases the efficiency with which it produces its desired goods and services thereby increasing per capita living levels and general well-being.[21]

Consequently, the objective of economic development has indeed been to raise the average living level of the population. This requires that total production of goods and services expand more than population.

The adverse effect of rapid population growth can become much more obvious by looking at the economically active population listed in Table 2.10 which shows that despite the increase in total population, the percentage economically active is declining over time from 40 percent in 1970 to 37 percent in 1979. Thus, if agricultural production is to provide the necessary food and capital formation for the growth and development of the economy, it must grow faster than the population.

TABLE 2.10 POPULATION GROWTH, 1970-1981

Year	Total Population	Economically Active Population	Percent of Total
1970	1,335,000	531,000	40.0
1974	1,503,368	n.a	n.a
1975	1,574,000	603,000	38.3
1977	1,684,000	635,000	37.7
1978	1,742,000	651,000	37.4
1979	1,802,000	667,000	37.0
1981	1,994,000	n.a	n.a

Source: Africa Today, (1st Edition, 1981), p. 746.
n.a. = not available

(b) Demand for Food and Structural Transformation

Two other major negative effects of population growth on Liberia's economic growth and development are: (1) increasing the demand for food imports to supplement domestic production (Table 2.11), and (2) the difficulty in the structural transformation required in shifting from a predominantly agricultural economy to one with a different occupational distribution of the labor force that characterizes economic maturity. In Liberia, more than 60 percent of the economically active population is still engaged in agriculture. Table 2.11 indicates projected rice import demand based on the assumption that the population continues to grow at its current rate of 3.3 percent.

TABLE 2.11 LIBERIA: PROJECTED RICE IMPORT REQUIREMENTS, 1982-2000
(in 000 metric tonnes)

Year	Estimated Domestic Production Levels	Net Domestic Availability	Total Demand	Import Requirements
1982	180	158	245	87
1983	182	159	253	94
1984	186	163	261	98
1985	189	165	269	104
1986	192	168	278	110
1987	196	171	288	117
1988	199	174	297	123
1989	202	176	307	131
1990	206	180	317	137
2000	244	211	439	228

Source: Liberia Agricultural Sector Review, Vol. II, p. 39.

In effect, Table 2.11 shows that if historical production trends continue, the demand projections imply a growing dependence on imports to meet future consumption requirements. According to the World Bank[22] study of Liberian agriculture, current rice imports account for about 35 percent of rice consumption. The report states that by 1990 this figure would rise to 43 percent and by 2000 imports would be required to provide over half of total rice consumption. This means that "domestic production would have to rise at an annual rate of 4.8 percent to keep 1990 imports at the estimated 1982 level. Self-sufficiency in rice by 2000 would require growth rates of 5.8 percent per annum."[23]

(c) Infrastructure

Liberia also is confronted with the problem of inadequate infrastructure. Although there are roads connecting major Liberian towns, some rural towns are not accessible by roads, the use of foot trails and headloading is widespread especially in certain parts of the rural areas. However, in some regions a combination of walking and motor transport is also used.

There are only 2,500 kilometers of all-weather roads, and hence marketing of agricultural commodities generally requires head-loading. Monke states:

> In transport the difficulty lies not in road transport costs per km, which are comparable to other West African countries, but in the availability of roads. Liberia has one of the lowest road densities in the region (0.04 km/km2), half of which are seasonal roads, and obtaining and delivering inputs to the farm involve substantial amounts of walking. Some rough calculations

> are illustrative of farmer access to roads. The interior counties of Lofa, Bong and Nimba are responsible for 70 percent of national production and have 1,500 km of roads. If one assumes that land use is 20 hectares per household and two-thirds of the land is used for agriculture (thus probably underestimating road scarcities), at most 10,000 households or 17 percent of the total, are within 1 km of a road.[24]

This problem limits not only the input and output delivery, but also the extension visits.

Infrastructure is essential to service agriculture and provide the necessary supplies and facilities for both production and marketing. Thus, Southworth and Johnston defines agricultural infrastructure as:

> The physical capital and institutions or organizations, both public and private, which provide economic services to and which have a significant effect directly or indirectly upon the economic functioning of the individual farm firm, but which are external to the separate, individual farm firms.[25]

They then go on to divide agricultural infrastructure into two principal types: capital intensive and capital extensive.

According to Southworth and Johnston, capital-intensive infrastructure comprise reproducible capital for the provision of the service; for example, roads, bridges, warehouses, dams, marketing firms to transport farm products or cooperatives to store and to process crops. The institutions and organizations which maintain and operate the capital-extensive (or service) infrastructures as those in which the capital component is negligible for example, extension education, conservation schemes, disease and pest control organizations, etc.[26]

The extension service in Liberia started in 1960, and by 1977 the service consisted of nine county agents, seven assistants, and 76 aides, or about one worker per 1,600 households. Small farmers were denied such service since it was restricted primarily to large farmers who requested assistance and to farmers participating in government projects. Only 4 percent of agricultural holdings received advice from extension personnel.[27] The extension workers had less than nine years of education, and hence, training was a serious problem. This problem was further complicated by both lack of coherent policy and supporting funds to disseminate information to further delivery of research results to farmers.

(d) Price Policy

There is a problem of institutional adaptation for achieving and maintaining a reasonable level of food prices at the consumer level. The Liberian government policy demonstrates the difficult tradeoff between the conflicting objectives of cheap urban food supplies and increased domestic production. Many LDC governments reduce the prices of food, especially in the urban areas; these lower prices do not provide incentives for the producers. Also low prices designed to favor urban consumers can reduce the profitability of marketing additional output. Table 2.12 illustrates the price differentials between Liberian domestic and imported rice. Domestic prices increased 140 percent over the period 1972-1981 while imported prices increased 155 percent. Domestic rice prices have remained constant from 1976 to 1981; imported rice prices have always been higher over the years. In 1971, domestic prices were

TABLE 2.12 PRICE PER POUND OF DOMESTIC AND IMPORTED RICE 1971-1981

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
Domestic cents per pound	n.a	5.0	7.0	7.0	10.0	12.0	12.0	12.0	12.0	12.0	12.0
Imported cents per pound	8.3	8.4	12.1	20.8	20.1	15.6	16.0	17.1	15.9	18.0	21.4

Source: Liberia Agricultural Sector Review, Vol. 1, p. 70.

60 percent of imported prices; by 1981 the differential had fallen to 56 percent.

Previous Solutions to Agricultural Problems

Attempts have been made over the years to address these agricultural problems. Government programs intended to increase agricultural production started in 1963 with President Tubman's "Operation Production."

(a) Operation Production

Operation Production was the first agricultural development program initiated at the national level. The importance of this program was summarized by President Tubman by stating:

> We of this country must realize, know, and understand that we must produce to survive; that increased production is analogous to prosperity, progress, development, happiness, self-sufficiency, patriotism, national pride, and even Godliness.[28]

In order to achieve this objective, local committees were established to work with farmers. Financial aid was given to honor county chairmen instead of farmers;there were no public appropriations made for coordinating the activities of the program even though a two-man staff was charged with its administration. The significance of this program lies in the fact it represented the initial step in re-orienting government policy toward the agricultural sector.[29] Also, the United States Department of Agriculture and the Food and Agricultural Organization of the United Nations began a Rice Extension Program in which experimental farms were established to encourage rice production with swampland techniques.

(b) The Crash Problem

In a second attempt, President Tubman launched the Crash Program for Agricultural Development in 1968. President Tubman's perception of this program was that it would:

> [serve] as an official guideline for the agricultural development of the country [and] as a stimulant in getting agriculture moving in every field and on every level of the national endeavor.... It is expected that every citizen and foreigner...will earnestly undertake and relentlessly pursue some production effort, no matter what the size or extent, until the total national potential has been fully regimented, and the planned goals attained.[30]

Like the first program, the primary objective was to make Liberia self-sufficient in the production of food crops, particularly rice. But unlike the first program, this sought a long-term commitment to assist small farmers through cooperatives which were expected to replace existing marketing channels. The cooperatives were to provide a marketing outlet for commodities, supply inputs, and implement a system of standardized grades, weights and measures.[31]

This program was also to establish 90 one-acre swamp rice demostration plots and to develop 1,500 acres per year in large scale projects with mechanical land clearing. These large developments would be cultivated by small farmers who could be organized into cooperatives.

In line with these plans a Rice Committee was set up to oversee the importation of rice. Problems arose when the committee offered import rights to one company to import Egyptian brown rice and to mill it into white rice which spoiled and developed an odor. This system was then

abandoned and replaced by a tender system in which the committee accepted competitive bids from any prospective importer.

The three tangible results which evolved from the Crash Program were: (1) it laid the foundation for government involvement in the rice economy, (2) small swamp projects developed in this program continued and formed a key component of government production efforts in the 1970s, and (3) the Rice Committee actions and government control of imports laid the cornerstone of trade and price policy which enabled the government to intervene effectively in the rice market.[32]

(c) The Special Projects

Due to poor methods of implementation, the two agricultural programs under President Tubman were not successful in achieving the intended goal of self-sufficiency in food crop production, especially rice. So President Tolbert, upon becoming President in 1971, established agricultural programs with the intent of reducing or possibly eliminating rice imports within 10 years. These programs followed the precedents set in the 1968 Crash Program Plan.

However, with President Tolbert's new economic policy, "Total Involvement for Higher Heights," increased emphasis was placed on rural integrated development and diversification of agricultural production. Hence, cash cropping was concentrated on coffee and cocoa for export and production of rice for import substitution.

In order to achieve these goals, the third program (but the first under Tolbert), the Special Projects were initiated. The Special Projects programs were geared toward the development of water control in large swamp

areas (50 ha or more) and organization of small farmers to work the developments. The resettling of farmers would be done when necessary. Cooperatives were established for small farmers to act as market outlets and sources or inputs and credit.[33]

However, unlike previous programs, swamp rice became only one component of these projects. Tree crops, especially coffee and cocoa, were to be planted in upland areas. Farmers were to abandon their shifting cultivation practices. Agricultural mechanization formed a major component of this program; AGRIMECO, an autonomous government corporation involved with agricultural mechanization was established to provide mechanical services for land clearing and development.[34]

Plans were to develop 1,500 hectares per year beginning in 1971, but actual developments fell far below this target; by 1976, a total of only 900 hectares were developed. Eight projects were set up, and cooperatives associated with them had a total membership of 2,460.[35]

A number of serious problems were encountered with the Special Projects program including frequent equipment breakdowns, poor management of cooperatives, input shortages, and lack of farmer enthusiasm. These hampered the development of the projects, thereby leading to the failure of the experiment with partial mechanization. Furthermore, these projects were too expensive to sustain.

(d) The Expanded Projects

The fourth development project, the Expanded Projects, were concerned with the improvement of small swampy areas scattered throughout the country. These swampy areas were generally less than 1 hectare and

cultivated by individual households. Implementing the plan took the following procedure:

> An advance team was to identify areas to be improved and enlist farmer interest in development. Following this, a technical assistance team would arrive and assist with actual swamp preparation.[36]

The project started in 1972 with two sets of teams, and by 1975 four teams were working in the interior counties. The leadership was provided by 20 Taiwanese advisors with about 60 Liberian employees. One thousand hectares were identified by 1976, but only half of this amount was developed at an annual rate of 125 hectares.

Like the Special Projects program, a number of major bottlenecks which hindered the dissemination of the new technology were encountered. Expenditures were too high to sustain; for example, the approximated expenditure was $0.2 million annually, excluding the costs of the Taiwanese assistants. Furthermore, 75 percent of the total costs incurred by the Ministry of Agriculture was for personnel, leaving only 25 percent for real investment. Lack of transport facilities and delays in procurements of equipment constrained the performance of the team. Consequently, the program was disbanded in 1977, when the Taiwanese were replaced by advisors from the People's Republic of China.

(e) The Integrated Rural Development Projects

The fifth program, the Integrated Rural Development Projects is a mere reorganization of the small-scale swamp approach advocated under the Expanded Rice Program. This program is under the aegis of the World Bank, and in addition to continuing the goals of the Expanded Rice Program, this

program also focuses increased emphasis on the removal of infrastructural constraints which hampered previous programs.

The Integrated Rural Development Projects are modeled after similar projects in Sierra Leone. In addition to the emphasis on development of swampland and improvement of upland production, these projects, unlike previous ones, also emphasize the development of health and education facilities, the establishment of input distribution centers, and road construction to improve farmer access to markets.[37]

Another program currently contemplated by the government considers the extensive dissemination of an improved seed-fertilizer package to upland producers. The improved upland program

> recognizes the importance of infrastructural and institutional constraints of previous projects, and intends to increase the size of the extension service, the number of input distribution centers, and credit availability. The seed-fertilizer package is intended to reach 80 percent of upland producers. An eightfold increase in the size of the extension force will lower the ratio of extension workers to holdings to 1:50. Each holder will be visited for one year, leaving the farmer responsible for maintaining his own seed stock and obtaining fertilizer.[38]

Accordingly, the plan of this program involves the establishment of 20 regional centers to distribute seeds and fertilizer. The estimated cost of the three-year program was $32 million.

The results of President Tolbert's projects can be summarized as follows: "Rice imports decreased from 53,751 tons in 1971 to 30,642 tons (valued at $13.6 million) in 1975."[39] However, rice imports rose to 55,809 tons ($19.8 million) in 1977 and then to 74,013 tons ($26 million) in 1979.

Some of these projects were highly mechanized and affected only a few farmers; hence, the small farmers were not fully involved. Consequently, as an observer remarked: "Rural incomes in general have therefore been low, and government policy in the Tolbert regime favored capital-intensive agribusiness while paying lip-service to the needs of subsistence farmers."[40]

(f) The Communal Farms

Communal farms, initiated in 1981 through proclamation by the Head of State, are the military government's approach to agricultural development. The programs are labor intensive and are managed by the local chiefs. The purposes of these farms are to increase food production (rice) and to generate funds for public works. The operation of these farms takes on a form of forced labor; farmers are required to offer a certain number of days' labor per week throughout the season. The number of work-days donated per farmer varies from one region to another depending on the population of the area. Farmers who fail to comply are fined; a jail sentence is levied if the fine is not paid. Again, the amount of the fine differs from one region to another. The results of the communal farm programs have, in general, been very unsatisfactory since their inception.

Small Farmers in Liberia

The term small farmers/small holders as will be used throughout this paper refers to farm families who farm 25 acres (10 hectares) or less and who do not normally have access to credit from the formal financial institutions and generally rely on family labor for operating their farms. ACDB, under its small farmer agreement with the Lofa County

Agricultural Development Project, defines the Liberian small farmers as those cultivating no more than 10 acres of land. Small farm families' access to off-farm inputs and services are limited; consequently, they operate farms with traditional methods. Their farm sizes vary depending on consumption needs, availability of labor and other factors.

Why the focus on small farmers? There are several reasons why priority is given to the small farm sector in Liberia. First, small farm families constitute a large portion of the economically active population which represents 70 percent of the Liberian labor force[41] and yet have low output--i.e., account for less than one-fifth of GDP. Second, as mentioned, the income of this group is relatively low in relation to other sectors of the economy. Thus, increasing their productivity, output and income can assist in narrowing the present income disparity between the rural and urban sectors. Increased productivity benefits not only the farm families but also the nonagricultural sector through greater domestic production and potentially lower food prices, and increased foreign exchange savings. Small farmers in Liberia are responsible for nearly all food crop production. Underemployment of labor exists in this sector and could be mobilized to become productive. Finally, as the World Bank: Accelerated Development, states:

> Attention to smallholders is a more cost-effective way to raise output than other alternatives currently allowed - at least for most crops and areas.[42]

In defense of this statement, the World Bank adds:

> Several lessons can be drawn from Kenya's rapid agricultural growth, which strongly attests to the desirability of promoting

> smallholder agriculture. Kenya's experience shows that African small farmers are very responsive to opportunities for profitable innovation, and that small farms are frequently far more productive than large farms.[43]

Small farms in Liberia are characterized by intercropping rather than monoculture. Intercropping reduces risk and labor inputs.

As mentioned previously, one of the problems in Liberian agricultural development was the emphasis on large farms and capital intensive technology. The current focus is on small farm families, as pointed out in the World Bank: Accelerated Development[44] the priority on small farmers must be selective so as to target those areas where the existing human and physical resource base infrastructure provide the pre-conditions for rapid take-off from additional investment.

Summary

Agriculture continues to play a major role in the Liberian economy as both a principal source of employment (Table 2.1) and export earnings (Table 2.2). It is still the largest single sector in the economy currently contributing about 32 percent to GDP.

The agriculture sector recorded a growth rate of 3.9 percent per annum in 1974-79 largely due to a high growth rate of 25.5 percent per annum of forestry. The high growth rate in the agricultural sector has declined as a result of the drop in the growth rate of forestry by 1.3 percent and 46.5 in 1980 and 1981 respectively. Consequently, monetary agriculture was stagnant (0.3 percent growth) in 1980 and experienced a marked decline of about 22 percent in 1981.

In general, the acreage, production, and yields of all major crops except rice have increased over time (Tables 2.5 and 2.6). Rice recorded a decline in acreage planted from 210,000 hectares in 1978 to 180,000 hectares in 1981; production fell from 264,000 metric tons in 1978 to 216,000 metric tons in 1981. The decrease in production is matched by the drop in yield from 1,250 Kg/ha in 1977 to 1,200 Kg/ha in 1981 (Table 2.6).

Government price policy over the years has worked against agricultural products particularly rice where price control measures have kept domestic rice prices low relative to imported rise. These prices do not provide incentives for producers. In effect, it is the urban dwellers who, through low prices, benefit from these agricultural programs.

Population growth is pervasive. The population growth rate was 3.1 percent from 1960-1970 and it rose to 3.3 percent from 1970-1980. Consequently, the age structure is young. Similarly, urban migration has been increasing; for example, the rate of population living in urban areas rose from 21 percent in 1960 to 33 percent in 1980. This high urban migration rate of people who depend or purchased food, in addition to the high population growth rate has resulted in a high growth of demand for marketed food that is in excess of the rate of increase in food production. Hence, the excess demand has been met by imports (Table 1.1).

Previous agricultural policies have not involved a majority of the farmers especially small farmers who are predominantly in the food economy; yet this sector provides employment for most of the farm families in contrast to plantations, like rubber, which employs about 42,000 persons, and mining, which employs about 12,000.

FOOTNOTES

CHAPTER II

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4. Africa Today, 1981 (Africa Journal Ltd., London, England), p. 747.

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9. Africa Today, 1981, p. 742.

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12. Monke, Eric A. "Rice Policy in Liberia" in Rice in West Africa: Policy and Economics (Stanford, CA: Stanford University Press, 1981), pp. 109-110.

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16. Ibid., p. 226.

17. Africa Today, p. 746.

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20. World Bank: Accelerated Development, p. 176.

21. Mellor, John W. Economics of Agricultural Development (Cornell University Press, Ithaca, New York, 1966), p. 3.

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24. Monke, p. 151.

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26. Ibid., pp. 108-110.

27. Monke, p. 151.

28. Ibid., p. 119.

29. Ibid., p. 119.

30. Ibid., p. 119.

31. Ibid., pp. 119-120.

32. Ibid., p. 120

33. Ibid., p. 121.

34. Monke, p. 121.

35. Ibid., p. 121.

36. Ibid., p. 122.

37. Ibid., pp. 124-125.

38. Ibid., p. 125.

39. Africa South of the Sahara, 1982-83, 12th Edition (Europa Publications Ltd., London, England, 1982), p. 584.

40. Africa Today, 1981, p. 740.

41. Liberia Agricultural Sector Review, Vol. II, (World Bank, Washington, DC, 1984), p. 4.

42. World Bank: Accelerated Development (Washington, DC, 1979), p. 51.

43. Ibid., p. 51.

44. Ibid., pp. 52-55.

CHAPTER III

THE FINANCIAL MARKETS IN LIBERIA, AGRICULTURAL CREDIT AND CREDIT EXPERIENCE IN ZAMBIA, IVORY COAST AND TANZANIA

This chapter is divided into three sections: the first gives an overview of financial markets in Liberia, discusses and identifies the sources of capital and its role in Liberia; the second, identifies the general problems associated with LDC government credit programs; and the third reviews the credit experience in Zambia, Ivory Coast and Tanzania relative to the problems discussed in the second section.

The Financial Markets in Liberia

The Liberian financial market serves as a transmission mechanism between saver-lenders and borrower-spenders. Thus, it establishes a realtionship between buyers and sellers based on transactions that include borrowing, lending and transferring of financial assets (debt and ownership claims).

But, unlike financial markets of most developed countries, U.S. for example, formal buying and selling of securities, like stocks and bonds do not form part of the Liberian financial marketing system. This system consists of informal and formal intermediaries, and formal institutions.

(a) Structure of the System

The National Bank of Liberia performs the functions of a central monetary institution including the supervision of the banking system, required all banks to increase their reserve requirements to stop the

acting as a depository for the statutory reserves of the commercial banks, operating as a clearinghouse for these banks, managing both government and public corporation accounts and the assumption of responsibility for the supply of currency.[1]

It must be pointed out that monetary policy has played virtually no role in Liberia development particularly because U.S. currency* is the predominant medium of exchange and circulates as legal tender side by side with Liberian coinage of denominations of 5 dollars and less.*[2] Thus, the Central Bank does not exercise control over the money supply in circulation except for capital and reserve requirements.

(b) Financial Intermediaries in Liberia

The Liberian financial market system comprises informal and formal intermediaries, and formal institutions - 7 commercial banks:** The Bank of Liberia, The Chase Manhattan Bank, The Liberian Trading and Development Bank Limited, The International Trust Company of Liberia, The Commercial Bank of Liberia, and the Credit and Commerce Bank (BCC); a housing bank, several credit unions, a number of insurance companies, two development banks, a national central bank, and savings and loan associations.[3] All of these intermediaries act as middlemen transferring funds from lenders to borrowers in both the agricultural and non agricultural sectors.

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*The par value of the Liberian dollar is equal to that of the U.S. dollar.

**Survey of African Economies cites six. The 7th commercial bank, BCC, was established recently.

However, commercial banks in Liberia, like those of other developing countries, are less involved in agricultural lending compared to public financial institutions and informal institutions. All of the commercial banks have their main offices in Monrovia (the capital city of Liberia), and there are 15 branches in the rural areas particularly in county headquarters and mining and rubber concessions: Firestone, Bong Mining Company, LAMCO, and so forth.

The assets and liabilities of the commercial banks are presented in Table 3.1. These data, however, reflect neither the total supply of the financial resources generated by the Liberian economy nor the total demand for credit in Liberia. There is no accurate measure of the amount of money in circulation due to reasons mentioned previously.

Based on the data (Table 3.1) the commercial bank liabilities increased from $20 to more than $60 million from 1977 to 1979, an increase of 310 percent. Other liabilities in the form of savings, time and demand deposits also increased over the same period. However, all liabilities dropped sharply in 1980, the year of the coup, as a result of massive capital flight. Time and savings deposits declined from $82.17 million in 1979 to $48.95 million in 1980, a 40 percent decrease; but they have continued to increase since 1980.

Similarly assets declined by 44 percent in 1980 from the 1979 level, but have continued to increase since then. On the other hand, reserves have continued to increase over time. Except for a slight decrease in 1981, reserves rose from $14.4 million in 1979 to $29.6 million in 1980, an increase of 105 percent. The abrupt increase in reserves can be attributed to the government monetary policy which had

required all banks to increase their reserve requirements to stop the capital flight after the 1980 coup. Also the uncertainity in the economic climate which prevailed after the coup contributed to this increase by slowing down the credit operations of the banks.

TABLE 3.1 LIBERIA: ASSETS AND LIABILITIES OF COMMERCIAL BANKS, 1977-83 (in millions of Liberia dollars; end of Period)

	1977	1978	1979	1980	1981	1982	1983*
Assets	25.23	25.17	35.74	20.17	15.53	19.16	23.45
Reserves	9.06	19.08	14.40	29.56	27.66	39.87	57.38
Liabilities	20.31	29.58	62.75	49.36	56.35	54.82	40.16
Demand Deposits	43.19	60.01	58.54	53.85	37.84	45.41	55.28
Time and Savings Deposits	69.10	77.51	82.17	48.95	51.05	64.34	69.74

Source: IMF International Financial Statistics, April 1984, pp. 286-87.

*1983 figures are taken as of October ending.

(c) Credit to the Private Sector

The bulk of private credit from commercial banks[3a] is extended to commercial borrowers (mostly non-Liberians) for financing imports, inventories, and other current requirements. These are the borrowers who maintain adequate financial records or possesses acceptable collateral.

On the other hand,

> small Liberian enterprises and individuals do not have easy access to commercial bank credit, either because they do not maintain adequate financial records or do not possess collateral of a type normally acceptable by banks. Commercial

> bank credit is usually formalized by promissory notes with a duration of 2 to 12 months.[4]

Most agricultural credit, except form ACDB, is available to small farmers only from the non-institutional sector.

(d) Informal Credit in Liberia

Various sources of agricultural credit in Liberia are available to farmers and others who need to borrow money for agricultural and related purposes. It is important that the person knows what sources of credit are available because such knowledge, according to Battles and Duggan, will permit one to "shop around" to find the institution or individual that can offer him the type of credit(s) he* needs at reasonable costs and on terms best suited to his individual situation.[5]

Lenders in Liberia can be classified as either formal or institutional, or informal and non-institutional. The formal sources include cooperatives, commercial banks, and government credit institutions, which are formal in the sense that their operating procedures and loan terms tend to be standardized and subject to Central Bank control.[6] On the other hand, the informal sources include friends, relatives, merchants and traders, and suppliers of goods on account. The operating procedures and loan terms are not standardized nor subject to Central Bank control.

Based on the above classification, the informal sources of credit are more important to the Liberian small farmers than credit from the institutional sources.

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*The masculine form is used although both men and women are borrowers and savers.

The major source of funds for small farm families in Liberia is their household savings. This source is perhaps the most important source of funds among small farmers for financing new investments. For example, investments in planting cocoa, coffee and sugar cane by small farmers have been financed through their household savings. This reveals the ability of Liberian small farmers to generate funds, and also the importance of mobilizing savings by them for investments especially when economic rewards are anticipated.

The informal financial market comprises localized transactions of money, real goods and services among friends, family members, relatives, traders, and moneylenders. These transactions are intended to facilitate consumption, production and trade for the borrower(s) on a personal basis; the interest rates charged, security required, and lending procedures vary widely.

Most of the loans in the non institutional market to do not require conventional collateral, especially when the lender is a relative or a family member or a trader who knows the borrower personally. Repayment may be guaranteed simply by the verbal promise of the borrower or through the verbal promise of another person (usually a relative) who serves as a guarantor. Generally, items such as radios, tape recorders, pans, buckets, or even tree crops are pledged as collateral.

Nearly all loan transactions in the informal market are short-term i.e., a few days to one year, and the amounts borrowed are quite modest.

Methods of Mobilizing Savings and Lending in the Informal Market

(a) Relatives and Neighbors

Lending among family members, neighbors and relatives forms the most important part of the lending activities in the Liberian informal financial sector. Generally, a borrower seeks another source of credit only if he cannot secure a loan from this group. In most cases, loans from this group are interest free and the repayment term is flexible.

(b) Rotating Savings Clubs or Susus

The rotating savings clubs or susus are clubs organized on the basis of kinship or economic interests. Members pool their money, and take turns to receive the collection periodically. The length of the pooling period depends on the rules of the organizations.

Sometimes the organizer uses his/her discretion in deciding who draws the first or last contribution. Generally, the group disbands when each member has received a pool, thereby, completing the cycle.

It should be noted that the loan here is interest free. The amount a member receives is equivalent to the amount contributed by the person over a specified period.

(c) Informal Credit Unions

Members of informal credit unions in rural areas are required to make regular fixed monetary contributions. The total amount collected is usually deposited and loaned to borrowers who may be members of the club or not. Loans extended through the credit union are interest bearing. The interest rate maybe as high as 300 percent annum.

Unlike the rotating savings clubs, the total amount collected at each meeting is not distributed. Rather, the collection can extend from 6 months to a year or more. During this time period, loans are extended through members of the union who serve as guarantors. Such a union sometimes become a viable intermediary.

The total amount collected including interest is usually distributed among members at the end of the transaction period — usually after a year or more. It is not unusual to find such unions in existence for more than two years. These informal credit unions are found throughout Liberia and are capable of raising large sums of money (several hundreds or thousands of dollars) to lend to potential borrowers.

(d) Traders and Moneylenders

The moneylenders, merchants and suppliers of goods on account are also a major source of credit in Liberia. Their lending transactions involve both cash and kind. The interest rates charged by moneylenders in Liberia range anywhere from 25 percent to more than 100 percent per annum.

In some cases, these traders require collateral and also insist on repayment. If the borrower fails to repay the loan, the moneylender reaps the crops until his debt is liquidated; otherwise, he sells the personal property. Although rarely done, failure to repay a loan may result in liquidation of collateral or court action.

Loan Procedures

(a) Application

The application procedure for obtaining a loan in the informal sector does not involve any formalities, i.e., filling out application

forms. The borrower simply requests the loan directly from the lender after discussing his financial needs. The lender usually knows the borrower and so without preliminaries he accepts or rejects the loan request without delay.

(b) Collateral and Terms of Loan

Land is mostly a communal property and cannot be pledged as security for loans. If a loan is to be repaid in kind, farmer's produce is usually undervalued. Hence, the moneylender who then sells the produce at the prevailing market price earns very high profits. All loans, in general, are short-term.

(c) Loan Repayment

Observations indicate that moneylenders face minimal non-repayment risk, due to their personal information about the borrowers. The moneylender personally knows his clients; hence, he can quickly decide whether or not to grant the loan. However, if a borrower fails to repay the loan, the moneylender simply sells the collateral, i.e., crops or animals to liquidate the loan.

Role of Credit and Economic Growth

Although the importance and need in Africa for credit are well-recognized, the pattern of credit availability varies greatly. Table 3.2 illustrates the variation in the availability of credit from institutional sources in some African countries. Schultz states:

> There are comparatively few inefficiencies in the allocation of factors of production in traditional agriculture.[7]

The important implication of this hypothesis is that traditional agricultural production generally cannot be expanded so as to contribute significantly to economic development by re-allocation of traditional factors in production. Thus, it is imperative that non-traditional factors

TABLE 3.2 FARMERS RECEIVING CREDIT FROM INSTITUTIONAL SOURCES

(percentage of all farm families)

COUNTY	PERCENT
Ethiopia	1
Ghana	1
Kenya	12
Morocco	10
Sudan	1
Tunisia	5
Uganda	3

Source: "Annex Table 3" in International Bank for Reconstruction and Development: Agricultural Credit Bank Paper-Rural Development Series (August 1974), p. 3.

of production be introduced. These will have new technology embodied in them thereby requiring the adoption of new cultivation practices in order to procure sufficiently high returns to warrant their use.

Credit, a part of this new package, thus becomes essential in supplementing the other factors to obtain increased agricultural production. This increased agricultural production may provide raw materials, foreign exchange, investment, food and income for other consumption goods, and also product markets for the non-agricultural sectors. This process can lead to increasing the welfare of the majority of the rural population.

It is evident that credit cannot be used in isolation of contributing factors which can enhance agricultural development. In fact, credit (borrowed funds) must be spent by farmers on physical inputs--fertilizer, seeds, pesticides, and labor-to expand production; hence, the modernization of agriculture involves many aspects. For instance, research is needed to determine what non-traditional factors and products might be profitable under local conditions and to attempt to adapt the results of the research from other localities to local conditions. Thus, Gordon argues,

> For the success of a credit program more than money is needed. There must be a new technology, markets that can supply additional inputs and absorb additional output, institutions willing to lend to small farmers on terms the farmers consider attractive, and, perhaps most important, farmers willing to borrow, to invest and repay loans.8

In spite of the low savings in the agricultural sector due to low incomes, the Liberian small farmers have a disposition to save, hence their contribution to capital formation must not be underestimated. Small farmers in the rural areas are conscious about saving for transaction and precautionary purposes. The savings for such purposes can be diverted to different purposes such as investments in cocoa, coffee, housing, and businesses, provided the savers anticipate greater economic rewards. Therefore, a good agricultural credit system must clearly seek to encourage and supplement the efforts of the rural populace for savings. Such financing is vital in attaining important goals towards which most Liberian small farm families are striving - a more adequate income and economic security.

(a) External Finance and Growth of the Small Farm

Hopkin, Baker and Barry have argued that increases in the the rate of growth of owner equity or net income flows are a much more comparable measure of growth[13] than with physical measures. In order to illustrate this growth process, Barry et al., developed the following mathematical model:

$$3.1 \quad G = \frac{dE}{E} = \left[\frac{D}{E} (r - i) + r \right] \left[(1-t) (1-C) \right]$$

where G = rate of growth in equity
D = debt
dE = change in equity
E = Equity
r = the average net rate of return
i = the average interest rate paid on debt (D)
t = tax rate
c = rate of consumption

This expression shows the relation of credit use to the equity growth rate. If $r < i$, the rate of growth is increased, the larger D/E (debt relative to equity). Also, the relationship reveals the dampening effects of consumption and taxation.

If one assumes that the economic growth of the Liberian small farm families can be measured by increases in their net income (returns to farming), one can recognize the importance of external finance, D. Without debt to purchase new technologies, the above equation becomes $G = r \left[(1-t) (1-C) \right]$. Thus given the low level of savings in the farm sector of Liberia, G is expected to be low in the absence of debt. Hence, the need for external finance to supplement the meager savings of the small farmers to increase G becomes evident. Therefore, availability of capital constitutes a major factor in the growth of the farm sector, assuming the average rate of return (r) is greater than the average cost of debt (i), and that the rate of consumption and the tax rate also are kept relatively low.

3.B.1 (b) $G = [.75\ (.20 - .50) + .20]\ [\ (1 - .70)\ ]$

$= -0.0075$

Hence, with non institutional loan, the farmer's equity decreases by approximately 1 percent per annum thereby leaving him worse off than without it.

On the other hand, when the rate of return (r) equals 20 percent and the rate of consumption (c) equals 70 percent $G = .20\ [(1-.70)] = .06$ in equation 3.A.2. Thus, without debt, the farmer's equity grows by 6 percent, 1.6 percent less than with an institutional loan, but 5 percent more than with non institutional loan.

TABLE 3.3 A HYPOTHETICAL BALANCE SHEET FOR A LIBERIAN SMALL FARMER AS OF DECEMBER 31, 1982

ASSETS		LIABILITIES	
Current		Current	
Cash on hand	$ 235	Loan from trader/ACDB	$ 600
		Loan from relative/friend	0
Total current	235	Total current	600
Intermediate		Intermediate	0
sheep/goats	50		
chickens/ducks	15		
Farm implements:			
cutlasses, hoes, axes, etc.	50		
Total Intermediate	115	Total Intermediate	0
Long term		Long term	0
Building	1050	Total liabilities	600
		Net worth	800
Total Assets	$ 1400	Total liabilities and net worth	$ 1400

In order to illustrate the total amount of capital employed by a Liberian small farmer in his farm operations (total assets) and the amount of capital borrowed (total liabilities), a hypothetical balance sheet as of December 31, 1982 is prepared. Note that what he owns in his farming operations, his equity (net worth), is the difference between his total assets and total liabilities (see Table 3.3).

From this balance sheet, the farmer's $\frac{\text{total debt}}{\text{total assets}} = 600/_{1400} = .43$

and his $\frac{\text{net worth}}{\text{total assets}} = 800 = .57$.

Hence, 43 percent of the total capital employed in this farming operation is provided by lenders, while 57 percent is provided by the farmer.

Using equation 3.A.1a, if the rate of family consumption is reduced to 50 percent, the growth rate in the farmer's net worth would have been 12.6 percent instead of 7.6 percent. On the other hand, if the borrowed funds were procured from the non institutional sector as in 3.A.1b, (with a consumption rate of 50 percent), G would have increased to -1.3 percent instead of -0.75 percent. Note that the rate or return (r), 20 percent, is less than the interest rate (i) of 50 percent, and hence, the high interest rate has nullified the positive effect of the external finance. Equation 3.A.2 in addition to 3.A.1a, illustrates the importance of external finance.

Thus, it has been shown that growth can be enhanced by lowering the cost of debt-capital, lowering consumption and maintaining positive rates of returns (i.e., with $r > i$ always). It also showed the dampening effect of consumption on the growth rate, and hence supported the concern about

the diversion of loans for production purposes to consumption uses. However, some consumption uses may enhance the growth process. Based on the equal access assumption to the two sources of debt capital in Liberia, it is evident that the Liberian small farmer is better off with a loan from the institutional sector in order to improve and expand his farming operations. Under such conditions, he is likely to increase his level of living and also take advantage of investment opportunities which he would not have seized otherwise.

Summary of the Financial Markets

Financial markets in Liberia comprise formal and informal markets. Informal lending activities constitute a major source of credit for Liberian small farmers. The bulk of the agricultural credit except from ACDB, is usually available to small farmers in the non institutional market.

A brief analysis of the institutional sector suggests some evidence that most Liberian small farmers still are more dependent on the non institutional lenders than on the institutional lenders. The various types of security requirements for obtaining loans from institutional lenders limit small farmers' access to institutional credit. In fact, a recent study indicates that only about 20 percent of the total Liberian farmers estimated to have titles to land are able to procure loans from the ACDB, the public financial institution. Hence, the remaining 80 percent or more still rely on moneylenders who charge exorbitant interest rates on modest loans.

It is conceivable that the small farmers' dependence on the high

cost of capital from this source affects their economic decisions, production, marketing and consumption. Small farm families usually pay interest rates ranging from 25 percent to more than 150 percent.

It should be emphasized that the innovative informal savings clubs and credit unions throughout Liberia have and continue to play a significant role in meeting the credit needs of small farm families over the years. However, the informal sector does not mobilize savings through official channels and generally, loan size is inadequate; a large loan size would have to be obtained from several lenders.

Therefore, there is a need for a viable alternative credit source to provide adequate loan size at lower interest rates compared to rates charged by the informal lenders. With this alternative, small farmers would become more interested in adopting new technologies. In fact, the economic activities of amall farmers in Liberia, in the face of under-developed infrastructure and limited markets suggest that substantial entrepreneurial potential exists. The rapid spread of commercial crops, i.e., cocoa, coffee, and sugar cane over the past two and a half decades without substantial government assistance show a strong interest by them for the generation of additional cash income. The alternative credit source and its design will be discussed in Chapter V. Meanwhile, the next section examines the role of credit and then compares borrowed funds from the informal and formal credit sources.

Agricultural Credit and Formal Institutional

Most public agricultural banks in LDCs have not been economically viable due largely to low interest rates, high default rates and high

administrative costs. Only these problems will be briefly discussed in this section.

In spite of the above, the importance of institutional credit supplied by African governments to supplement African farmers' own capital has been well-recognized over the past two decades. This is demonstrated through increases in government activities intended to provide more credit to farmers and by the size of resource transfers provided by bilateral and multilateral development assistance agencies to support national credit programs.[14]

These credit institutions are intended to assist the small farm families to increase their agricultural production in order to attain an adequate income level and economic security. But as Miller has commented: "Experience shows that in spite of the apparent need for government credit organizations, in general, their performance in dealing with small farmers has not been impressive."[15]

In fact, the small farmers' access to loans from these institutions is often limited by the various restrictive requirements which a prospective loan beneficiary must meet before securing the loan. Small farmers usually fall short of meeting these requirements. Therefore, as the World Bank Report states:

> Much of the borrowing is from other farmers--neighbors, friends and relatives--who charge a nominal rate of interest but expect comparable financing should they find themselves in need of credit. Some farmers, and especially those small farmers making regular borrowings, obtain loans from merchants, middlemen, and lenders, who charge high interest rates.[16]

Hence, the goal to free small farmers from moneylenders' high costs of funds is yet to be achieved.

The report also adds:

> In those countries of Asia and Africa for which figures are available, friends and relatives provided 50 percent of total loans; for Latin America they provided only 10 percent... on such loans interest is not charged or is nominal. Still, some farmers, and a disproportionate fraction of these are probably small farmers, are forced to borrow from moneylenders, middlemen, landlords and merchants, who, on average provide 27 percent of total agricultural credit. Many of the loans from these commercial sources are at very high rates of interest. Particularly in Africa, the rates on commercial loans are very high, but the volume of commercial lending there is very small. The interest figures may be misleading since they represent an annualization of monthly rates, and most loans are at high rates for short duration, seldom longer than three months.[17]

Credit programs which affect small farmers generally emphasize increases in production as a goal. This emphasis on productive purposes tends to narrow the scope of most government credit programs, thereby overlooking some other significant factors without which these programs might not succeed.

Baker, for example, argues against excluding credit for consumption from small farmer credit programs:

> In the organization of the small farm, it is difficult and perhaps unrewarding to separate the household from the firm consumption. Input requirements for the household are just as demanding as input requirements for the firm. Here too, there are not only the predictable deficits and surplus already noted, but also unpredicted events. Weddings,

> funerals, and other ceremonies, so abhorred in statements outlining the Small Farmer Credit Programs (SFCP), are nonetheless very real requirements as viewed by the small farmer... If the SFCP does not allow for them, the small farmer is left to meet these requirements elsewhere. This means the use of the informal lender or holding resources at high cost for such contingencies. It is submitted that this argument supports the inclusion of consumption within the scope of SFCPs.[18]

General Problems and Constraints

Ugoh[19] has identified two broad groups of problems associated with government credit institutions in his study of smallholder agricultural credit in eastern Nigeria: (1) organizational structure and administrative management and (2) loan policies. He contends that there was undue and unhealthy political influence in the administrative arrangements of the government institution (he studied) to the extent that its main objective to facilitate credit to the farmers was lost. Furthermore, he observed that the staff running the institution had no technical competence in agriculture or credit.

Moreover, he asserts that loan policies were guided by one overriding objective: to reduce the default rate. Consequently, loan processing involved cumbersome and highly sophisticated application forms and strict insistence on securities and guarantors to spot likely defaulters and to ensure that if a prospective beneficiary defaulted, the institution could resort to the sale of his securities or his guarantor to repay without consideration for increasing the output of the borrower. Therefore, he argues that the strict security requirements in the context of his study limited drastically the number of small farmers who could

have benefitted from the credit facilities.

Against these problems, he underscored the importance of credit for the development of agriculture and thus suggested that the organizational structure and administrative arrangement of a credit institution must be devised in ways to insulate it against undue and unhealthy political influence. He further adds that some system must be devised to make the credit facilities available to a large number of small farmers without increasing unreasonably the incidence of default.

In terms of keeping the incidence of default low, he compared government credit institutions to the "esusu" organization, an informal source of credit, and observed that the default incidence is low in the esusu. He then pointed out the following reasons for the high rate of default in government credit programs: (1) lack of intimate knowledge between the credit official and the farmer. According to him, more often than not, reputation is mistaken for character. As a result, potential defaulters who gained a good reputation are given loans on the basis of their reputation and political contacts rather than character. (2) The fear of group censure which prevails in the esusu organization is absent. He states that many people look to the government as a distant impersonal institution. Thus, obtaining a loan from the government (and defaulting on it) is a way of procuring part of the national cake. However, he suggests that educating the community leaders about government credit can help to reduce the incidence of default.

Similarly, Miller[20] has indicated the following set of problems and constraints which all government credit institutions must deal with

especially those associated with small farmer credit programs: (1) low interest rates which bear little or no relation to the opportunity cost of capital or to the institutions' lending costs; (2) high default rates, and (3) high administrative costs.

(a) Interest Rates

It is often contended that the non institutional sources of credit charge high interest rates in comparison to those charged by institutional sources--i.e., commercial banks. This argument has prompted various views regarding what interest rates should be charged by the institutional sectors, especially government financial institutions such as an agricultural credit bank.

A good deal of literature is available on the interest rate policies of government credit institutions for agricultural development. The appropriate rate of interest a government institution should charge small farmers prompts divergent views and hence, commands a considerable controversy.

In spite of the controversy, planners, policymakers and economists agree that the rates of interest in these institutions are very low. Consequently, they affect the financial viability of the institutions and thus have a destructive or stultifying impact on small farmer programs.[21] In fact, almost all government credit institutions in Africa are characterized by very low interest rates in relation to other institutions.

Some of the arguments advanced to justify persistent low interest policy by supporters are:

(1) "small farmers have been exploited by informal lenders and by market intermediaries and so preferential low interest rates by institutions will serve small farmers, thereby ending such exploitation;

(2) traditional farmers need special inducements to use highly productive inputs, and only highly subsidized credit will induce them to adopt modern technologies; and

(3) low interest rates are a mechanism for income transfer to small farmers to offset fiscal, foreign exchange and pricing policies that have adversely affected the agricultural sector."[22]

On the contrary, Gonzalez-Vega[22a] has described the concessional interest rates charged by government credit institutions as incredibly low. Penny, among many others, has questioned the argument for low interest rates as an inducement for small farmers to adopt new technology, and thus remarks that:

> most farmers do not have to be bribed with cheap credit to adopt profitable innovations if there is a satisfactory market for the additional output and if the extension service recognizes that, if they try, they could induce the farmers to finance the purchase of the new input or the new tool from their own resources.[23]

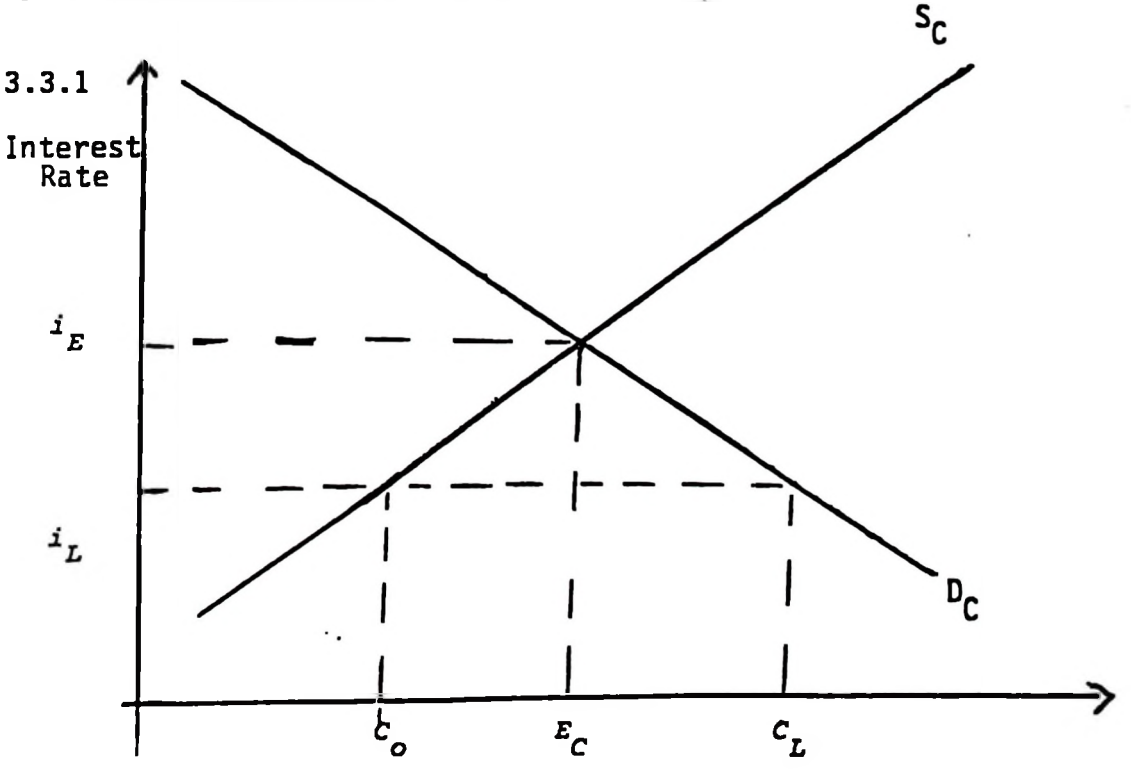
It is generally agreed that it is difficult to justify low interest rates to small farmers because low rates of interest tend to discourage both savings and the flow of credit to them. Furthermore, low rates of interest affect the financial viability of credit programs to the extent that they cannot be self-supporting. Hence, they must be dependent on government and other external donors to provide large subsidies and grants for their existence. As Adams has commented:

> At low interest rates, credit demand often exceeds the supply of loanable funds. Lending agencies, therefore, select only those borrowers who have excellent credit ratings. In this environment, small farmers are often denied access to regular channels of credit. Denied participation in credit, farmers find it less attractive to make savings deposits with credit agencies; farmers have one less reason to go into the bank or cooperative. Low interest rates on credit-savings, therefore, penalize farmers two ways: they sharply limit his access to regular channels of credit, and also deny him access to financial saving instruments which would pay a significant rate of return. In short, the few individuals who can obtain access to concessionally priced credit benefit from these policies, while all potential financial savers are penalized by being blocked from making deposits. Potential financial savers are forced, therefore, to opt for investments in activities which have low rates-of-return, or to increase their consumption.[24]

Similarly, Kane[25] has also argued that the establishment of a preferential borrowing rate for specific classes of agricultural borrowers represents a political attempt to violate the tendency toward price equalization that economists call "law of one price." This law derives its name from individuals' pursuit of their own self-interest unlike governmental laws which are based on a system of external policy and penalities for enforcement. Thus, he asserts that borrowing at below-market interest rates, enriches the borrower by an incremental "wedge" equal to the product of the interest rate differential and the amount borrowed. According to this assertion, the more one actually borrows, the greater is the wealth transfer that takes place. Consequently, he contends that even eligible borrowers want to obtain program loans for unauthorized purposes in order to profiteer.

The above arguments show very clearly that the interest rate issue is highly controversial and hence, there is no unique or simple answer to what constitutes a proper interest rate for agriculture, especially for small farmers. However, as the price of credit, the interest rate must reflect the opportunity cost of capital, costs and risks associated with the administration of credit. Such consideration allows the interest rate to equate the supply and demand for formal credit. Thus, what is important is a market interest rate[26] (Figure 3.3.1) which reflects the true opportunity cost of capital and hence eliminates the notion of gifts generally associated with government credit programs. The market interest rate eliminates the excess demand problem pointed out by Adams and also promotes the efficient allocation of credit resources. Similarly, Baker[27] has noted that a self-supporting rate of interest on borrowed fund is one of the most important characteristics that can enhance the permanence and viability of small farmer credit programs.

FIGURE 3.3.1



SC = Supply of Credit DC = Demand for Credit

From this figure, the supply of and demand for credit are equated by i_E, the market rate of interest, which eliminates excess demand or supply of credit. The market equilibrium quantity of credit (E_C) established when $S_C^* = D_C^*$. Any interest rate below E_C, for example, i_L creates excess demand since at this point credit becomes cheap. Hence, potential borrowers would like to borrow C_L although only C_o can be supplied. At i_L, a gap ($CoCL$) is created and must be filled with a large sum of money which most developing countries (i.e., Liberia) cannot afford. Under the interest rate i_L, credit is restricted to C_o, thereby denying many farmers from getting loans. Therefore, the market interest rate is appropriate since it permits more credit availability to potential borrowers.

(b) Defaults and Delinquencies

The failure of borrowers to repay on time can destroy the financial viability of any credit program. Thus, defaults and delinquencies and serious problems which must be minimized to enhance the permanence and viability of a government credit program. The defaults and delinquencies associated with ACDB are shown in Tables 4.9 and 4.12 respectively.

In this study, delinquencies are short run delays in repayment and defaults are long run delays in repayment which may result to non repayment.

Default and delinquency rates are defined and measured as the percentage of the portfolio in arrears at a given time, the collection ratio for an accounting period, proportion of borrowers who fail to repay, and the

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*SC = Supply credit and DC = Demand Credit

repayment index.[28] Sanderature argues that it is usually difficult to determine whether loans overdue or in arrears are in default and could not ultimately be recovered.[29] Generally, the longer the arrears, the greater the likelihood of non repayment (default); some arrears (overdue loans) may be written off due to the extension period of repayment, and, hence, it is difficult to show the actual level of default.

ACDB is confronted with the problems of defaults and delinquencies. The ACDB Annual report, for example, stated many of the Bank's customers did not meet their repayment schedules during 1980 and 1981.[30] The AID team summarized these problems confronting ACDB by stating that after three years, the Bank has made marginal progress with loans lagging well behind schedule and delinquencies (Table 4.12) greatly exceeding expectations.[31]

Even though high rates of delinquencies and defaults and common in government credit programs, some programs have had very good repayment records. Miller,[32] for example, cited the cotton development project in Malawi and "the Wolamo Agricultural Development Unit" in Ethiopia as credit programs which exhibited exceptionally high recovery rates of 97 percent each in 1968-71 (Malawi) and in 1970-73 (Ethiopia). On the other hand, he identified Ghana and Nigerian maize-rice credit programs as having poor repayment performance during the same period.

The World Bank report has identified three general reasons[33] why the default and delinquency problems are prevalent in government credit programs. They include: (1) adverse outcomes of investment rather than any failure to apply the loan proceeds as expected, (2) failure to use borrowed funds for productive purposes, and (3) the unwillingness to repay. These will be briefly discussed below.

The adverse outcomes of investment may lead or cause the economic benefits from the use of the loan to fall short of expectations for a number of reasons. Sometimes the problem may have been the lack of profitable technology which the farmer could use. At other times, it could have resulted from poor market conditions, or from bad weather and other natural causes beyond the farmer's control.

The failure to use the borrowed funds for productive purposes* can be a cause for delay in repayment and/or non repayment. In some cases, loan terms may be ill-suited for the purpose for which they are issued--e.g., short term loans for medium-term activities. Similarly, misallocation of funds which include use of borrowed funds for repayment of loans from other sources or for consumption or emergency purposes (weddings, funerals, illness, etc.) can affect repayment and be a cause for delinquency or default.

Loan repayment can be affected by the widely held idea that a government loan is a gift that does not need to be repaid. This reasoning is attitudinal; a borrower may deliberately decide not to repay a loan despite his ability to repay. Ugoh, for example, states:

> Many people look at the Government as a distant impersonal institution. They do not consider themselves as part of the Government. They look up to the Government the way many European and North American children look out for Father Christmas. They are anxious to receive their share of the 'National Cake' which the Government is supposed to bake, store and distribute.[34]

Other reasons, according to Sanderatne,[35] are closely linked with defects in the credit organization's policies, such as abandoning efforts

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*In this study, productive purposes relate to the ability to profitably use the borrowed funds (this is related to the ability to repay).

to collect unpaid debts under earlier schemes and the lack or weakness of any sanctions on borrowers who do not repay loans.

Measures to minimize the occurrence of the above problems will be elaborated in the next chapter.

(c) High Administrative Cost

In order to maintain financial viability, a credit institution must charge an interest rate on its loans high enough to permit recovery of three kinds of costs[36] (1) the costs the institution incurs to obtain the loanable funds, (2) the loss of capital through defaults, and (3) the administrative costs of operating the credit institution.

The problems of low interest rates and defaults have been discussed already. Administrative costs are principally affected by the salaries and efficiency of the credit institutions' staff and management, the number of applications, the size of loans, length of loans, and the degree to which the capacity of the staff to make and collect loans is utilized.[37] A credit institution

> which confines its lending primarily to long-term loans to large farmers could operate effectively with smaller staff and hence would have a much lower administrative cost per unit of money loaned than would be the case if it were extending seasonal credit to large numbers of small farmers.[38]

According to Miller, the World Bank has estimated that administrative costs on long-term loans to large farmers may be as low as 3 percent per year compared with 8 percent for short-term loans to small farmers. In many LDCs, these costs are substantially higher. The admininstrative costs in a Nigerian credit institution, for example, exceeded the amount loaned in every

year from 1965-66 to 1970-71, often several fold.[39]

The problems of low interest rates, defaults and administrative costs will be re-examined in the next chapter with particular reference to ACDB. But at this point, the following section discusses the credit experience in Zambia, Ivory Coast and Tanzania relative to the general problems associated with government credit problems.

Credit Experiences in Zambia, the Ivory Coast and Tanzania

This section reviews the agricultural credit programs in Zambia, Ivory Coast and Tanzania with particular reference to their small farm family programs. It is hoped that some lessons drawn from their experiences may be applied to the Liberian situation.

Each of these three countries have administered their respective agricultural banks for more than a decade. Generally, agricultural banks are created as a result of the reluctance of commercial banks to deal with agricultural credit, especially in developing countries. Consequently, the agricultural banks of Zambia, Ivory Coast, and Tanzania were established to provide for the credit needs of, and related activities in, the agricultural sectors of these countries.

In terms of repayment and length of existence, the agricultural banks in Zambia and Ivory Coast have a history of success in some aspects of their agricultural credit programs over the years. Although some agricultural credit programs in both countries are viable, one of Ivory Coast's programs (prets de soudure) for example, has been cited as being exemplary in terms of success by Third World standards especially for small farm

families. Its programs through cooperatives for small farmers also has been relatively successful.

In addition, Tanzania's credit experience is reviewed. However, unlike Zambia's AFC and the Ivory Coast's BNDA, Tanzania's TRDB has been constrained by political objectives in meeting small farmer needs.

(a) Zambia's Credit Experience

Zambian, the third most urbanized tropical African country with 37 percent of its population living in urbans areas, became independent in 1964.[40] Zambia has mineral resources and a great potential for agricultural development with a population of 5 million people. It is estimated that only 5 percent of the arable land was in crops by 1978, thus making Zambia's potential for agricultural development impressive. Despite this potential for agricultural development, Zambia's development thrust since independence has been, until recently, focused on the mineral and manufacturing sectors along with developing much needed infrastructure and social overhead capital while consequently neglecting agriculture. Hence, with high foreign exchange earnings in the early years after independence, food imports became substantial, rising from 8 percent of total imports in 1965 to 12 percent in 1971. The food imports fell to 5 percent of total imports in 1976 with a value of food imports in excess of $31 million. However, Due states:

> Recently, as a result of a significant reduction in export earnings from copper, increased attention is being given to development of the agricultural sector both as a supplier of domestic food and as a potential source of foreign exchange earnings.[41]

(a) Government Credit Institutions

At the time of independence, the quantity of domestic food which was supplied predominantly by expatriate farmers was decreasing due to the departure of these farmers from Zambia. Consequently, national agricultural production was declining while, at the same time, income inequalities between the rural and urban population were accentuated.[42] African farmers, compared to the expatriates, lacked capital and did not have access to formal financial markets like commercial bank loans.[43] According to Wilson, lending by commercial banks to the agricultural sector was only 2 percent in 1970 and 5 percent by 1973.[44] Therefore, in order to alleviate the problems of falling domestic agricutlural production and income inequality between the rural and urban sectors, the Zambia government created the Credit Organization of Zambia (COZ) to provide capital to African farmers shortly after independence. The Credit Organization of Zambia which was established in 1967, served as the most important source of short term, medium and long term credit for farmers and cooperatives. However, by the end of June 1969, COZ's total outstanding loans amounted to K25 million,* of which some 60 percent was considered irrecoverable.[45] The COZ ceased operation as a result of substantial losses incurred from 1967 to 1969, and poor repayment.[46] Hence, the Agricultural Finance Company (AFC) was established to succeed COZ in 1970.

Unlike its predecessor which had a poor repayment record, the AFC policy states, "that if a farmer borrows one year and does not repay most of the loan, he does not borrow the next year."[47] AFC, with its head

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*1K = $1.33 at the time.

office in Lusaka, has 42 branch offices in different parts of the country. Each branch office has a manager, credit supervisor and other office personnel. According to Due, AFC grants loans to both small farmers and large farmers on a seasonal, medium term and long term basis. Generally, AFC loans to small farmers are in kind except for tractor or labor hiring.

(b) Loan Application

In order to procure a loan from the AFC, the farmer obtains an application form from the nearest AFC office or from the Agricultural Assistant (AA). Upon request, the AA assists the farmer in filling out the form. The AA adds a confidential assessment to each report of the farmer as to his ability to utilize the inputs and to repay the loan. The completed forms are sent to AFC branch offices where decisions of approval or disapproval are made and sent to the farmer by mail or to the AAs.

If the loan is approved, the farmer must go to the AFC office to sign the agreement, get an LPO (local purchase order) for the inputs (which are given in kind except for tractor hire and labor), and sign a "stop "order" which allows the National Agricultural Marketing Board (NAMB), the government marketing organization, to deduct the amount of the loan from sales revenue when the crop is sold. According to Due, the farmers take the local purchase orders to the NAMB or the cooperatives for inputs. However, if the inputs are not available at the location or if the exact type and quantity of a specified input is not available, the farmers must return to the AFC office and have another local purchase order made out (as this local purchase order is for one specific NAMB or cooperative

depot); s/he must then return to the depot and collect the inputs, if they are still available by that time.[48] The complexity of the local purchase order process is obvious from the foregone discussion.

TABLE 3.4 AMOUNT OF AFC LENDING 1970-76

Year	Applications Received	Applications Approved	Amounts Approved
1970-71	21,781	7,532	K 7.2. million
1971-72	17,356	9,944	7.6 million
1972-73	13,543	10,273	5.1 million
1973-74	21,866	10,962	7.1 million
1974-75	20,456	16,993	9.0 million
1975-76	25,777	19,903	15.7 million

Source: Due, 1978, p. 3.

TABLE 3.5 AFC'S LOANS DISPERSED AND RECOVERED, 1970-81 BY PROVINCE

Province	Loans Disbursed	Loans Re-covered	Percent Re-covered	Balance Out-standing	Percent Out-standing
Central	59,622,079	40,725,755	68	18,896,324	32
Eastern	10,238,304	5,395,843	53	4,842,461	47
Southern	42,020,719	29,757,649	71	12,263,070	29
Western	965,862	328,970	34	636,892	66
North-Western	1,283,856	578,343	44	705,513	56
Copperbelt	3,424,157	2,378,598	69	1,045,199	31
Luaoula	1,625,276	722,669	44	902,607	56
Northern	3,991,971	2,338,694	60	1,603,277	40
Lusaka	40,677,687	17,908,833	44	22,768,854	56
Head Office	13,241,461	7,538,642	57	5,652,819	43
Totals	177,091,372	107,774,356	61	69,317,016	39

Source: Due, 1983, p. 273.

From these tables, it is clear that a higher percentage of applications are being approved and the total amount loaned by AFC has increased over time; also repayment of loans has averaged 61 percent from 1970 to 1981.

In an attempt to ease the work loand on the AAs and to ameliorate the loan repayment, Ward Development Committees (WDC) [political party committees], were created in 1975 to screen loan applications in each district and also, as was planned, to assist in the collection of funds from borrowers. The WDCs were established to accelerate development in the wards (political administrative units). Although the WDCs recommend the credit applicants, the final decision is made by AFC personnel.[49] Such a decision is usually made by a District Advisory Committee comprising heads of the Departments of Agriculture, Marketing, Cooperatives, the AFC District Supervisor and two farmers appointed by the District Governor. Each of AFC's customers are registered by ward as well as by Agricultural Camp area, (the geographical area of each AA). Thus, the creation of the WDCs makes application for loans and repayment experience no longer a confidential matter between the AFC and the farmer. Information on the repayment record of all borrowers is made available to both the chairman of the WDC and the AA.

Even though farmers in general approved WDC's involvement in the application screening process, the WDCs apparently have not been influential in assisting with repayment. The introduction of the WDC scheme in the nine districts, for example, effectuated the increase in loan applications from 2,000 in the 1973-74 season to 6,800 in the 1974-75 season,[50] but did not improve repayment.

(c) Interest Rates and Loan Types

AFC provides three types of loans: seasonal (short term), medium term, and long term. Short term loans go primarily to small farm families for the purchase of seasonal inputs, medium term loans are granted to medium/large farmers to finance the acquisition of oxen, ploughs and other agricultural machinery.[51] Long term (real estate) loans are made to large farm families for farm buildings, fencing, and other farm improvements; land is owned by the government and so it is not part of personal real estate.[52] An interest rate of 8 percent per annum was charged initially on all three types of loan. However, as AFC lending has increased over time, the interest rate has also increased; seasonal loans as well as medium term were offered at 9.5 percent per annum in 1981-82 but increased to 10.5 percent in 1982-83.

(d) Repayment

As indicated on Table 3.5, AFC has a very good loan recovery rate in relation to other developing countries. Its overall repayment rate over the period 1970-81 was 61 percent. It is not known how much of this delinquency was in default (discussed in Chapter IV); but it is obvious that the interest rate charged will not cover lending costs at this level of delinquency.

According to Due, since seasonal inputs go primarily to small farm families, AFC's repayment rate by them is high; in comparison, she argues "Large farm families have done much less well with repaying medium (26 and 12 percent) and real estate loans (29 percent). All repayment rates fell in the last two or three years; it is not known why this happened."[53] However, according to the Quarterly Economic Review of Zambia, the reasons for the decline in repayment particularly in 1979, were poor yields due to drought in that year.[54]

In an attempt to determine factors which contributed significantly to repayment differences, Due, by regression analysis, found that cash income and maize sales were the most important factors in determining variations in repayment; cash income explained 33 percent and maize sales 39 percent of the variation.[55] A multiple regression including maize sales, number in the family farming, and total cost of production explained 57 percent of the variation in repayment in 1976.[56]

Moreover, Due found training of the credit personnel to be significant for repayment, and thus, in her judgment, the Southern province's best trained manager contributed greatly to its good repayment performance.[57]

Summary

AFC was established by the Government of Zambia for the purpose of providing credit to the agricultural sector. It has 42 branch offices in the differents of Zambia.

The WDCs were set up to assist in lessening the loan administration and collection burden; they have exerted some influence in helping to improve the selection process but not repayment.

The AFC's overall repayment rate of 61 percent from 1970 to 1981 is good by Third World standards but the interest rate charged is not high enough to cover lending costs. The reasons for the variations in repayment are diverse; but some principal reasons include cash income, quality of AFC staff in terms of training and commitment to duties, the attitudes and perception of the people within a given locality toward public funds, net returns, and so forth.

Ivory Coast's Credit Experience

The Ivory Coast, which became independent on August 7, 1960, has a land area of 127,520 square miles with a population of about 8.5 million. Ivory Coast forms boundaries with Liberia and Guinea on the West, Mali and Burkina Faso on the North, Ghana on the East and the Atlantic Ocean on the South.[58]

In spite of the rapid development in the industrial and construction sectors, more than 80 percent of the labor force is engaged in agriculture, which is responsible for some 85 percent of the value of total exports.[59] Although this high percentage of the population is involved in agricultural activities, the increase in the production of food crops, meat and fish has continuously been insufficient to meet the growing demand and hence, imports of food stuffs, beverages and tobacco increased from 5 billion CFAF in 1960 to 11.8 billion CFAF in 1968.[60] Thus, in order to avoid the dependence on costly imports, the agricultural diversification program in the Development Plan was initiated as an essential requirement for raising the level of living and lessening the country's dependence on traditional exports. The diversification effort was to be focused on the following major crops: oil palms, to provide new export products in future years; rice, to improve nutrition and eliminate costly imports; sugar, to satisfy domestic requirements; cotton and rubber, to supply domestic industries and for export; and pineapples, for both local consumption and export.[61]

(a) Government Credit Institutions

The local Ivorian commercial banks, like others in Africa, confine

themeselves to banking activities which have little risk and high profits. Such conditions thus limit their agricultural loans to the well-established farmers who can fulfill their rigorous loan requirements. Hence, the small farmers who, in general, usually fall short of meeting these requirements, are denied access to loans from these financial institutions. Consequently, it is conceivable that the Ivorian commercial banking system plays a very limited role as intermediary for small farmers.[62]

Therefore, in an effort to provide a similar viable intermediary for both small farmers and others, the Banque Nationale de Development Agricole (BNDA) was established in early 1968 to take over the functions of Caisse Nationale de Credit Agricole (CNA) which, with 100 percent government equity, made medium-term loans to farmers. Unlike CNA, BNDA's functions are broader in scope; it makes loans for agricultural projects mainly through the official agencies dealing with various aspects of agricultural production.[63] BNDA is under the trusteeship of the Ministry of Agriculture and the Ministry of Economy and Finance.[64]

BNDA, like Zambia's AFC, was created to meet the credit needs of the agricultural population; especially the small farm families. BNDA administers five major loan programs:[65] the cooperative program, the SODE program, the individual credit program, the rural business program, and the prêts de soudure, which was created to cater to the credit needs of small farmers in particular. All these credit programs, except the prets de soudure and the cooperative program, have had poor repayment records over the years. The cooperative program has a good repayment record but the prêts de soudure has exhibited excellent repayment as shown in Table 3.6.

For the purpose of this study, only the cooperative and the prêts de soudure programs will be briefly discussed among the five major credit programs in the Ivory Coast. The prêts de soudure program which is solely concerned with small farmers, is relevant to this study because the overall objective is to design a credit program for small farmers. Similarly, the cooperative program is relevant since it is expected that in the long run cooperatives are viewed as good vehicles for channelling credit to small farmers in the improved program.

Among the five major credit programs cited, the prêts de soudure is intended to free the small farmers of debts from traditional money-lenders and tradesmen who demand high interest rates.[66] Consequently, the objective is to enable the small farmers to become self-sufficient to the extent that they will not need credit from BNDA or from the informal sources. In addition, the program educates small farmers to save and use the accumulated savings to invest in production or to put the savings to other lucrative uses.

(b) The Cooperatives or GVC Credit Program

Cooperatives (GVC) in the Ivory Coast under the GVC credit program act as vehicles for the commercialization of coffee and cocoa to ensure their members the official producer price. Cooperatives sell products directly to local industries and export houses thereby eliminating commercial intermediaries. This important function of the GVC allows their members to market their products in the best conditions.

The cooperatives' role is to arrange for its products to be brought to one of the collection points identified by the Caisse de Stabilization

(a public agency for price stabilization); each village is located near a collection point.[67]

Centre National de Promotion des Entreprises Cooperatives (CENAPEC) agents assist cooperatives in locating export houses where their products can be sold. Through this the cooperatives gain profits which would otherwise have gone to commercial intermediaries. CENAPEC contributes to the commercialization of agricultural products by performing the accounting operations and supervision of the GVC. It also plays a major role by training and educating members of cooperatives.

In addition to the commercialization function, the GVCs serve as intermediaries between the BNDA and their members who need credit and related services. Through this role, cooperatives allow the BNDA to reach more small farmers at a lower cost and at the same time, provide stimuli for group control and sanctions for non compliance.

The cooperatives are generally organized by peoole of the same village; therefore, the members of these GVC know each other. The GVC in general consist of small farmers.

(a) Lending Policy and Procedure

1. Loan Purpose

Credit is made available to cooperatives (GVC) for the commercialization of coffee and cocoa. The purpose of the loan is to enable the cooperatives to sell the products of their members on better terms. The cooperatives also provide inputs.

2. Loan Term and Interest Rate

Generally, all loans to the cooperatives are short term. These short term loans, generally seasonal, are made from the end of the harvest to the following season; especially for coffee and cocoa, and repaid after six or eight months.

An interest of 7 percent is charged by BNDA for these loans. However, if a cooperative is borrowing for the first time, the 7 percent is calculated on the period of the loan; for subsequent borrowings, it is 7 percent per annum.

(b) Loan Size and Selection Criteria

The amount of loan granted to the GVC is generally a function of the average production of each of its members.

There are two principal conditions for obtaining commercialization loans from the BNDA:

1. the applicant must be a member of the cooperative and
2. the cooperative must be legally constituted and enrolled with CENAPEC.

(c) Collateral Policy

In order to obtain a loan from the BNDA, the GVC must sign a contract with an Import-Export house committing itself to sell its product products to the house. When the cooperative applies for credit signs a contract with an export house, the export house commits itself to pay a premium* per kilo of products to BNDA. In this way, the export

*Premium is the difference between the price at "collect points" and that of the export house or local industry the ultimate buyer of the raw products.

house pays the "collects point" price to the coop and the premium is held by the bank as a guarantee and given back to the GVC when it repays its debt.

(d) Loan Repayment Policy

A cooperative's failure to repay may mean not obtaining any credit from the BNDA again. However, the fact that the credit is granted to a group means that group solidarity exists and therefore group sanctions do exist. Reliable borrowers are usually asked less formalities for future borrowing and can get more credit. Table 3.6 shows the repayment performance of this program. The average default rate from 1971 to 1979 is 14 percent. To cover

TABLE 3.6 LOANS AND DEFAULT RATE UNDER THE COOPERATIVE CREDIT PROGRAM: 1971/72-1978/79

Fiscal Year	Number of recipients	Amount granted (million CFAF)	Amount granted as % of total commercialization loans	Default rate (%)
1971-72	26	180	10.0	-
1972-73	37	212	14.9	-
1973-74	28	101	2.7	-
1974-75	25	283	3.8	15.7
1975-76	131	391	2.5	13.9
1976-77	206	557	9.3	16.5
1977-78	160	832	12.0	14.0
1978-79	150	804	11.0	10.0

Source: Yabile, 1982, p. 25.

a 14 percent default rate, given the lending cost of 36 percent, cost of funds of 10 percent and administrative costs of 7 percent, the rate of interest would have to be 40 percent to make the program viable rather than the 7 percent charged currently.

(b) The Prêts de Soudure Program

This program is concerned solely with small farmers. The main purpose of this program is to enable the farmer to supply himself and his family with their basic needs between the two harvesting periods, especially from June to September when no money income is being generated from farming. Thus, their loans are usually granted from June to September. A group of 6 or 30 farmers sometimes belonging to the same family but always to the same village provide guarantees for the loan.[68]

After a group is formed, the loan request is submitted to and reviewed by an advisory board comprised of local qualified authorities before it is sent to the BNDA head office. The official maximum loan for each group is 60,000 CFAF (approximately $200). However, this may vary because each year a given amount of funds is allocated arbitrarily to each district. Therefore, in reality, the loan size available to each farmer depends on (1) the total funds allocated his district and (2) the farmer's production; the loan size is equal in value to a maximum of 15 percent of the average of the commercialized production of the previous two years. According to Yabile, "The group members assume joint responsibility for repayment of loans made to all members. At the end of the harvest, the group leader has the responsibility to collect the loan due. There is group pressure to enforce repayment. If for a given year, the default rate is over 5 percent, no one in the village obtains a loan the following year."[69]

Among BNDA's five credit programs, the prêts de soudure is the

only one which involves a large number of farmers. In spite of this, BNDA personnel considers loans for this program as emergency loans rather than viable means of financing smallholder agriculture. Consequently, BNDA's recent credit policy has been to cut down the "unproductive loans" such as prêts de soudure in favor of more "productive" loans.[70]

Table 3.7 shows the amount of loans distributed under this program over time as well as the repayment performance. Repayment has been 95 percent over the 10-year period.

BNDA charges 10.25 percent interest for a nine-month loan (or 13 2/3 percent per year) for loans in this program. The prêts de soudure loans are in great demand because of the simplicity of loan application and the freedom which the borrower enjoys in the use of loan proceeds.

(c) Credit Procedures and Policy

1. Selection Criteria

The "prêts de soudure" loans are only granted to the farmers entirely dependent upon agriculture for their income. In the application each BNDA's local agency gets some basic information about the applicant such as full name, age, village where he lives, and so forth.

2. Collateral

Guarantees for these loans are provided by membership (joint responsibility for repayment) the group leader has the responsibility to collect the loans due at the end of the harvest. Group pressure among members enforces repayment. In addition, the prêts de soudure loans are covered partly by government insurance.

TABLE 3.7 LOANS MADE AND DEFAULT UNDER THE PRÊTS DE SOUDURE PROGRAM 1968/69-1978/79

Fiscal Year	Number of recipients	Amount granted (million CFAF)	Average loan (CFAF)	Default rate (%)
1968-69	5,637	126	22,000	2.0
1969-70	8,248	187	23,000	--
1970-71	20,913	438	21,000	0.2
1971-72	46,755	1,106	24,000	0.2
1972-73	74,606	1,545	21,000	3.0
1973-74	80,841	1,391	17,000	5.5
1974-75	77,600	1,228	16,000	0.2
1975-76	86,455	1,345	15,000	0.2
1976-77	86,383	1,329	15,000	0.2
1977-78	91,654	1,360	15,000	0.4
1978-79	89,753	1,499	16,000	3.2

Source: Yabile, R. "Viability of Selected Agricultural Credit Programs in the Ivory Coast," p. 31.

(d) Lending Over Time

Table 3.8 indicates BNDA's total lending over time from 1970 to 1978. The prêts de soudure program is the only BNDA credit program that involves a large number of small farmers. Table 3.9 indicates BNDA's lending to small farm families from 1969 to 1978. The table shows that the prêts de soudure loan volume increased as a percentage of BNDA's total loans from 1970 to 1973 but declined significantly thereafter; similarly, the average loan per farmer from 1969 to 1978 has, in general, been decreasing

since 1972, thereby limiting the amount each farmer can borrow. There has been a large increase in the number of prêts de soudure recipients over time.

TABLE 3.8 BNDA'S ANNUAL LENDING 1970-78

Year	Total Amount of Loan (in million CFA) Granted Per Annum
1970	2,081,708
1971	6,167,020
1972	6,516,447
1973	8,445,051
1974	12,975,176
1975	18,212,152
1976	30,220,000
1977	23,725,432
1978	21,773,100

Source: Yabile, 1982, p. 16.

(ε) Repayment

The head of the BNDA's local agency is responsible for both the distribution and loan collection. Repayment is made in cash directly to the head of the local agency who visits the villages. Given the 5 percent default rate, interest rates would have to be 25 percent per annum to make this program viable if lending costs are assumed to be 23 percent. The present interest rate is 7 percent per annum.

TABLE 3.9 BNDA'S LOANS OVER TIME FOR ITS PRÊTS DE SOUDURE

Year	Number of Loans	Number of Recipients	Loan Amount in Million of CFAF	Average Loan Per Farmer	Prêts de Soudure as Percent of BNDA's Total Loans
				CFA	%
1969	280	5,637	125,690	22,297	n.a
1970	462	8,428	187,361	22,231	9.0
1971	1,042	20,913	437,550	20,922	7.0
1972	2,182	46,755	1,106,325	23,662	17.0
1973	3,550	74,606	1,545,000	20,709	18.3
1974	3,882	80,841	1,391,000	17,207	10.7
1975	3,691	77,600	1,228,000	15,825	6.7
1976	3,127	86,455	1,345,000	15,557	4.4
1977	3,976	86,383	1,329,000	15,385	5.6
1978	4,275	91,654	1,366,000	4,904	6.3

Source: Yabile, 1979, pp. 30-31. (n.a equals not available).

Summary

The Ivory Coast has been very successful with two of its credit programs, the GVC credit and prêts de soudure programs. Both the GVC credit program and the prêts de soudure have very good repayment records; but the prêts de soudure has an excellent repayment record compared to all of the other BNDA credit programs.

Both the GVC and the prêts de soudure programs are concerned solely with small farmers. The GVC credit is generally for marketing export crops. Prets de soudure credit is not restricted to a "particular" purpose; the use is determined by the borrower; hence, its purpose is flexible. These two credit programs are also useful means to free small farmers from the

moneylender's high cost capital. Both programs emphasize groups as means of channelling credit to small farmers, and have such emphasis exhibited low delinquency and default rates. But even these relatively low delinquency rates suggest a higher interest rate if lending costs are to be met.

Tanzania's Credit Experience

Tanzania, a commonwealth country, was formed on April 27, 1964 through the combination of Tanganyika and Zanzibar which became independent in 1961 and 1964 respectively.[71] Tanzania covers a land area of 363,000 square miles[72] and has a population of approximately 20 million with current per capita GDP of $280 (1980).[73] Like most other African countries, agriculture is the mainstay of the Tanzania economy.

(a) Government Credit Institution

The Tanzania Rural Development Bank (TRDB) was established in 1971 by the Tanzanian Government to increase capital available to the agricultural sector. TRDB has 20 branch offices (one in each region).[74] TRDB's lending policy is "closely-tied to the government's agricultural strategy namely of lending to ujamaa and other villages for communal agricultural production or community development projects (storage, transport, cooperatives), to parastatals, cooperatives and government owned companies with little lending to individual farmers or entrepreneurs."[75] TRDB provides three types of loans: seasonal loans which primarily go for crop inputs; medium term loans for transport, tractors, farm machinery and grain mills and long term loans for dairy and livestock development on state farms. All of the loans are allocated through the 20 branch offices.[76]

(b) Interest Rate

The interest rate for TRDB loans varies according to loan type; 8.5 percent is charge per annum on seasonal loans to villages and 7.5 percent on medium and long term loans. Companies and parastatals pay 10 and 9 percent respectively on each type of loan currently.[77]

(c) Loan Allocation Criteria

All rural citizens of Tanzania are eligible for TRDB loans. The main borrowers of TRDB include villages, District Development Corporations (DDC), cooperatives, parastatals, registered companies and associations and individuals. However, priority is given to villages, DDCs, cooperatives and parastatals.

(d) Lending Over Time

Table 3.10 shows TRDB loan distribution by type of borrowers from 1971 to 1980. The cooperative unions received 32 percent of total lending in 1971/1972; this fell to 21 percent by 1975/1976, when the cooperative unions were dissolved. Loans to ujamaa and other villages increased from 14 percent in 1971/72 to 56 percent of total loans in 1979/80. Loans to district development corporations (public small-scale businesses) increased to 17 percent of total loans in 1973/74, but declined to less than 1 percent of the total in 1979/80 due to non repayment.[78] The large parastatal sector which includes state livestock and grain farms, marketing authorities, transport authorities and so forth has received 20 percent of the total loans over the seven year period for which data were available.[79]

Associations such as the Southern Highland Tobacco Growers Association, an association of private farmers, have received 13 percent over time. Partnerships and individuals have not been heavily financed by TRDB; they received 6 percent of total loans allocated in 1971/80. The lending emphasis has now shifted away from cooperative unions, cooperative societies, and ujamaa villages (for communal production) to villages and parastatals. Due states, "Under the village programs seasonal inputs may be allocated to individual farm families but the loan is made to the village and collection is the responsibility of the village."[80] According to Due,[81] 9 of the 20 regions: Tabora, Ruvuma, West Lake, Pwani, Mbeya, Monrogoro, Mwanza, Iringa and Kilimanjaro, which in general, are the best agricultural areas, received between 60 and 88 percent of total lending from 1975/76 to 1977/78.

(e) Repayment

The repayment performance of TRDB has fallen from 80 percent in the early years to 31 percent in 1981/82. More than 100 million Tanzania shillings were owned by the cooperative unions when they were dissolved. In addition, Due states, "Repayments in 1974/75 by cooperatives (which at that time were receiving 63 percent of total lending) were 69 percent; data on total repayment that year were not available."[82]

Summary

TRDB's repayment performance is far less satisfactory than the BNDA programs in the (Ivory Coast) and AFC (Zambia). If the default rate continued at 69 percent as in the recent past, the interest rate would have to be 274 percent to cover lending costs. The largest share of its lending was, until recently, concentrated on ujamaa and other villages,

TABLE 3.10

DISTRIBUTION OF TRDB LOANS FROM 1971/1972 TO 1979/1980 ACCORDING TO BORROWERS

	1971/1972		1972/1973		1973/1974		1974/1975		1975/1976		1976/1977		1977/1978		1978/1979		1979/1980	
	Value (mil. shs.)	% of the Total	Value (mil. shs.)	% of the Total	Value (mil. shs.)	% of the Total	Value (mil. shs.)	% of the Total	Value (mil. shs.)	% of the Total	Value (mil. shs.)	% of the Total	Value (mil. shs.)	% of the Total	Value (mil. shs.)	% of the Total	Value (mil. shs.)	% of the Total
Villages (including ujamaa)	4.9	13.7	20.4	19.0	32.2	20.0	79.8	39.3	20.0	19.9	33.3	43.1	102.8	41.6	110.8	59.6	115.6	55.6
Parastatal Companies	2.3	6.4	7.2	6.7	22.0	14.0	41.2	20.3	42.3	42.0	19.5	25.2	70.4	28.5	32.4	17.4	43.1	20.7
Associations	0.8	2.2	12.9	12.9	18.8	11.7	20.9	10.3	7.3	7.3	7.3	9.5	71.9	29.1	31.7	17.1	34.0	16.4
Individuals	2.4	6.7	-	-	0.2	0.1	-	-	-	-	-	-	1.0	0.5	6.8	3.1	10.6	5.1
Partners	0.3	0.8	-	-	-	-	-	-	-	-	-	-	0.2	0.1	1.1	0.6	2.1	1.0
Cooperative Societies	11.3	31.6	30.3	28.1	34.5	21.5	37.8	18.6	21.3	21.2	13.1	16.9	-	-	0.6	0.4	1.6	0.7
District Development Corporations	1.6	4.5	4.5	4.2	27.0	16.8	12.8	6.3	8.7	8.6	4.1	5.3	0.6	0.2	5.4	1.8	0.8	0.4
Cooperative Unions	12.2	34.1	32.3	30.0	25.5	15.9	10.7	5.2	1.0	1.0	-	-	-	-	-	-	-	-
TOTAL	55.8	100	107.6	100	160.7	100	203.2	100	100.6	100	77.3	100	246.9	100	185.8	100	207.9	100
Total Projects	91		103		219		176		158		238		799		1188		1562	

Source: Due, Jean M., Update on Financing Smallholders in Zimbwabwe, Zambia, and Tanzania in Savings and Development, 1983, p. 267.

parastatals, cooperatives and government owned companies with little lending directly to individual farmers or entrepreneurs. However, this government strategy is being de-emphasized slightly and more lending to individuals is being encouraged to improve TRDB's repayment performance.

Summary of Credit Experiences: Zambia, Ivory Coast and Tanzania

The credit experiences of Zambia and Ivory Coast in the prêts de soudure and cooperative programs are notable and exemplary in comparison to other Third World small farmer credit programs (SFCP). Tanzania's credit experience, compared to Zambia and the Ivory Coast, is less satisfactory in terms of loan repayment. Although establishment of the agricultural banks in these three African countries have evolved out of both economic and political considerations, Tanzania's "present TRDB lending is meeting political objectives rather than providing assistance in increasing agricultural production."[83]

Each country's program has its own special features. In the Ivory Coast, BNDA had designed group short term credit for small farmers in the prêts de soudure program. This program is one of the very few SFCPs which provides flexible loans to small farmers with freedom by the borrowers to use the funds for consumption or production purposes. Loans in this program are granted to groups and distributed to individual small farm families; groups are used to monitor the applications and are jointly responsible for repayment.

BNDA also administers cooperative programs for small farmers. These programs are concerned mainly with the commercialization of coffee

and cocoa for small farmers. In Zambia, AFC loans to individual small farmers;although procurement of inputs is complicated, use of inputs has been high and repayment has averaged 61 percent.

In Tanzania, government policy restricted TRDB's potential borrowers primarily to villages, parastatals, and associations. In addition, overvalued exchange rates, low agricultural price policy and other factors (high pertroleum costs) have constrained TRDB. Loans to small farmers were made first through cooperative unions (1971 to 1976) which on-loaned to cooperative societies and individual farmers. Repayment and management was low; the cooperative unions were disbanded in 1976. Since then loans are made through ujamaa villages and on-loaned to small farmers. Repayment has fallen to 33 percent in 1981/82.

FOOTNOTES

CHAPTER III

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CHAPTER IV

THE AGRICULTURAL AND COOPERATIVE DEVELOPMENT BANK AND ITS ROLE*

Basic Information

The ACDB is a national bank with capital stock subscribed and held by the Liberian Government, Union of County Cooperation Federation (UNCCF), Liberian Credit Union National Association (LCUNA) and the Liberian Produce Marketing Corporation (LPMC). The Liberian Government is the largest single shareholder with 65 percent of the total shares. The UNCCF and LCUNA hold 10 percent each of the total shares while LPMC, a public corporation, holds the remaining 15 percent. ACDB is under the trusteeship of the Ministries of Agriculture, Finance and Planning and Economic Affairs. The Minister of Agriculture serves as the Chairman of the Board of Directors.[1]

Aims and Objectives of the ACDB

The stated aims and objectives of ACDB are:

(a) to provide short, medium and long-term loans to individuals, cooperatives and farmers' organizations to facilitate the establishment of agricultural enterprises and the development of rural industries in Liberia;

(b) to encourage and promote the development of cooperatives, farmers' organizations, cottage industrials, and mobilization of savings in the rural areas;

(c) to render technical advice and assistance to individuals, farmers, cooperatives and farmers' organizations;

*Except otherwise stated, all information on ACDB are drawn from: ACDB 1981 Annual Report and Information on ACDB, August 1983.

(d) to conduct research on agricultural products and cooperative societies engaged in agriculture.[2]

General Credit Procedures and Policies

In order to qualify for an ACDB loan, a project is expected to be technically, financially, and economically viable so as to indicate the possibility that under normal circumstances, the loan can be repaid from projected incremental income of the project; priority is given to loans for agriculture and its related activities. Such loans are made for production, processing and/or marketing of farm products such as sugar cane, rice, livestock, rubber and other tree crops, food crops, vegetables, and inland fisheries.

The loans are channeled through cooperatives, the Federation of Cooperatives (unions), agricultural production and development projects, individual farmers and public corporations.[3]

The largest loan recipients from ACDB in 1980 were: cooperatives (47 percent), individuals (20 percent), and public corporations and others (23 percent). This trend was reversed by 1982 when the public corporations and others received 51 percent, individuals 33 percent and cooperatives 16 percent (Table 4.1). Combined loans to cooperatives, public corporations and others totaled $3,544,441 in 1980 but fell to $2,182,474 in 1982 (Table 4.1).

Further examination of the loan portfolio (Table 4.2) shows that marketing of produce has received the highest amounts since 1980. For example, 45 percent of total loans in 1980, 36 percent in 1981, and 60 percent in 1982 went to marketing while other activities received less

than 30 percent each of total loans over this period with livestock and food crops/vegetables production getting the lowest share. Also, the percentage allocated to food crops/vegetables continued to decline over the 1980/1982 period from 6 percent of the total in 1980 to 4 percent in 1981 and 1 percent in 1982. Loans to individuals, particularly gentleman farmers,* medium and large farmers increased while the allocation to small farmers in food production declined over time. The city farmers are generally engaged in tree crop production (rubber), and sometimes serve as intermediaries for the marketing of agricultural products.

(a) Selection Criteria

The ACDB borrowers can be:

1. individual farmers
2. cooperatives and credit unions
3. public and private corporations engaged in agricultural production, processing, marketing or supportive activities.

(b) Types of Loan and Loan Maturities

ACDB is engaged in different credit programs. However, credit for agricultural development is given priority. The loans for this purpose can be subdivided into three classes:

1. Agricultural production loans. This class of loan is concerned with the growing of tree crops, sugar cane, rice and vegetables. Development loans. These relate to land clearing/preparation for planting or transplanting of crops. They may be concerned

*Gentleman farmers are mostly government officials who, instead of farming themselves, perform the farm operations with hired labor. Generally, these people visit their farms mostly during weekends or on holidays.

TABLE 4.1 LOAN PORTFOLIO BY BORROWERS AS OF DECEMBER 31, 1980-1982

Borrowers	1980 No. of Loans	1980 Amount	1980 % of Total	1981 No. of Loans	1981 Amount	1981 % of Total	1982 No. of Loans	1982 Amount	1982 % of Total
Cooperatives	41	1,538,414	47	38	-1,117,118	46	7	357,137	16
Individuals	30	1,004,142	30	515	859,063	36	240	710,337	33
Public Corporation and Others	23	1,002,296	23	12	422,888	18	4	1,115,000	51
Total	100	3,544,852	100	565	2,399,069	100	251	2,182,474	100

Source: Information on ACDB, August 1983, p. 2.

TABLE 4.2 ACDB LOAN PORTFOLIO ACCORDING TO PURPOSE AS OF DECEMBER 31, 1980-1982

Purpose	1980			1981			1982		
	No. of Loan	Amount	% of Total	No. of Loans	Amount	% of Total	No. of Loans	Amount	% of Total
Marketing (Produce)	35	1,742,057	45	34	868,538	36	7	1,311,333	60
Tree Crops	233	722,962	22	190	461,350	19	110	271,723	12
Personal/ Others	117	190,144	6	107	455,211	19	62	219,989	10
Agricul-tural Equipment	34	315,066	10	38	277,878	12	3	13,638	1
Housing Construc-tion	262	281,619	8	163	116,298	5	39	98,990	5
Food Crops/ Vegetables	3	205,500	6	7	104,097	4	12	31,500	1
Livestock	8	54,720	2	11	60,920	3	2	15,200	1
Commercial	10	32,784	1	105	54,777	2	16	220,100	10
	251	2,182,474	100	565	2,399,069	100	251	2,182,474	100

Source: Information on ACDB, August 1983, p. 2.

with feeder/farm to market road construction to facilitate transporting agricultural output and inputs.*

Maintenance loans. The maintenance loans provide capital for operational expenses for labor, pesticides, fertilizers, equipment and so forth.

Marketing loans finance expenses incurred to transport products to market or in cooperative marketing.

2. Other related loans are:

Housing loans, especially rural housing. These loans are intended to help the recipient renovate or contstruct his own residence.

Commercial loans. This class of loan is primarily for small business.

Personal loans are provided for consumption purposes.

3. Any of the above classes can be governed by one of the following maturities:

Short-term loans to small farmers/others are for periods up to 18 months at 12 to 20 percent interest rate per annum. This type of loan is intended to meet seasonal needs in financing operational expenses or commercialization of agricultural products.

Medium-term loans for periods extending from 18 months to 60 months for either financing investments, such as livestock, tree crops, etc. at 12 to 18 percent interest rate per annum.

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*personal view

Long-term loans for periods in excess of 60 months; if the repayment period does not exceed the useful likr of the asset being financed by the bank. The interest rare on these loans ranges from 15 to 19 percent.

(c) Application

The borrower fills out an application form at the ACDB office within his/her region. An application fee of $2.00 is charged to cover the cost of printing the forms.

(d) Size of Loan

The maximum size of loan made, though not stated in the Bank Report, varies with the purpose(s) and term(s) of loan.

For example, the maximum amount of loan which the Bong County ACDB Branch[4] grants according to purpose is as follows:

PURPOSE	MAXIMUM AMOUNT
Agricultural	$ 5,000
Housing	5,000
Commercial	3,000
Personal	2,000

Method of Loan Approval

Acceptable securities constitute the basis on which loans can be extended to farmers or to any other borrowers. Therefore, a borrower is required to pledge collateral. The acceptance or rejection of the collateral is at the discretion of the bank loan committee.

The ACDB considers the following items as acceptable collateral for credits and loans:[5]

1) land and other real estate
2) farm machinery and equipment
3) rolling stock
4) inventories
5) accounts receivable and sales
6) crops
7) government securities
8) salary and insurance beneficiary assignments, and cash, or time or other deposits
9) other valuable items may be accepted in lieu of the above in accordance with sound and prudent banking principles and practices.

However, land cannot generally be pledged as collateral for loans for small farmers in Liberia especially in the rural areas because land is generally communally-owned. Applicants who pledge real property as collateral are required to provide a registered warranty deed to substantiate ownership. Since small farm families do not have land deeds, the following conditions of eligibility for small farmers are required:

- the farm must either be owned or allocated by the tribal authority with farming carried out by the farmer and his immediate family
- the farmer has settled all debt obligations
- the farm is suited to the crops for which the loan application is made
- the farmer is capable of repaying the loan applied for.

A farmer's loan application may be refused for the following reasons:

- the borrower may have an unsatisfactory reputation
  as a debtor
  the project may be unrealistic
- the loan may be outside the lending policy of ACDB.

Loan Administration

As a general policy, all ACDB loans are granted in kind whenever possible, unless the circumstances of the case warrants the payment of cash wholly or partially. In fact, cash payment as a form of disbursement is discouraged as a rule.

Procedurally, a farmer or a potential borrower applies for a loan at ACDB or its branch and pays an application fee of $2.00, a legal fee of 1.5 percent per annum at the time of disbursing the loan for probating the documents, and a project investigation fee (PIF) of 1.5 percent to cover cost of evaluating project(s), but refundable upon rejection. Finally, a commitment fee of 1.5 percent is assessed as a charge on the undisbursed portion of the approved loan. Thus on application a borrower of a loan for $1,000 must pay a $32 fee and a further $15 if the loan is disbursed, a total of 4.7 percent.

Interest Rates Charged by ACDB

The annual interest rates charged, vary ranging between 12 percent and 20 percent according to different purposes, are shown in Table 4.3. Commercial, personal and trading applicants are charged rates of 16 to 20 percent.

Despite the continuous decrease in total loans approved over the period 1980/1982, ACDB exhibits an almost continuous increase in total

TABLE 4.3 ACDB INTEREST RATES PER ANNUM CHARGED FOR DIFFERENT CATEGORIES OF LOANS

Short-Term Loan	Agriculture %	Other* %
Discounted	12	16
Advance in Current Account	16	20
Interest Bearing	15	18
Production	12	18
Medium-Term Loan		
Production	12	18
Long-Term Loan		
All long-term loans	15	19

*Others include commercial, personal and trading loans.

sources of funds for the period 1978 to 1981 (Table 4.4).

ACDB maintains facilities for demand deposits and savings; demand deposits amounted to $308,000 in 1978 and rose to $2,696,000 in 1982 in Table 4.4 - a 775 percent increase. Similarly savings, which totaled

TABLE 4.4 ACDB: SOURCES OF FUNDS, 1978-1982

($000)

Source	1978	1979	1980	1981	1982
Demand Deposits	308	1,550	1,517	1,864	2,696
Savings	93	839	1,206	1,467	1,741
Other Liabilities	99	128	334	375	206
Stockholder Equity	2,100	3,465	3,037	2,617	1,544
Total Sources:	2,600	5,982	6,094	6,323	6,187

Source: Information on ACDB, August 1983, p. 2.

TABLE 4.6 GEOGRAPHICAL DISTRIBUTION OF ACDB LOAN PORTFOLIO AS OF DECEMBER 31, 1981

COUNTY/TERRITORY	1980 No. of Coops	1980 Member-ship	1980 Amount	1980 As % Total Loans	1981 No. of Coops	1981 Member-ship	1981 Amount	1981 As % To-tal Loans
Nimba County	13	2,694	923,345	28	15	2,800	623,450	29
Lofa County	8	7,408	944,045	29	6	7,408	553,947	23
Bong County	5	1,500	851,031	18	6	1,500	254,330	11
Kru Coast Territory	1	43	55,667	2	1	43	42,790	2
Maryland County	2	235	50,500	2	2	235	32,781	1
Grand Cape Mount County	2	552	41,361	1	3	650	34,052	1
Grand Gedeh County	1	151	37,930	1	2	192	53,442	2
Sinoe County	1	25	127,130	4	1	25	117,146	5
Grand Bassa County	1	49	46,007	1	1	49	19,540	8
Bomi Territory	1	300	8,683	2	1	300	8,684	4

Source: ACDB Annual Report, 1981, pp. 11-12

The geographical distribution of ACDB loans at the end of 1982 indicates that 86 percent of the total loans was concentrated in only 4 of the 12 geographical areas covered by the ACDB's lending activities but there were only 4 branches. Similarly, 84 percent of ACDB's 1981 total loans were accounted for by the same 4 of the 10 geographical areas (Table 4.6). Three of these four counties: Nimba, Lofa, and Bong are generally the major agricultural areas in Liberia (see map).

As shown in Table 4.1, ACDB loans to cooperatives, declined from 47 percent of total loans in 1980 to 16 percent in 1982 while those to individuals rose from 30 to 33 percent during the same period. Loans to public corporations increased as loans to cooperatives fell.

Loan Structure 1980-1982

During 1982, 81 percent of total loans by value and 39 percent by number were short term loans (of 18 months or less, see Table 4.7). The average size of short-term loans was $18,381.00. About 60 percent of the total value of short-term loans was accounted for by seven marketing loans to cooperatives. Personal and commercial loans each accounted for 10 percent of the value with 62 personal loans and 16 commercial loans, respectively. This is a substantial increase in both personal and commerical loans which rose from 6 percent and 1 percent respectively to 10 percent (Table 4.2). The third most important category of short term loans by value was for food crops, where 12 loans accounted for 1 percent of the total loan portfolio.

FIGURE 4.4.1 MAP OF LIBERIA

Source: World Bank, Liberia Agricultural Sector Review, Vol. I, 1984.

*major agricultural areas

A total of 15 medium-term loans were granted. This represented 60 percent of the total number of the 1982 loans, but only 18 percent of the value. Most of these loans were for financing tree crops and housing construction; only 2 of the 15 went to finance livestock.

Long term loans accounted for 1 percent of the total number and only 1 percent by value in 1982.

Loan Repayment

The loan recovery rate of the ACDB loans is reported to be 70 percent for 1979. However total lending for the period 1980-81 was $6,722,370 and loans outstanding as of December 1981 totalled $2,400,000; thus, for that 2-year period the recovery rate was 64 percent. The loan recovery problem may be one of the most serious problems confronting the ACDB.

TABLE 4.7 TERM STRUCTURE OF ACDB LOANS, 1980-1982
(as percentage of total loans)

	1980		1981		1982	
Type	Number	Value	Number	Value	Number	Value
	%	%	%	%	%	%
Short-term	24.0	58	28.8	61	38.6	81
Medium-term	71.2	32	64.4	27	60.2	18
Long-term	4.8	10	6.8	12	1.2	1
	100.0	100	100.0	100	100.0	100

Source: Information on ACDB, August 1983, p. 2

(a) Analysis of Administrative Costs of ACDB - 1980-1981

Information on administration costs is available for only 1980 and 1981 (Table 4.8). The administrative costs of the ACDB increased from $796,225 to $995,264 from 1980 to 1981, an increase of 124 percent.

The distribution and trend of administrative costs are as follow:

- total remuneration of staff and officers including director fees increased from $414,298 in 1980 to $501,821 in 1981, an increase of 21.1 percent compared to the level
- rent rose by 18 percent over 1980
- depreciation increased by .24 percent
- other expenses rose by 38 percent

TABLE 4.8 DISTRIBUTION OF ADMINISTRATIVE/OPERATING EXPENSES OF ACDB 1980-1981

	1980	1981	% Increase
Directors fees	$ 613	$ 998	63
Remuneration: Staff and Officers	413,685	500,823	21
Rent	29,022	34,233	18
Depreciation	70,010	70,178	.24
Other expenses	282,895	389,032	38
Total	$ 796,225	$ 995,264	140.24

Source: ACDB Annual Report 1981, p. 18.

The increases in the rent and staffing expenses are due largely to increase in the number of employees from 68 in 1980 to 81 in 1981. The Bank rents or leases residential buildings for its employees. Administrative costs as percentage of total loans also increased over the two years (Table 4.9).

(b) Default

In spite of numerous requests for information on delinquencies

TABLE 4.9 ADMINISTRATIVE COSTS - 1980-1981

Year	Administrative Costs	Total Loans Made	Administrative Costs as Percentage of Total Loans Made
			%
1980	$ 796,225	$ 3,544,852	22.5
1981	995,264	2,399,069	41.5
Total	$1,791,489	$ 5,943,921	30.0

Sources: ACDB Annual Report, 1981, p. 18.
Information on ACDB, August 1983, p. 1.

and bad debts, the ACDB failed to furnish such information. Hence, the amounts appropriated as provision for possible loan losses for 1980 and 1981 are assumed to be defaulted, a provision made for loans for which management considered recovery doubtful.

TABLE 4.10 ACDB'S PROVISION FOR LOAN LOSSES, 1980-1981

Year	Total Loans Extended	Amount of Defaults	Default as Percent of Loans Extended
			%
1980	3,544,852	183,335	5.3
1981	2,399,069	297,248	12.4
Total	5,943,921	480,583	8.1

Souce: ACDB Annual Report, p. 15.

The estimated default rates from these computations are quite modest In fact, as stated in the Bank project's final evaluation,

> ...however, the value of the assets, principally outstanding loans, was highly questionable, considering the delinquency rate and difficult financial conditions faced by Liberian business firms and cooperatives..... the Bank failed to furnish information on their delinquencies but indications are that the rate is fairly high.6

The delinquency rate estimated in Table 4.13 - was 33 percent unweighted average over the 1980-82 period; it is not known many of these loans would be permanently defaulted.

(b) Profitability of the ACDB Lending Activities from 1980 to 1981

The income and expense statement of ACDB as of December 31, 1981 shows net losses of $428,383 and $445,195 respectively (Table 4.11). Table 4.11 shows that ACDB's net loss increased about 4 percent over the 1980-81 period while its commissions and fees decreased by 28 percent. Total assets recorded a slight increase of approximately 4 percent during this period (Table 4.11\, but stockholder equity declined by 32 percent. On the other hand, operating expenses increased over time while total annual loans granted fell dramatically. Deposits have also increased showing the viability of this activity in rural areas.

The decrease in stockholder equity, loan volume and commission and fees in ACDB's financial portfolio signal imminent trouble. In fact the increase in losses over time indicates that solutions be found to its financial problems in order to forestall its eventual collapse.

Determination of ACDB's Lending Cost, 1980-1981

ACDB is the principal government financial institution for agricultural credit in Liberia. It is generally argued that Third World government agricultural credit institutions like ACDB are characterized by low interest rates, high administration costs and high default rates compared to other financial institutions. These factors affect the profitability and viability of such institutions. Thus, it is appropriate to determine ACDB's lending cost in order to ascertain the adverse effects of these factors on its profitability and its financial viability.

TABLE 4.11 ACDB FINANCIAL SUMMARY AS OF DECEMBER 31, 1981

YEAR	1980	1981	% Change
Interest income	$ 506,301	$ 635,008	+25.42
Interest expense	89,518	123,722	+38.20
Commission and fees	172,512	124,149	-28.03
Operating expense	1,017,678	1,330,630	+30.75
Net loss	428,383	445,195	.3.92

YEAR	1980	1981	% Change
Total assets	$ 6,094,687	$ 6,323,271	+ 3.75
Total deposits	2,723,263	3,330,997	+22.31
Loans, overdrafts and advances	3,382,169	2,148,292	-36.48
Cash on hand and cash due from banks	2,163,513	3,280,573	+51.63
Stockholder equity	3,036,922	2,617,410	-31.81

Source: ACDB Annual Report, 1981, p. 7.

Agricultural financial institutions, like ACDB, are created by governments to provide credit to the agricultural sector. These institutions are considered as non-profit maximizing firms and hence, offer their loans at low interest rates relative to other financial institutions. However, even if one supports the argument that these agricultural institutions are non-profit maximizers, it is still appropriate to examine the adverse effects of such factors on the firm's financial viability; therefore, determining the lending cost of such firms is necessary.

In an attempt to determine the significance of the default rate and the administration cost, Baker adapted the following lending

cost equation:

$$Lc = f + a + \frac{d}{1-d}(1 + f + a)$$

where Lc = *lending cost*

f = *cost of funds to lender, interest as percent of total loan volume*

a = *costs involved in loan administration expressed as a percentage of total loan volume*

d = *default rate*

This equation reveals that the lending cost is a function of the cost of capital (interest expense), administration costs and the rate of default. Because of the direct relationship between the lending cost and these variables, it is important that interest expense, the rate of default and administration costs be kept as low as possible in order to sustain the fianancial viability (and as well as profitability) of a credit institution. Over the period 1978-82 ACDB's interest expense per annum has been kept below its interest income; a good example to follow. For example, interest income paid on savings exceeded interest expense paid on borrowed capital by $60,000 in 1978 and by $334,000 in 1982, (Table 4.12).

In fact, ACDB's costs of debt capital were approximately 3 percent in 1980 and 5 percent in 1981. Table 4.12 shows interest expense and interest income from 1978-1982.

TABLE 4.12 ACDB: INTEREST EXPENSE ON SAVINGS AND INTEREST INCOME

Year	Interest Expense	Interest Income Collected
1978	$ 10,000	$ 70,000
1979	35,000	289,000
1980	89,000	506,000
1981	124,000	635,000
1982	119,000	453,000

Source: Information on ACDB, August 1983, p. 2

Lending Cost

In order to calculate ACDB's lending cost, the following decisions are made:

1. Only the 1980 and 1981 lending activities are considered due to lack of data for previous years.
2. Provisions for doubtful (bad debts) as of December 1980 and 1981 are considered as being in default.

(a) Lending Cost - 1980

$$LC = f^* + a + \frac{d}{1-d} \quad (1 + f + a)$$

$$f = 0.025;\ a = 0.225,\ d = .053$$

replacing the variables in the equation, then

$$LC = 0.025 + 0.225 + \frac{.053}{1-.053} \quad (1 + 0.025 + 0.225)$$

$$= 0.25 + 0.07$$

$$= 0.32$$

The lending cost (LC) was 32 percent in 1980

(b) Lending Cost - 1981

$LC = f + a + \frac{d}{1-d}\ (1 + f + a)$ putting these values into the equation: $LC = 0.052 + 0.415 + \frac{.124}{1-.124}\ (1 + 0.052 + 0.415)$

$$= 0.467 + 0.208$$

$$= 0.675$$

The lending cost (LC) was 67.5 percent in 1981

Therefore, the average lending cost of ACDB for the two years is

$$\frac{LC = LC\ (1980) + LC\ (1981)}{2} = \frac{0.32 + 0.68}{2} = 50 \text{ percent}$$

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*f = Total interest expense/total loan a) 1980 $\frac{89.000}{3,544,852} = .025$

b) 1981 $\frac{124,000}{2,399,069} = .052$

The lack of data has restricted the analysis to the lending period 1980-81. Consequently, it can only be assumed that the average lending cost for the previous years, 1978-79 falls between 20 percent to 60 percent. ACDB charges different interest rates for different categories of loans which vary from 12 percent to 20 percent (Table 4.3).

Assume the average interest rate for agriculture equals 16.4 percent and for non agriculture 18.2 percent, then the average of both classifications is 17.3 percent.

The profit or loss (R) of ACDB's credit program can be determined from the following equation based on the available data:

$R = i - LC$

I = Interest rate charged by ACDB

LC = Lending Cost

Based on previous computations average $LC = 50$ percent, and

$I = 17.3$ percent, and substituting in the equation

$R = i - LC$

$= .173 - .50$

$= -0.327$

Thus, the average returns from ACDB's lending activities for 1980 and 1981 is substantially negatively (-33 percent). This result is consistent with information regarding ACDB's lending operations in 1980 and 1981- i.e., ACDB incurred losses of $428,383 and $445,195 respectively.

(c) Reasons for ACDB's Low Cost of Funds

It can be observed that ACDB's cost of funds appears to be exceptionally low. The following factors contribute to the exceptional

low cost of funds:

1. ACDB does not pay interest on demand deposits; interest is paid only on savings and time deposits which constitute smaller sources of its funds relative to demand deposits, the largest source of its debt capital. These demand deposits are free "capital" from which ACDB earns interest income of 15 percent to 24 percent. Consequently, ACDB's interest income has, since 1978, exceeded its interest expense (Table 4.10). Therefore, this free capital plays a significant role in keeping ACDB's cost of funds exceptionally low.

2. ACDB's leverage ratio, Debt/Equity, is very low, for example D/E was equal to one.[6] It must be pointed out that approximately half of ACDB's total debt capital of $3,057,765 was demand deposits which did not earn interest.

3. ACDB relies heavily on owner's equity as a major source of its funds; about half of its total assets of $6,094,687 in 1980, for example, was equity capital on which no interest was paid.

4. Additionally, the Government of Liberia (GOL) provides a subsidy to ACDB. The bank received $250,000 as part of the GOL's subsidy in 1981.[7]

(d) Lending Cost of ACDB

According to the World Bank Paper-Rural Development Series[8] on agricultural credit, total costs for efficient government credit institutions range between 15 and 20 percent depending upon the nature of the operation and the average size of loans. Hence, by that standard, ACDB's lending cost of 50 percent is very high and must be reduced to in order to sustain the viability of the bank.

From the computations, however, it is clear that ACDB's cost of funds is low; this is, due largely to the reasons stated above. Thus, cost of funds has little effect on ACDB's lending costs, and therefore, the major factors currently contributing to its high lending costs are the administrative costs and default rate.

The administrative costs-supervision, office space, staff, costs of other ancillary services, etc., are a function of the number of loans, loan size and duration. ACDB's loan volume has been declining since 1980 (Table 4.5) while expenses for ancillary services including staffing, rent, transportation continue to increase (Table 4.8). These have, to a large extent, contributed to the disportionate high administrative costs. Furthermore, most of ACDB's loans are tied up in short term loans; for example 60 percent of its total loan portfolio was for marketing in 1982. As a rule, the total administrative costs decrease as a percentage of total loan volume as total volume of loans increases. Thus, it is not surprising that ACDB's operating expenses are increasing over time as its total loan volume decreases (Tables 4.11 and 4.5).

ACDB can possibly reduce its current high administrative costs by (1) reallocating some resources to seasonal loans to capable farmers individually or collectively and hence, reduce the large amount of its loan portfolio (60 percent in 1982) expended for cooperative marketing. The importance of group loans to partially reduce high administrative costs will be discussed in the next chapter; (2) reducing its current average loan size, for example, $4,248 in 1981, so that more farmers individually or collectively can be included in its loan program. This will increase administrative costs, but the costs incurred in that process can be offset by high repayment. This current average loan is beyond the needs or repayment potential of the small farmers. (3) Increasing its current low interest rates charged to reflect the true costs of administration; and (4) providing attractive interest rates on all deposits including demand deposits to entice more saving. This approach would also increase administrative costs, but such increases can be offset by charging the true cost of capital to borrowers.

The failure of borrowers to repay their debts on time, or repay them at all, is a very serious problem confronting ACDB. This problem has greatly contributed to the bank's present financial predicament. The delinquency rates according to classification are shown in Table 4.13.

TABLE 4.13 ACDB DELINQUENCY RATES BY TYPE OF BORROWER, AS OF DECEMBER 31, 1981

	Number of Loans	Amount ($000)	Average of Loans	Delinquency Rates Percent Outstanding
Cooperatives	38	1,171	30,816	49
Individuals	515	822	1,596	34
Public Corporations	12	406	33,833	17

Source: Liberia: Agricultural Sector Review, Vol. IV, p. 34.

These delinquency rates were higher for cooperatives (49 percent) than for individuals (34 percent) or public corporations (17 percent). The average size of loan was $30,816 for cooperatives, $1,596 for individuals and $33,833 for public corporations. The bank's default rates of 5.3 percent and 12.4 percent in 1980 and 1981 respectively are considered low in comparison to the volumes and number of loans during those periods.

There are general reasons for the high delinquency rates: the economic conditions in Liberia since 1980 have not been favorable; further, the world market conditions for agricultural commodities such as coffee, cocoa, and rubber have not been good; these depressed prices for products sold by cooperatives to the Liberian Produce Marketing Corporation (LPMC) have adversely affected the cooperatives' returns. Thus, the price adversity has in part contributed to the financial problems of the cooperatives thereby weakening their loan repayment ability.

A general possibility of ACDB's individuals failing to repay their loans is their unwillingness to repay although they are capable of paying back the borrowed funds. Such practices evolve because of political intrusion; bank officials have generally not been applying stringent collection measures - court action, confiscation of collateral, and so forth in their collection efforts. They have been lax and to some extent reluctant to enforce rules and regulations in collecting loans; this has contributed significantly to the financial problems currently facing the bank. This situation is clearly demonstrated by the high delinquency rates cited.

Assuming the absence of political intrusion, poor harvests, and low prices for agricultural products, bank officials must strictly enforce rules and regulations in their loan collecting efforts in order to avoid destroying the financial viability of the bank. They must, for example, take court action against deliberate defaulters-i.e., borrowers who have money but refuse to repay.

Reapplication of the Lending Cost Model with Three Different Assumptions

A. Scenario A: Suppose $d = 3$ percent instead of 5.3 percent while the values of all other variables remained unchanged.

$$LC = f + a + \frac{d}{1-d}(1 + f + a)$$

$$= .025 + .225 + \frac{.03}{1-.03}(1 + 0.025 + .225)$$

$$= .25 + .031\ (1-25)$$

$$LC = .25 + .039$$

$$= .289$$

Then the lending cost falls to 29 percent; a 3 percent reduction from the 1980 LC level (page 127).

B. Scenario B: Assume administrative costs are 15 percent instead of 68 percent (1981) and hold the values of the other 1981 variables constant, substituting in the *LC* equation:

$$Lc = .052 + .15 + \frac{.124}{1-.124}(1.202)$$

$$= .202 + .149$$

$$LC = .35$$

Then the lending cost falls to 35 percent, a 33 percent reduction from the 1981 *LC* level.

C. Scenario C: Let $f = 8\%$, $d = 6\%$ and $a = 7\%$

$$LC = f + a + \frac{d}{1-d}(1 + f + a)$$

$$= .080 + .070 + \frac{.06}{1-.06}(1 + .080 + .070)$$

$$= .150 + .064\ (1.150)$$

$$= .150 + 0.074$$

$$LC = .224$$

Then the lending cost falls to 22.4 percent, a 28 percent reduction from the 1980-81 average *LC* and, and, most importantly, a 46 percent reduction from the 1981 *LC* level.

Scenarios A and B show that a significant reduction in either ACDB administrative costs or default rate or both can significantly decrease the lending cost. However, unlike Scenario A, B is based on the assumption that over time, ACDB will increase its loan volume. More significantly, ACDB is expected to become an efficient institution concentrating mostly on providing seasonal loans to many small farmers

through cooperatives or groups and so doing it can increase its loan volume while at the same time, reducing its average loan size to suit the repayment capacity of small farmers individually.

Secenario C encompasses the long run phenomenon and hence, assumes over time ACDB will likely not depend on its large amount of "free capital" if 10 percent interest on all is a reasonable assumption. However, interest rates can be varied according to types of deposits. When cost of funds on deposit and equity capital is 10 percent, with 42 percent administartive costs and a 12 percent default rate, the lending cost would be:

$$LC = .10 + .42 + \frac{.12}{1-.12}(1 + .10 + .42)$$

$$= .73$$

Then the lending cost will be 73 percent, and therefore ACDB will need to charge an interest of 73 percent or above to remain economically viable.

The low administrative cost of C is again based on the assumption that in the long run ACDB's present declining loan volume will increase and that it will re-allocate most of its loan portfolio from its current marketing to seasonal loans to small farmers as an efficient institution. If ACDB increases its short term loans to small farm families who are engaged in seasonal production of food and if the right market conditions exist, they are in a better position to repay their loans. The 15 percent administrative costs (Scenario B) is reasonable because it considers that as the loan volumes increase while loan duration emphasizes short term goals, costs of supervision and other ancillary services are expected to rise.

solved even in the short run through some aggressive methods of loan collection. Moreover 45 percent of its total loan portfolio in 1980 was allocated to cooperatives for marketing purposes while only 6 percent was allocated for food crop production (Table 4.2). In 1982, it allocated 60 percent of its total loan portfolio to marketing and only 1 percent to food production.

The reduction in the loans for production from 6 percent in 1980 to 4 percent in 1981 and then to 1 percent in 1982 shows that ACDB had cut its loans to small farmers presumably to increase its loan allocations to cooperatives for marketing purposes (45 percent in 1980 to 60 percent in 1982. This supports the view that ACDB has not designed its program for, and is not reaching, small farm families. However, this measure did not reduce its administrative costs which increased from 23 percent in 1980 to 42 percent is 1982.

It appears that ACDB enforces borrowing requirements like commercial banks and hence, does not lend to potential borrowers who fall short of these requirements. In fact, the LACBP team quotes an observer as commenting, "It is a commercial bank and the management is not interested in serving rural areas."[9] Therefore, my conclusion is that ACDB has not reached the small farmers. In fact, less than 20 percent of the farming population (generally medium and large farmers) have benefitted from ACDB's credit facilities; this is the percentage of the population in the agricultural sector with titles to their land. In the absence of viable cooperatives, the bank has not devised programs through which small farmers can be reached.

Similarly, the increase in the default rate (6 percent in Scenario C) is based on the assumption that as ACDB will expand loan operations and as the number of borrowers increases, due to adversities such as poor harvests, bad economic conditions (low prices for agricultural products), some borrowers may be unable to repay on time. Furthermore, some will refuse to pay their loans because of their political "connections."

Breakeven Interest Rate

The interest rates charged by ACDB may be reasonable. However, assuming that ACDB maintains the same level of default, administrative costs and costs of funds, it must charge an interest which allows it to break even in order to retain its viability.

In calculating the breakeven interest rate (r) let:

$$LC = i$$

$$i = f + a + \frac{d}{1-d}(1 + f + a)$$

Inserting back the values of the variables from Scenario C, $i = .080 + .070 + .064\ (1.150) = .224$; the breakeven interest rate in 22.4 percent.

When i = 22.4 percent and LC = 22.4 percent, r must equal 22.4 percent since at breakeven $i = f + a + \frac{d}{1-d}(1 + f + a) = r$

From this computation, ACDB has to set its interest equal to or in excess of 22.4 percent in order to maintain its financial viability. If a 10 percent opportunity cost and 15 percent administrative costs are included, the breakeven interest should be 33 percent or above.

Summary and Conclusions

ACDB was established in 1976 and became operational in 1978. In general, the bank has been incurring losses during this period, with greatest losses in 1980 and 1981. These losses can be attributed to the high administrative costs, delinquency rates and, subsequently, the high default rate. For a new bank, it is not too surprising that the administrative costs are high. However, it is expected that these costs will decline as a percentage of loan volume over time as the bank attains efficiency. On the other hand, the delinquency related problems can be solved even in the short run through some aggressive methods of loan collection. Moreover, 45 percent of its total loan portfolio in 1980 was allocated to cooperatives for marketing purposes while only 6 percent was allocated for crop production (Table 4.2). In 1982, it allocated 60 percent of its total loan portfolio to marketing and only 1 percent to food production.

The reduction in the loans for production from 6 percent in 1980 to 4 percent in 1981 and then to 1 percent in 1982 shows that ACDB had cut its loans to small farmers presumably to increase its loan allocations to cooperatives for marketing purposes (45 percent in 1980 to 60 percent in 1982). This supports the view that ACDB has not designed its program for, and is not reaching, small farm families except through cooperatives. However, this measure did not reduce its administrative costs which increased from 23 percent in 1980 to 42 percent in 1982.

It appears that ACDB enforces borrowing requirements like commercial banks and hence, does not lend to potential borrowers who fall short of these requirements.

Thus, the small farm families continue to, and must still rely on, their traditional sources of credit. Traders and moneylenders in Liberia generally charge exorbitant interest rates ranging from 25 to 300 percent. Such high costs of funds tend to strangle improvement opportunities for the small farm families most of whom do not have access to institutional loans.

ACDB is heavily dependent on "free capital," (subsidies from GOL, demand deposits, etc). In order to sustain its financial viability, ACDB must become less dependent on such funds; one approach is for it to offer competitive interest rates on all of its deposits in an effort to attract more depositors and pay interest on equity capital.

Chapter V will discuss the shortcomings of ACDB's loan program for small farmers and the design of the improved credit system.

FOOTNOTES

CHAPTER IV

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2. Surveys of African Economies (International Monetary Fund, Washington, DC, 1975), p. 262.

3. Ibid., pp. 269-70.

4. Nisbet, Charles T. "Informal Lenders As Suppliers of Development Credits to Small Farmers in Developing Countries: Attractive or Deceptive Alternative" in Small Farmer Credit: Informal Credit (A.I.D., Spring Review of Small Farmer Credit, Vol. XV, June 1983), p. 11.

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6. ACDB Annual Report, (Monrovia, Liberia, 1981), p. 3.

7. Information on the ACDB, (Monrovia, Liberia, August 1983), p. 1.

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CHAPTER V

THE DESIGN OF THE NEW ACDB

Improving the Present Credit System

The objective of this chapter is to provide suggestions for re-designing ACDB so that it can become a viable financial institution serving large numbers of small farm families in credit delivery and savings mobilization.

Chapter III discussed the financial markets in Liberia and the advantages and disadvantages of both informal and formal financial markets. ACDB can efficiently draw upon and add to resources available in the organized financial markets, but has faced structural and administrative problems. On the other hand, the informal credit institutions, though administratively efficient, are characterized by fragmented and monopolistic conditions in addition to the immobility of their financial resources.

The availability of adequate credit from the formal financial markets to service small farm families in the agricultural sector is still a major problem in Liberia. ACDB has not solved this problem; hence, the first task is to identify the shortcomings of ACDB before summarizing the lessons from Zambia, Ivory Coast and Tanzania and designing the new facility.

Some Principal Shortcomings of the Present Credit System: ACDB

The present major source of institutional credit to farmers in Liberia is the Agricultural and Cooperative Development Bank (ACDB).

However, as noted in the previous chapter, the majority of small farmers do not have access to this credit source due to the stringent loan requirements that are required. Cooperatives have easy access to ACDB credit but membership is low; there were 35 cooperatives in 1980 with a total membership of 12,957, and by 1981 the number of cooperatives rose to 38 and membership to 13,202.[1] Thus, only 3 percent* of the agricultural population in 1981 were cooperative members. Consequently, small farmers still rely on the informal credit sources where the loan requirements are simple and personal.

ACDB's structural and administrative imperfections were discussed in Chapter IV. Like most LDC government rural credit institutions, ACDB is faced with the problems of high rates of delinquencies and default on loans to borrowers (Table 4.12), high administrative costs (Table 4.9), and low interest rates especially for agriculture (Table 4.3). The problem of high administrative costs associated with ACDB is more serious than the default problem. Nevertheless, all of these problems affect the bank's financial viability. Therefore, the present concern is to identify its functional, economic, and administrative weaknesses in order to ameliorate the situation; these are summarized below:

(a) A basic requirement for the strength and existence of a financial institution like ACDB is its financial viability. Based on the evaluation of ACDB financial records available, the bank is in a serious financial crisis due to its heavy loan losses, high overhead and operating expenses (Table 4.10),

*1981 Cooperative membership as a percent of the total agricultural population 1979 (Table 2.1).

and loan portfolio with high delinquencies.

In addition, the bank's financial viability is also affected by its dependence on GOL subsidies. At present GOL's inability to provide the budgetary appropriations to cover ACDB's operating costs has also contributed to the bank's financial crisis.

(b) The reinforcement of stringent loan requirements has to a large extent precluded the majority of the Liberian small farm population from benefitting from ACDB. The legal procedures are long and too complex for small farmers.

(c) Although significant rural savings having been deposited with ACDB, there is a lack of effort to educate potential bank customers to attract savings.

(d) A rigorous loan collecting effort has yet to be made; hence, delinquencies are high among its customers. The loan collection effort over time has been relaxed rather than strengthened.

(e) ACDB's general rule that credit must be "in kind" restricts the use of credit.

(f) ACDB's interest rates on agricultural loans are low compared to rates on commercial loans. These low rates do not reflect the true cost of administering the loans.

(g) ACDB's large average loan size (Table 4.13) appears to be unrealistic for small farmer programs.

The large average size of loan keeps many small farmers from benefiting from ACDB's credit facilities, and that defeats one of the basic objectives

of any small farmer program, namely, of reaching large numbers of small farmers.

Summary of Lessons from Zambia, Ivory Coast and Tanzania

In summary, the experiences from these three African countries reveal the complexity of the problems associated with approaches to provide credit to small farmers. These examples demonstrate that there are various means of channeling credit to small farmers, for example, through individual farmers, farmers' groups, cooperatives, and so forth.

The Zambian government has had a relatively successful program in which the Agricultural Finance Company (AFC) loans to individual small farmers through its 42 branch offices; applications may also be completed at the offices of the extension agents. The AFC provides for input delivery through the cooperatives. Farmers sign a form which enables the cost of inputs to be deducted from produce sold.

However, AFC has an uncecessarily complex procedure for obtaining inputs; the farmer takes a purchase order for specific quantities of each input to the cooperative; if that particular input is no longer available, the farmer has to return to AFC for a substitute and then return to the cooperative to purchase. Farmers could be issued purchase orders in the amount of the loan and allowed to purchase wherever they wished. Although women contribute over half the labor in small farm agriculture, AFC allocates loans to women only if they are widowed or divorced.

In Tanzania, TRDB has 20 branches, one in each region of the country. TRDB loans primarily through government cooperatives, village organizations and parastatals. Few loans are made to individual farmers. TRDB also is

responsible for input procurement and delivery. In general, credit is issued in kind. TRDB's repayment experience has been much less successful than that of Zambia. TRDB loaned to cooperative unions which on-loaned to cooperative societies which on-loaned to farmers. Inadequate records were kept, administrative and accounting procedures of the cooperative unions and cooperative societies were inadequate; finally, the government disbanded all cooperatives in 1976 and began loaning through ujamaa and other village organizaitons which utilized the credit for village communal farms and on-loaned to individual farmers. Farmers complained that village officials made decisions about amounts borrowed without consulting them but they are asked to assist in repayment. Yields on communal farms have been extremely low, making repayment difficult. TRDB's lending policies have been severely constrained by political policies.

The Ivory Coast has 5 credit programs in which BNDA provides loans to individual farmers, corporations, cooperatives, groups of small farmers, and rural businesses through 7 agencies and 11 bureaus. BNDA has been very successful with 2 of its 5 credit programs--the prêts de soudure and the cooperatives (the GVC). For the purpose of this study, only these two programs which are small farmer-oriented are reviewed.

The prêts de soudure has an excellent repayment rate of 96 percent. A gourp of 6 to 30 small farmers, mostly from the same family or village applies for a loan. Their loan request is brought to an advisory board composed of qualified local authorities and then sent to the BNDA office. If approved, the head of the BNDA local agency disburses the loans and is responsible for the repayment. Loans are made in cash, as is repayment.

Loan use is left to the discretion of the borrowers. Hence, the prêts de soudure program is one of the few small farmer programs in developing countries providing loans without specifying whether or not they should be used for consumption or production purposes.

BNDA also provides both credit and input delivery through cooperatives (the GVC), which service exports growers. Cooperatives receive loans from BNDA and on-loan to their members. A cooperative must sign a contract with an import-export house committing itself to sell its products to the house before it can obtain loans from the BNDA. The agreement between the GVC and the house constitutes the collateral to BNDA. The GVC program has had a relatively good repayment rate of about 86 percent.

The Design of the Improved System

The improved ACDB is designed for credit delivery and savings mobilization; input delivery, research and extension services attempted by ACDB formerly will be the responsibility of other government agencies or the private sector. Hence, the primary objective of the improved ACDB is to provide an alternative to the informal institutions thus reducing the latter's monopoly profits resulting from high interest rates. It is hoped that an effective way to reduce high interest rates and borrower exploitation is to increase both alternative sources and volume of credit in agriculture.[2] Unlike the old ACDB, the improved system will not provide commercial and personal loans.

The improved credit system is designed to serve two groups of small farmers in Liberia: (1) the small farmers in the food economy who generally produce for the domestic market and (2) the small farmers in the export

economy producing rubber, cocoa, coffee, palm oil and so forth for export. However, it should be pointed out that in general these groups overlap; a rice farmer can at the same time be a cocoa farmer.

In designing an alternative credit system, the good characteristics of the formal and informal markets as well as those of the lending experiences of other African countries must be amalgamated. This means that the resources of the formal financial market have to be combined with the administrative efficiency of the informal financial market to ensure the reliability and viability of the improved system. Additionally, the design of the credit system should be consistent with the criteria by which it will ultimately be appraised. One set of criteria of success on which to evaluate the facility includes increasing production and farmers' incomes, generating sufficient interest and repayments to meet institutional overhead expenses, and most significantly for this purpose, channeling credit to large numbers of Liberian small farmers. However, unless the recipient groups have profitable opportunities in which to invest (see assumptions in Chapter I), unless the program is well designed and administered, and unless greater effort is made to reduce the delinquency rate and administrative costs, even an improved credit system will fail to meet the aforementioned criteria.

The major focus is small farmers, and so it is appropriate to begin with them as borrowers. The small farmers in Liberia still depend on the informal credit market where transactions are personal and simple. Hence, they are inclined to avoid the procedural sophistication required to obtain loans from formal institutions like ACDB. Given the complexity of

the procedures and delays involved in formal loan transactions in many African countries in comparison to the personal and simple transactions tow hich small farmers are accustomed, their shunning formal markets may be justified. Formal institutions, on the other hand, are quite reluctant to accommodate small farmers due to high costs associated with servicing numerous small loans.

The task then is to consider the options available in modifying and restructuring the present credit system (ACDB) in order to increase its efficiency and outreach; the design is as follows:

(a) Location of ACDB Offices

It is suggested that there should be 15 regional offices - one in each of the 9 counties and 6 territories. There should be at least two sub-offices, in addition to a regional office, in the major agricultural areas. These offices must have some autonomy to make lending decisions to avoid unnecessary delays that evolve from centralization. The heads of these regional offices would be responsible for the distribution of loans under a fixed amount; they would be responsible for all loan repayment in their regions. It is expected that with such decentralization the heads of regional offices and sub-offices as well as credit officers should be required to visit their areas to familiarize themselves with credit worthiness of their potential customers in order to enable them to quickly, simply and informally process loan requests without delays.

Small farmers are likely to encounter difficulties in reaching branch offices because of limited transportation. Consequently, it is necessary for the sub-offices to operate at the village level. Additionally,

mobile units should be used or sub-offices should be opened on market days to mobilize rural savings. Loan applications should also be disbursed on markets days. Cost of applications should be excluded from cost of funds. Hence, it is suggested that a maximum fee of $1 per application form be charged to avoid waste and abuse by applicants. In addition, the application fees would serve as a revolving fund to replenish the supply of application forms.

(b) Terms and Conditions of Lending

The present ACDB loan requirements are rigorous and difficult for small farmers to fulfill; consequently they have not benefitted from the current formal credit system due to the fact that they cannot meet the requirements. For example, ACDB requires individual borrowers to pledge some collateral, usually land, for their loans. Small farm families usually lack titles to their land since land is generally owned by the community. Where land is privately owned, it is difficult for small farmers to obtain the appropriate legal documents. Therefore, the terms of loans should be made flexible, personal, simple and informal. The flexibility of loan terms will be viewed in terms of loan disbursement, procedures, use of borrowed funds, recovery, and repayment methods.

(c) Lending Procedures

Lending procedures should be as simple as possible to accommodate large numbers of small farmers. The Ivorian credit experience with the prets de soudure program reveals that a formal rural financial institution can be economically viable and yet serve large numbers of small farmers without stringent and complex loan procedures. The use of credit in the

prets de soudure program by the borrowers is unrestricted. Credit in this program is versatile since use of the loans is unconfined and thus it relates well to the economic environment of the small farmers. The utility of credit in reserves management in such a program is unlimited. "For reserves' management," Baker notes,[3] "the credit must be versatile, given the intimate economic relation between household and firm in the case of the small farmer."

On the other hand, the Zambian experience with the AFC reveals that when a rural formal institution applies complex procedures in acquiring inputs, inputs are often acquired late and more small farmers can be precluded from benefitting from the loan facility than otherwise. The delays caused by administrative inefficiencies frustrate potential borrowers. This problem affects the small farmers' perception of the program, and if they view it to be unreliable, they are bound to turn to the informal sources of credit.

Therefore, it is suggested in this study that the lending procedures be simple to avoid driving small farmers away. Application forms must be brief, concise, and consistent with the borrower's ability to provide the needed information.

Financial Viability

Some of the major factors, high administrative costs, high default (and delinquency) rates, and low interest rates, which affect the financial viability of a government credit institution, were discussed in Chapter III and need not be repeated.

One measure to deal with the problem of low interest is that the credit institution must charge an interest rate on its loans high enough to permit the recovery of three kinds of costs (1) the costs the instituion incurs to obtain loanable funds, (2) the administrative costs of operating the credit institution and (3) loss of capital through defaults. These costs are discussed below.

(a) Interest Rates

The controversy about interest rates was discussed at length in Chapter III. In Chapter IV it was observed that ACDB charges lower interest rates on agricultural loans than on commercial and personal loans. But the new system will not deal with commercial and personal loans. There is a tendency for such interest discrimination by category to lead to resource diversion. In general, ACDB's average interest rate of 17.3 percent is low.

The breakeven model suggests that the bank must charge an interest rate of 22.4 percent in order to break even, and above that rate to be profitable. Of course, this rate might change as changes occur in the various sources of lending cost. It is advisable therefore, that interest rates be raised high enough to cover lending costs. In short, the bank must charge a market interest, a self-supporting rate of interest, which reflects the actual costs of borrowed funds. Thus the interest rate charged to cover all factors may range from 33 to 37 percent per annum to make the system viable. Consequently, the breakeven point would be 33 percent assuming a cost of funds of 10 percent. In general, this rate is still below that charged by the informal system, so small farmers would

likely be willing to pay this rate if the new system is reliable and accesible to them. Moreover, this rate should be monitored over time for possible adjustment as lending costs change.

(b) Administrative Costs

Administrative costs were identified in Chapter III as one of the major factors affecting the viability of a government credit institution. It is usually contended that lending to large farmers involves lower costs and lower risks relative to administering loans to numerous small individual farmers. However, ACDB's high administrative costs incurred in lending to public corporations, large farmers and cooperatives tends to contradict such an argument (Chapter IV). It is suggested that the improved system give primary consideration to small farmers. The group approach to small farmer lending is one of the cost effective means to channel credit to small farmers. This approach will be discussed later.

(c) Defaults and Delinquencies

The problem of defaults and delinquencies and its causes in government credit programs were treated in Chapter III. It was pointed out that defaults and delinquencies can destroy the financial viability of a government credit program. The serious effect of the problem on small farmer credit programs is underscored by Baker's comment, "To reduce default to within an acceptable tolerance is a necessary condition for program success."[4]

Measures can be taken to minimize the occurrences of the problem of defaults (and delinquencies). One measure is to institute strict repayment discipline into the program from its inception. Bottomley,[5]

for example, argues that defaults can be kept within manageable limits if strict discipline is established early in any rural credit program. He notes that taking defaulters to court, for example, can have a considerable bearing on the willful type of default.

From the foregoing, it is suggested that the improved credit system can only remain economically viable by instituting and adhering to strict repayment discipline to minimize the occurrence of problems or to reduce them within acceptable tolerance. For example, court action should be instituted against defaulters or if a security were pledged, it should be liquidated to recover the loan. However, as stated earlier, a rigorous loan screening process can save court expenses and at the same time minimize the occurrence of defaults. Delinquencies can be reduced by: providing adequate transportation (vehicles, motorcycles and so forth) to enable bank staff to make farm visits, and also by hiring qualified staff as well as training more staff. All of these will, however, increase the administrative costs, but such costs can be offset by efficient operation and high repayment.

(d) Collateral

The improved credit system can and should emphasize the use of liens on crop production as an effective low cost method of protection against default. For example, a coffee farmer can pledge part of his coffee farm as a security against his loan. Additionally, the new system should focus on all the factors affecting the credit worthiness of the borrower rather than on collateral alone. This approach concentrates on the reputation of the individual in his community, his expected cash flow,

and the technical feasibility of the project to ensure its profitability. When using this approach, the loan screening process can be facilitated if the institution operates at the village level where information on borrowers is accessible. Such a method would enable the system to meet one of its criteria, that of reaching large numbers of small farmers. In the group system, credit worthiness should also be emphasized, but the whole group is responsible for repayment.

If the loan is administered through a cooperative, it should commit itself by signing a contract with a firm to sell its product to the firm. In such a case as in Ivory Coast's GVC, the contract serves as collateral, and hence, the bank receives payment of the product from the firm after sale. The bank then deducts its loans and the difference goes to the cooperative. However, this approach is more effective if the cooperatives deal with export crops.

In the case of food crops, it is difficult to monitor the sale since crops can be sold either to the cooperative or on the local markets. But, one possible approach to effect repayment is to visit the farms during harvest and make sure that the crops are sold through the cooperative. Field agents should make at least two farm visits, one before harvest and the other during harvest, to monitor the farmer's production. Such visits enable the bank officers to ascertain the repayment capability of their customer, and also to make the customer more aware of his loan obligation. The borrower's awareness of the fact his lenders know his production level in a given harvest period, and hence some idea about his repayment ability, is likely to minimize the

the occurrence of delinquency or default whether the crops are sold through cooperatives or on the local markets. The costs associated with the visits will increase administrative costs. However, such costs can again be offset by efficient operation and high repayment, a possible result of the farm visits.

(e) Repayment

Repayment performance for large and small farmers on farm loans is typically poor. The Ivorian prets de soudure program, on the contrary, demonstrates that the repayment performance of small farmers can be excellent. But the Ivorian individual program (to large farmers) supports the experience of typical poor repayment performance of large farmers.

As mentioned previously, strict repayment discipline instituted in the early stage of the program and reinforced relentlessly can have a considerable impact on repayment performance. For example, field agents' visits to small farmer clientele may enhance repayment. Where this fails, court action should be instituted against defaulters.

In the case of small farmers' groups, repayment should be the joint responsibility of group members. As stated previously, group responsibility due to sanction-consciousness can become an important influence in enhancing repayment. Also if a loan is unpaid in one year, no future loans would be allocated.

In addition, an incentive program can be phased into the credit program. The bank staff could receive commissions, in addition to an adequate salary, based on loan collection effort. For borrowers, this can take the form of offering them lower interest rates on new loans if

repayment is made early. The period of repayment must be adequate to allow the farmers to market the crop. Rescheduling of repayment in some years may be necessary. Some of these measures may increase administrative costs. However, the interest rate must be high enough to cover such costs.

Delivery System

The lessons from the credit experience in Zambia, Ivory Coast and Tanzania demonstrate that there are several possible means--individuals, groups, and cooperatives--to channel credit to small farmers. There is no one unique method; a program may be effective in using one or more methods to reach its agricultural economy. Ivory Coast, for example, has been effective in using small farmer groups and cooperatives as credit channeling vehicles for small farmers. Zambia, except for the inefficiencies due to very specific input delivery, has had relative success with providing credit to small farmers individually. On the other hand, Tanzania has utilized cooperatives and village organizations to reach its small farmers. TRDB actually deliver inputs, which adds an additional burden on the bank. Tanzania's cooperatives were dissolved in 1976.

There is a need for a viable delivery agent who can secure loans from the formal institution on behalf of small farmers. The delivery agent can take the form of qualified individuals or village level organizations, for example, farmers' groups, associations, viable cooperatives or credit unions. However, either form will need and must have certain qualities to enable it to deal in modern transactions with credit instructions, and also, to service the loan to the small farmers on a

personal, simple and informal basis. The individual, group association and/or cooperatives as means to provide credit to small farmers will be treated next. But, the new system must concentrate on credit delivery.

(a) Individual

As indicated previously, the primary concern of the improved credit system is to make credit accessible to two groups of small farmers-food producers and export crop producers. Hence, it is possible to identify a few capable farmers within these groups whose repayment capacity allows them to apply and obtain a loan individually.

Again, the Zambian case demonstrates that small farmer lending can also be done effectively through individual farmers.

(b) Small Farmer Groups

For this purpose, it is suggested that the establishment of small farmer groups of 5 to 25 members be encouraged to serve as credit outlets. These groups, usually organized around kinship relations and/or economic interests, are socially cohesive. A farmer group would apply for a loan and assume repayment responsibility collectively like Ivory Coast's prets de soudure program. Group formation must be voluntary. Individual members of such groups are usually sanction-conscious, a characteristic which urges them to honor their obligations to the group. However, in order to maintain viable, effective groups as institutional credit outlets, the maximum size of the group must be regulated initially to sustain its social cohesiveness, a characteristic which plays a major role in loan collection among members.

Two of the principal advantages of the group approach for handling small farmer loans are: (1) it allows the credit institutions to deal with a few qualified persons instead of numerous small farmers; at the same time, small farmers would be relieved of dealing with an institution quite distant from the farms, from completing large numbers of application forms, (2) it provides opportunity for reducing the administrative costs. Miller cites the case of the Malawi development project where making loans on a group basis was estimated to lower the interest charged to breakeven on the credit operation from 23 percent to 13.5 percent.[6]

(c) Associations

Another suggested approach to allocate credit to small farmers is through associations. The ex-servicemen's associations, which are common in certain parts of Liberia, can be another viable credit outlet for small farmers. Members of such associations often farm and loan the proceeds in-kind or cash to members or non-members through members. The non-members have been required to pay higher interest rates than members. These associations have become viable credit sources over the years. The susu and informal credit unions are viable associations which have also played a major role in mobilizing rural savings and in providing credit to small farmers.

(d) Cooperatives

Cooperatives are another approach to making institutional credit accessible to many small farmers. The cooperatives are also capable of performing a number of services for their members such as providing inputs for production, along with storage and marketing facilities for

their produce.[7] The cooperatives (GVC) in Ivory Coast have played a significant role in performing such functions for export growers, and hence have proved to be effective credit outlets.

In Tanzania cooperatives proved effective in credit delivery and collection for export crops which are largely non-consumed domestically; they were ineffective in effecting repayment on food crops which could be sold either to the cooperatives or on the local market.[8]

Cooperatives in Liberia are incapable of performing the services described above currently. Most of the cooperatives are characterized by mismanagement, lack of adequate accounting skills in record keeping, and so forth. The lesson from the Tanzanian example shows that these factors can lead to the demise of cooperatives. However, it is hoped that over time conditions will improve so the cooperatives in Liberia can assume responsibility of delivering credit to the small farmers. Therefore, the development of cooperatives should be given priority. The present cooperatives can become effective and efficient to deliver credit to small farmers if the limitations cited are removed through cooperative education, training, and hiring people with appropriate management skills.

The importance of the use of efficient groups and cooperatives as effective credit delivery channels to small farm families is underscored in the World Bank Paper on Agricultural Credit when it states,

> When functioning properly, the use of groups and cooperatives as the channel to deliver credit to small farmers has numerous advantages. Decentralization of the day-to-day aspects of management increases the credit

> programs' adaptability to local conditions and reduces the time required to process loan applications and make other decisions. Local knowledge can be used to assess both the risk of lending to a particular farmer and his investment opportunities. This, plus group responsibility for repayment and equity participation in the cooperative, should reduce default. Furthermore, grouping farmers raises the average size of loans, thereby reducing costs and increases the political power of the small farmer.[9]

(e) Women

Women in Liberia contribute half of the labor in food crops. In certain parts of Liberia, female-headed households are not uncommon. Therefore, credit in all categories should be available to capable female as well as male farmers.

Mobilization of Savings

One way to increase the inflow of funds to the credit institution is through savings. The institution can tap the surplus of funds from its successful customers by offering them attractive financial returns. Such financial returns are likely to encourage successful farmers to maintain high rates of savings. These savings can enhance the financial viability of ACDB which can relend the mobilized resources to potential borrowers within the rural areas.

It is suggested that the loan investment returns in the rural areas be commensurate with those elsewhere in the economy to avoid relending the mobilized savings to urban areas due to higher interest rates in those areas.

Savings can be mobilized through the bank's regional and sub-offices, and also through mobile units on market days. Farmers will, however, have to be educated about interest earnings and the low risk associated with savings in a bank.

These are my recommendations for the redesign of ACDB; Chapter VI contains the summary, conclusion and other recommendations.

FOOTNOTES

CHAPTER V

1. ACDB 1981 Annual Report (Monrovia, Liberia), p. 12.
2. World Bank - Agricultural Credit (Washington, DC, 1974), p. 24.
3. Baker, 1973, p. 10.
4. Ibid., p. 12.
5. Bottomley, A., Rural Financial Markets in Developing Countries (1983), p. 183.
6. Miller, p. 87.
7. Ibid., p. 89.
8. Due, Jean M. Cost, Returns and Repayment Experience of Ujamaa Villages in Tanzania, 1973-1976 (University Press of America Washington, DC, 1980), p. 14.
9. World Bank 1974, p. 50.

CHAPTER VI

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

Summary and Conclusion

The overall objective of this thesis was to examine previous public policies relating to agricultural credit and to design an effective and viable agricultural credit program for small farm families producing both export and domestic agricultural commodities. The specific objectives of the study were:

1. to describe and evaluate the current credit system in Liberia, with specific reference to ACDB.
2. to examine its performance and its effects on small farm families.
3. to examine briefly the credit programs of Zambia, Ivory Coast and Tanzania in order to draw from their experiences conclusions which can be adapted to Liberia and
4. to redesign ACDB and recommend other policy measures which can make the present credit program for small farm families more effective.

To achieve these objectives, data on agricultural and financial markets in Liberia were gathered. Also, literature on the role of credit in agricultural development as well as the credit experience of Zambia, Ivory Coast, and Tanzania was reviewed.

Growth and lending cost models were used in the study to evaluate the performance and importance of the present credit system. The growth

model, based on hypothetical data, compared the formal and informal credit markets; and the lending cost model which was restricted to 1980-1981 due to data limitations, examined the performance of the present system.

ACDB's general objective is to provide credit for agriculture and its related activities. Agriculture is still the mainstay of the Liberian economy, it employs more than 70 percent of the Liberian labor force and contributed 45 percent to Liberia's GDP in 1980. Agricultural exports constitute about one-third of total exports. These exports include rubber, forest products, coffee, cocoa and oil palm products.

Small farmers in the Liberia agricultural sector have low incomes and productivity. To increase the productivity and to improve the living conditions of small farmers, GOL's present socio-economic development plans now places a growing emphasis on agriculture and rural development, particularly with respect to small farmers. To facilitate this modernization of agriculture, development and delivery of technology, extension and research services are being addressed. However, one critical need which had yet to be met is a full-service rural banking system that could enable small farm families to be less dependent on traditional sources of credit.

ACDB was created in 1976 principally to serve the agricultural economy with respect to both credit and savings mobilization. Credit would enable the small farm families who now borrow from moneylenders at uzurious interest rates to borrow more cheaply. The savings facilities would provide farmers for the first time an opportunity to accumulate more savings at low risk.

The overall loan repayment on ACDB loans has been poor. The delinquency rate among its customers, especially cooperatives, is high. Measures already cited must be taken to improve the repayment performance.

However, the small farm families still rely on the informal financial market. The importance of external finance relative to the enhancement of the small farmers' economic status was evaluated with the growth model. Based on the result, it was proved that small farm families are likely to improve their economic status if they have access to formal credit sources.

The description and evaluation of ACDB showed that it is in a serious financial crisis as its losses have become high over the years. The bank has not generated adequate loan capital nor has it fulfilled one of its major criteria of meeting the credit needs of the rural population. Consequently, the rural population still depends on the traditional sources of credit.

The performance of ACDB, based on available data using the lending cost model, is poor. The administrative costs are particularly high even though lending over the years has been directed to large farmers and cooperatives almost to the exclusivity of small farmers. The average interest rate of 17.3 percent is generally low as it does not reflect the true costs of its loans. The delinquency rate is high. All these factors affect the viability of the bank. The result of the lending cost model, which is drawn from data from ACDB's annual report, showed that ACDB's performance is dismal. Also, it can be concluded on the basis of available statistics and reports that the ACDB was not designed and has not affected the small farmers. Therefore, there is a need to modify the program to include small farm families. However, ACDB has been relatively successful in mobilizing rural savings.

The analysis of the lending costs (LC) also indicated that, over the 1980/81 period, the average LC was 50 percent of ACDB's total annual loan granted. The average interest rate charged by ACDB on its loans was 17.3 percent. Hence, the study shows that the interest rate charge was not high enough to cover the lending cost. Consequently, ACDB's losses in 1980 and 1981 were substantial.

Among the variables used to determine the LC, the administrative costs were exceptionally high (32 percent of the total loan portfolio). The defaults compared to administrative costs were quite modest. However, the delinquency rate is high, especially for loans to cooperatives. Based on the major sources of ACDB funds, costs of funds were the lowest among the LC determinants.

ACDB's major source of funds include interest free demand deposits (25 percent and 30 percent of total assets in 1980 and 1981 respectively), stockholders' equity (50 percent and 41 percent of total assets over the same period), and savings. These savings bear an interest rate of 8 percent annually. The Government of Liberia (GOL) subscribed to 65 percent of capital stock. GOL budgetary appropriations are granted to ACDB interest free and/or at very low interest rate. Therefore, if the opportunity cost of capital on GOL subsidies and demand deposits, were included in determining the costs of funds to ACDB, the LC would have been much higher than 50 percent, and the difference between the average LC and average interest rate charged would be substantial. This would have led to larger losses.

Based on the breakeven model, the interest range of 23-25 is high enough to cover the real costs of lending-cost of capital, of administration, and of risks and default. If cost of funds and administrative costs are included at 10 percent and 15 percent respectively, the breakeven interest rate, other factors remaining unchanged, the rate would be 33 percent or above. The costs associated with an efficient credit institution should be closer to 25 percent, and therefore, the suggested interest rate 33 to 37 percent should allow the improved credit system to operate profitably if run efficiently. This rate would, of course, change over time as other factors improve.

Hence, an improved credit system has been designed to address ACDB's current problems. It is not intended to eliminate the informal credit sources; rather it is intended to provide a viable alternative credit source. The permancence of the revised system depends to a large extent on government policies which will accelerate small farm development.

The major purpose of this study was to design an improved credit system which meets the following criteria:

1. increasing production and farmers' income;
2. generating sufficient interest and repayments to meet institutional overhead costs; and
3. channeling credit to large numbers of Liberian farmers.

Therefore, it is suggested that the improved credit system only concentrate on credit delivery to small farm families in particular thereby leaving extension services, input delivery and credit to large farmers and commercial groups to other agencies. It is hoped that by

concentrating on credit delivery particularly to small farm families ACDB will become more effective and efficient thereby catering to the credit needs of large numbers of Liberian small farm families.

Recommendations

Based on the imperfections identified in the present credit system and on the lessons from Zambia, Ivory Coast and Tanzania, the following recommendations are geared towards modifying the administration, structure and function of ACDB.

1. ACDB should expand by establishing branches in all major agricultural areas in Liberia. Such village level branches can enhance the operations of the credit delivery and savings accumulation; ACDB has only four branches currently.

   An appropriate branch network, serving the rural areas, that lends out money and takes in deposits must be set up. Information on the lending and saving policies of ACDB must be disseminated widely in rural areas.

2. The present long and complex legal instruments required for obtaining loans should be made simple and informal to enable small farmers to take advantage of credit opportunities. For small farmers, credit worthiness in terms of the reputation of the potential borrower, cash flow expected from projects, and so forth must be emphasized in lieu of using land as collateral.

3. The general rule of granting loans in-kind should be discouraged; loans should be granted in cash.

4. The Bank must initiate vigorous loan collection methods to alleviate its high delinquency and default rates. It must, if necessary, institute court action against delinquents and defaulters to ultimately liquidate collateral in order to sustain the financial viability of the Bank. But the Bank staff can save the court fees by developing some rigorous loan screening procedures to identify potential delinquents/ defaulters, visit borrowers during the production period, make contacts with extension personnel, and so forth.

5. The Bank should develop more aggressive saving mobilization methods particularly for its rural customers. The use of radio can be effective in educating the rural population about savings and loan opportunities at the Bank. Farm families need to know that there is more risk in putting savings under the mattress, underground or with foreign merchants than depositing savings in banks. Farm families need to know that it is not only safe to save at ACDB, but that in addition to security, they also earn interest on their savings. The deposits can be small; withdrawal terms must be flexible to accommodate potential low income customers; interest rates on savings should be competitive with those of commercial banks. This will increase the bank's administrative costs. Hence, the Bank must charge rates of interest high enough to cover these costs.

6. The interest rates charged must be high enough to cover three basic costs: (a) the costs ACDB incurs to obtain loanable funds, (b) loss of capital through loan defaults, and (c) the administrative costs of operating ACDB. Thus, if ACDB pays 5.2 percent on money it borrows for on-lending, loses 12.4 percent of its capital through bad debts and incurs administrative costs of 42 percent (1981), then ACDB would need to charge 67.5 percent* interest or above to breakeven. However, if ACDB incurs an administrative cost of 15 percent, loses 12.4 percent of its capital through bad debts and incurs 5.2 percent cost of funds, then ACDB would need to charge 35 percent interest or above to breakeven.
If ACDB pays 10 percent on money it borrows for on-lending, loses 6 percent of capital through bad debts and incurs 7 percent administrative costs, then ACDB would need to charge 23 percent interest or above to breakeven.

7. Zambia has been relatively successful in lending to small farmers individually. The overall repayment of this program is over 60 percent. Ivory Coast been successful with its small farmers' group program, prêts de soudure, with a 95 percent repayment rate. The Ivory Coast also has had relative success in its cooperative approach to lending to small

*See lending-costs calculation in Chapter IV.

farmers. The overall repayment rate under this program is 86 percent. Based on the success of these programs, it is suggested that the improved credit system experiment with all three approaches-individuals, groups and cooperatives-for lending to small farmers. Over time, the system can adapt the approaches which best suit the Liberian situation.

8. Since women provide one-half the labor in farming, loans should be available to both men and women farmers.
9. New loans must not be granted to borrowers who fail to repay their old loans.

Implementing these recommendations will certainly increase the bank's administrative costs. But since the recommendations are aimed at enhancing the operating efficiency and loan collecting efforts, it is hoped that costs incurred in the process will be offset by efficiency, adequate interest rate and high repayment.

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