Final Evaluation of the Agrarian Reform Credit Project

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Prepared by
Robert R. Nathan Associates, Inc.
Economic and Management Consultants
Washington, D.C.

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I. INTRODUCTION

In March 1980, the Government of El Salvador (GOES) began instituting sweeping social and economic reforms in El Salvador, among them a major agrarian reform program to shift ownership of farm lands from large landholders to those who worked the land. Over the next few years, ownership of some 20 percent of El Salvador's farm land was transferred. As a result, the demand for agricultural credit increased sharply. The need of the beneficiaries of the program for credit was considered immediate and crucial to the successful implementation of the reform. In an effort to help meet this increased demand, USAID/El Salvador developed the Agrarian Reform Credit Program.

Project Background and Design

The agreement for the Agrarian Reform Credit Program was signed with the GOES in July 1980. At this time, USAID authorized $9.5 million in loan funds to provide capital to the national Agricultural Development Bank (BFA) so that it could, in turn, provide credit to the beneficiaries of the first phase of the GOES Agrarian Reform Program, the "Phase I cooperatives." Another $500,000 in grant funds was approved to provide both the bank and the cooperatives with technical assistance.

Between 1981 and 1985, the agreement was amended nine times, increasing USAID funding to $85.8 million, $81.5 million in loan funds and $4.3 million in grant funds, as illustrated in Table 1.1. The final budget breakdown for the overall project according to the last amendment (letter of implementation no. 57) is presented in Table 1.2.

Approximately $3.8 million of the grant funds were for technical assistance and project evaluation; the remainder was to be used primarily for training and vehicles and equipment. The majority of the loan funds, $77.8 million, was to be spent on capitalizing an integral line of credit to be managed by the BFA. A balance of nearly $4 million for this credit still remains as a result of a suspension in disbursements for this activity by USAID during the last year of the project, pending satisfactory progress in

Table 1.1: Agrarian Reform Credit Project Funding from USAID/El Salvador
(dollars)

	Original Project	Amendment 1	Amendment 2	Amendment 3	Amendment 4	Amendment 5	Amendment 6	Amendment 7	Amendment 8	Amendment 9	Total
	07-Jul-80	08-Aug-81	04-Mar-83	01-Jun-83	15-Jun-84	07-Aug-84	20-Dec-84	05-Mar-85	05-Mar-85	19-Aug-85	1980-1985
Loan	9,500,000	1,600,000	17,000,000	23,400,000	17,000,000	1,500,000	0	3,400,000	0	8,100,000	81,500,000
Grant	500,000	0	625,000	500,000	500,000	0	100,000	0	400,000	1,700,000	4,325,000

Table 1.2 Final Budget Breakdown for the Overall Project

	Total project (*) (Total del proyecto)			Approved changes (Reprogramación autorizada)			Revised total project (Total revisado del proyecto)		
	A.I.D grant (Donación)	A.I.D loan (Préstamo)	GOES	Grant (Donación)	Loan (Préstamo)	GOES	Grant (Donación)	Loan (Préstamo)	GOES
BFA intergral credit line (Línea de Crédito Integral BFA)	—	77,800	16,700	—	—	(496)	—	77,800	16,204
BCR investment credit line (Línea de Crédito de Inversión BCR)	—	—	3,900	—	—	—	—	—	3,900
BCR special line of credit for refinancing (Línea especial de crédito para refinanciamiento BCR)	—	—	19,600	—	—	—	—	—	19,600
Agrarian reform operational support (Apoyo operacional refoma agraria)	—	—	3,300	—	—	—	—	—	3,300
Vehicles and equipment (Vehículos y equipo)	—	3,300	—	259	—	496	259	3,300	496
Project evaluation (Evaluatción del proyecto)	145	—	—	—	—	—	145	—	—
Technical assistance (Asistencia Técnica)	3,980	—	—	(259)	—	—	3,721	—	—
Training (Capacitación)	100	200	200	—	—	—	100	200	200
Intergrated pest management (Control integrado de plagas)	—	200	400	—	—	—	—	200	400
Contingency (Imprevistos)	100	—	—	—	—	—	100	—	—
Total	4,325	81,500	44,100	—	—	—	4,325	81,500	44,100

(*) As per amendment No. 9 dated August 9, 1985.

improvement of the BFA's institutional capability. The remaining loan funds were to be used for training, vehicles and equipment, and salary and other personnel costs.

In addition to the USAID funding, the GOES was to provide the equivalent in local currency of $44.1 million to the project, bringing total project funding to $129.9 million. Much of the GOES counterpart funding was to be used to finance the integral line of credit.

While the scope of the credit project was expanded between 1980 and 1985 to provide assistance to Phase III Agrarian Reform beneficiaries (also termed Decree 207 beneficiaries) and traditional small farmers, the project's overall goal and purpose remained essentially unchanged. The goal of the Agrarian Reform Credit Program was to improve the socio-economic well-being of all agrarian reform beneficiaries, as well as that of the traditional small farm sector, through increased agricultural production and employment. This improvement was to be achieved by increasing the availability of credit to the agrarian reform sector and small farm sector and increasing the capacity of the national financial system to deliver such credit. These purposes, along with the project's expected outputs and inputs, are spelled out in the project's logical frameworks, a conglomerated version of which appears as Table 1.3. This evaluation examines the project primarily in terms of its goals and purposes.

Also included in the logical frameworks are the assumptions which A.I.D. incorporates into the design of the project. Success of the project is considered to depend in part, on the realization of these assumptions. The major assumptions explicitly set forth in the design of the credit project are

- General political stability and GOES commitment to provide support to the project
- A decrease in violence in the country
- Economic and balance of payments crises controlled
- Adequate agricultural inputs made available to farmers
- Stable or increasing prices for export commodities and basic food stuffs and
- Effective functioning of the nationalized export marketing system

Table 1.3

Logical Framework for Agrarian Reform Credit Project

Narrative	Indicators	Means of Verification	Assumptions
Program Goal: To improve the socio-economic well being of all agrarian reform beneficiaries as well as the traditional small farm sector through increased agricultural production and employment.	Increased Incomes Increased on-farm employment Increased productivity on agrarian reform and traditional small producer properties	Studies, reports, and evaluations of BFA, ISTA, and MAG	Political stability and GOES commitment to provide supportive services Violence in the country subsides Economic and balance of payments crises controlled Sufficient domestic and external resources made available for reform Adequate agricultural inputs made available to reform sector Stable or increasing prices for export commodities and basic food stuffs Equitable marketing mechanisms in place and functioning

Table 1.3
Logical Framework, cont.

Narrative	Indicators	Means of Verification	Assumptions
Project Purpose: To increase the availability of credit to the agrarian reform sector and small farm sector (who are clients of the BFA) and to increase the capacity of the BFA and the national financial system to deliver such credit.	1980		
	Special Coop Assoc. lines of credit of at least $13 million operating in BFA for Phase I/II haciendas	BFA records	Implementing agrarian reform regulations finalized so program can proceed
	BFA has institutionalized multipurpose farm and financial planning system for Phase I/II.	BFA records and observations	Adequate management of haciendas is retained
	BFA will have expanded outreach capabilities to meet special needs of agrarian reform sector	BFA records and observations	Complementary Annual Crops production credit made available as needed
	Coop Assoc. from Phase I will be preparing their own farm plans with help from ISTA and BFA and submitting them as credit requests.	Project records	
	1983/1984		
	BFA is providing timely credit to its clients and has a well-managed credit portfolio	BFA reports and USAID evaluations	Timely availability of USAID and GOES funds.
	Other financial institutions are providing timely credit and supportive services in adequate amounts to their Phase I coops	BCR evaluations of financial institutions	BFa directors and top management remain committed to improving BFA operations

Table 1.3
Logical Framework, cont.

Narrative	Indicators	Means of Verification	Assumptions
Outputs:			
1980			
Farm and hacienda plans - Phase I/II coops	251 prelim. plans for 1980/81 and detailed plans for all intervened haciendas greater than 500 hectares in 1981/82	BFA and ISTA records	AID and GOES funds available on timely basis
Special lines of credit for Phase I haciendas	251 for 1980/81 and for all Phase I haciendas in 1981/82	BFA records	TA contractors available
Plans and special lines of credit for Phase II	Established as needed once Phase I begins	BFA records	Adequate GOES staff available
Revised credit mechanism for Phase I/II reform beneficiaries	Begins with establishment of Special Line in June 1980; continuous thereafter		
1983		BCR reports	
Agrarian Reform Farms and Small farms operating and investment credit requirements financed through the Integral Line of Credit	A total of 60,518 subloans contracted as follows: Decree 207 and Small Producers $17.5, 59,757 farm., 101,460 Ha Phase I $18.6, 761 coops., 31,500 Ha TOTAL: $36.1, 60,518 farm., 132,960 Ha		
BFA operations improved through:			
Management structure reorganization	Management structure reorg. completed by September 1983		

Table 1.3

Logical Framework, cont.

Narrative	Indicators	Means of Verification	Assumptions
Development and implementation of a financial policy	Loan recuperation problems researched, write-off and recuperation policy developed and procedures implemented		
Development and implementation of a personnel policy aimed at strengthening the field operations and credit management activities, including expansion of the outreach program	Personnel policies and procedures developed and implemented, increased number of BFA personnel assigned to credit operations		
Expansion of the BFA internal training program	Number of graduates of BFA internal training activities will increase by 20% during 1983		
Participation of the ISTA Regional Cooperative Co-Management Program	BFA will provide qualified personnel who will participate fully in all ISTA Regional Cooperatives Co-Management activities		
Improved financial records management and reporting capability	Computerized financial records and reporting system installed and operating, timely and accurate reports on BFA financial operations produced for BFA management		

1984

Table 1.3

Logical Framework, cont.

Narrative	Indicators	Means of Verification	Assumptions
Agrarian reform and traditional small farms production and investment credit requirements financed through the Integral Line of Credit with new funds	A total of 28,748 subloans contracted with project loan funds as follows: Decree 207 $9.7, 25,000 farms, 42,279 Ha Small producers $1.0, 2,777 farms, 4,694 Ha Phase I $14.8, 971 farms, 40,192 Ha TOTAL $25.5, 28,748 farms, 87,165 Ha	For all outputs (1984), BCR/BFA/OTHER financial institution reports	
Refinancing line improved and expanded	$42.4M refinanced Financial institutions utilize refinancing	PERA studies	
IDB funds mobilized	Loans contracted for 50% of the available $25M	AID records	
Financial institutions capacity to service agrarian reform sector improved	252 production projects proposals completed and approved 252 investment projects proposals completed and approved		
BFA operations improved through:			
a. reorganization consolidated and financial indicators reach	a. Liquidity ratio above 4.0, with quick ratio above 1.0, working capital above $90M, and loan recuperation above 80%		
b. strengthening of field operations	b. New field personnel hired		

Table 1.3

Logical Framework, cont.

Narrative	Indicators	Means of Verification	Assumptions
c. expansion of BFA internal training program	c. New training plan finalized, with 50% in No. of BFA personnel trained		
d. coordination of BFA with other agrarian reform institutions improved	d. Quarterly meetings held among BFA/FINATA/ISTA/MAG and formal subagreements made BFA/ISTA, BFA/MAG		
e. improved financial records management and reporting capability	e. New computer installed and operating, timely and accurate reports on BFA		
Extension of IPM field testing	From 7,000 - 11,000 mz.		
Inputs:			
1980			
AID Capital Line of Credit for Special Technical Assistance	$ 9,500,000 (DL) 500,000 (DG) $ 10,000,000		
GOES Capital for Special Line of Credit	$ 3,500,000		

Table 1.3

Logical Framework, cont.

Narrative	Indicators		Means of Verification	Assumptions
1983				
AID	Supplement	LOP	BFA and AID records and reports	
BFA Credit (DL)	$23,300,000	50,600,000		
Vehicle and Equip (DL)	700,000	1,230,000		
Integrated Pest Mgt (DL)	0	200,000		
Technical Assistance (DG)	500,000	1,625,000		
Contingency	0	70,000		
TOTAL	$24,500,000	53,725,000		
GOES				
BFA Credit	$12,800,000	16,700,000		
BCR Investment Credit	0	3,900,000		
BFA Operational Support	0	2,500,000		
Integrated Pest Mgt	200,000	200,000		
TOTAL	$13,000,000	23,300,000		

Table 1.3

Logical Framework, cont.

Narrative	Indicators		Means of Verification	Assumptions
1984				
AID	Supplement	LOP		
BFA Credit (DL)	$19,900,000	69,900,000		
Vehicles and Equip (DL)	1,800,000	3,100,000		
IPM (DL)	0	200,000		
Training (DL)	200,000	200,000		
Technical Assistance (DG)	600,000	2,225,000		
Contingency	0	0		
TOTAL	$22,500,000	75,625,000		

Table 1.3

Logical Framework, cont.

Narrative	Indicators		Means of Verification	Assumptions
GOES				
BFA Credit	$ 0	16,700,000		
BCR Investment Credit	0	3,900,000		
Operational Support	800,000	3,300,000		
IPM	200,000	400,000		
Refinancing	12,000,000	12,000,000		
Training	200,000	200,000		
TOTAL	$13,200,000	36,500,000		

Again, meeting these explicit assumptions is considered crucial to the success of the project goals and purposes. In addition, various implicit assumptions were made at the time of the project design. Three important implicit assumptions were that the BFA would maintain a reasonably healthy loan portfolio, that all or almost all of the farmers would repay their loans, and that the government, through the Ministry of Agriculture and ISTA, would provide adequate agricultural extension services to farmers.

The Agrarian Reform Credit Project was designed against a backdrop of fragile political and economic conditions in El Salvador. The project design paper recognized that, politically, successful implementation, or at least successful initiation, of agrarian reform was the most important single factor in legitimizing the government, which came into power in October 1979. Further, failure to implement the agrarian reform seemed likely to lead to a radical political future.

The country's economic situation was strained and growing worse. GDP had declined by 1.5 percent in 1979 and was expected to decline another 5 percent in 1980. Many traditional causes of economic stress, such as a rapidly growing population relative to a small land base, continued expatriation of the county's wealth by the elite, and high levels of unemployment, had been present for a number of years. As a result, eroding confidence in the economy was producing declining private investment and production, capital flight, decreasing foreign exchange reserves, and increasing public sector deficits and balance-of-payments pressures.

At the time of the final amendatory agreement in 1985, economic conditions were still very weak, and by many measures worse than before the agreement. Between 1979 and 1983, real GDP had declined 22 percent, and 1984 had shown only a slight improvement. Further, prices had risen by some 90 percent between 1980 and 1984, while wages were increasing much more slowly. Agricultural production, still the backbone of the economy, had decreased sharply until 1983, but in 1984 showed a modest recovery. The agrarian reform started in 1980 had had a temporary negative impact on production. Also, adverse weather conditions in 1982, increased incidence of plant diseases, unremunerative returns to the producers resulting from increased costs of production, depressed export prices, and the maintenance of an overvalued exchange rate strongly affected agricultural output.

Project Implementation

The credit project itself contained four discrete components: an integral line of credit; a refinancing line of credit; institution building; and integrated pest management. These project components were implemented by three Salvadoran agencies.

- The BFA managed the $77.8 million loan-funded integral line of credit, providing short-term production credit and medium- and long-term investment credit for crops and livestock to beneficiaries of the agrarian reform program under Phases I and III, as well as to traditional farmers. BFA personnel were trained and measures were taken to improve the institutional capability of the BFA. The BFA also helped facilitate the provision of technical assistance to Phase I cooperatives.

- The Salvadoran Central Reserve Bank (BCR) managed the refinancing line of credit providing long-term refinancing for Phase I cooperatives and also trained credit agents for these cooperatives. Much of this refinancing was then funnelled through Salvadoran commercial banks.

- The Center for Agricultural Technology (CENTA) implemented the integrated pest management component.

In addition, USAID contracted the services of a Puerto Rican consulting firm, Servicios Tecnicos del Caribe (STC), to provide much of the technical assistance to the BFA. STC provided assistance administration of credit for the Phase I cooperatives, accounting, internal auditing, training, personnel management, finance and administration, and computerized data systems and electronic processing of data. Further technical assistance was provided for the design and installation of an MIS system for the bank and to train bank employees in its use.

Previous Evaluation

Two major outside evaluations of the Agrarian Reform Credit Project have been made since the inception of the project in July 1980. The first was carried out by Contracting Corporation of America in September 1982. The more recent was made by Checchi and Company in September 1985. At the time of the Checchi and Company evaluation, A.I.D. commitments totalled $2.625 million in grant funds and $73.4 million in loans and the GOES commitment totalled $36.1 million.

The Checchi and Company study examined the project and its progress over the five-year period by assessing the performance of the BFA and by examining various macroeconomic aspects affecting El Salvador. Agricultural

production and employment were not considered. The general conclusion of the study was that the project had had a qualified success in attaining its basic objectives. Its beneficial impact on the economy in general and its contribution to the flow of credit to both agrarian reform sector farmers and traditional small farmers were unquestionable, but there had been some serious disappointments. Among these disappointments was the extent of loan delinquency of the Phase I cooperatives. Also, while advances had been made in strengthening the institutional capability of the BFA, major improvements were still necessary.

The Checchi and Company report begins with a discussion of some of the macroeconomic policies affecting agriculture and the agrarian reform beneficiaries and an identification of policy options available to the GOES. The availability of resources for the agricultural sector was found to be subject to severe domestic and external constraints attributable to the civil conflict and the persistence of a high inflation rate and of large budgetary and balance-of-payments deficits. These problems were exacerbated by unsound macroeconomic policies that did not provide incentives for private financial savings and that maintained unrealistic exchange rates. Checchi and Company found that advances in these areas were necessary to produce increases in the resources available for credit to the agricultural sector.

Checchi and Company then went on to make a variety of recommendations aimed at strengthening the BFA as a banking institution. They found the BFA to be plagued by some operational weaknesses and stressed the need for the BFA to concentrate on minimizing administrative costs and maximizing loan recoveries. Among the main problems facing the BFA were

- Problems with the flow of information, resulting in gaps in the availability of important data
- Divergence of the size of suspense accounts and of the duration of outstanding entries from sound banking practices
- Considerable delays in the preparation of regular financial statements
- Lack of detailed, precise, and timely data on past due loans
- Inefficient and timely processing of loan applications
- Heavy and often unnecessary dependence on the Board of Directors in the loan approval process

- Frequent failure to anticipate problem loans so that corrective action can be initiated promptly

- Difficulties in recovering loans

A key ingredient in the development of the bank was considered to be the careful separation of the bank's credit and subsidy elements, with the subsidy function being taken on by an entirely separate department of the BFA. This department would have its own staff and separate accounting, which would be more like a budget than a balance sheet.

In addition to needing to apply a large accumulated reserve for debt and interest to write off bad loans, Checchi and Company recommended that the BFA explore various types of insurance, including conventional crop insurance and credit insurance, as well as subsidized quasi-war risk insurance, in order to reduce the high loan delinquency rate.

The study also reviewed the BFA's input supply operations, such as the supply of fertilizers to farmers. These activities were found to be profitable for the bank. However, the technical assistance which the BFA provided to farmers in farm planning and managerial practices produced few significant benefits to the farmers relative to the BFA's costs, especially since in some cases other government agencies have the same or similar responsibilities.

Next, the study made some recommendations on the bank's loan application and processing procedures. It was found that paperwork should be streamlined and that to do so, the bank should devise a form for individual borrowers which would contain basic information of a more or less permanent nature, to be programmed in EDP and then simply updated periodically. Further, the bank should make a policy of determining whether the borrower has any existing delinquent loan with any bank, and if so, credit to this borrower should be denied, except in exceptional circumstances. Minimum supervision of small loans was proposed, but review of collateral requirements for large loans should be stricter. The establishment of automatic lines of credit for creditworthy clients was suggested. Finally, to enhance the bank's ability to reduce loan delinquencies, it was recommended that the delinquent loan portfolio be classified by social sector, by age, and by crop. More attention was found to be necessary in the analysis of data on loan delinquency by crop.

The September 1985 evaluation did a thorough job in assessing the project purpose; it studied primarily the institutional development which had taken place at the BFA and made recommendations to assist in its further development. The study did not evaluate the project goals, probably because the project had not been under way for a long enough period of time toprovide meaningful results on agricultural production and employment generated by the project.

The study touched on the issue of the financial sustainability of the BFA. The report noted that the BFA will need continued outside financial support, possibly from the GOES; it did not address the level of this support. Currently, the BFA's cost of money is very low, averaging about 2 percent. Thus, the BFA is are able to lend to farmers at essentially subsidized, or lower than inflation, interest rates. Without the outside funding the BFA receives, it would not be able to sustain itself as an institution and also provide these subsidized interest rates to farmers. The level of outside financial support necessary for this project is therefore very high.

In this evaluation, steps will be taken to study the Agrarian Reform Credit Project thoroughly at the levels of goals and purposes. The progress made since the 1985 evaluation in the institutional development of the BFA will be addressed, as will the agricultural production and employment benefits which have resulted from the project.

Purpose of this Evaluation

This evaluation was requested by USAID/El Salvador to determine the progress and impact of the Agrarian Reform Credit Project since the 1985 evaluation. At that time, efforts to improve the capacity of the national financial system to deliver such agricultural credit were just getting underway. Since that time, some $21 million has been disbursed for credits to project beneficiaries. USAID hopes to gain information that will be useful in guiding implementation of other ongoing credit activities in El Salvador, particularly the Agrarian Reform Financing Project No. 519-0307. In addition, USAID hopes that the evaluation process itself, as well as its results, will facilitate policy dialogue concerning the BFA's overall role in providing services to the agricultural sector and specifically its role in USAID-sponsored credit activities.

The evaluation will try to determine the end-of-project impact in terms of the goals and purposes as specified in the logical frameworks discussed above. It will assess how and to what extent the project improved the socio-economic well-being of the agrarian reform sector and other small traditional farmers, by analyzing agricultural production, income, and employment. To the extent possible, a determination of the effect of the credit project itself on these indicators will be made. Also, the evaluation will discuss the extent to which the project has contributed to strengthening the capacity of the national financial system to deliver such credit. The BFA will receive special attention; its institutional, managerial, financial and technical strengths and weaknesses will be analyzed. Finally, this report will provide recommendations both on agricultural sector credit strategy issues facing the GOES and USAID/El Salvador and on measures to continue the process strengthening of the BFA.

Methodology

The overall methodology be used in this report is rather straightforward. The evaluation begins by quantifying the agricultural output of the various crops that the USAID project funds finance. Various estimates were found to be necessary in making this determination, but they were made based on information available from the BFA and from the Ministry of Agriculture and the Central Bank. The specific process by which these estimates were derived is outlined in Chapter II. Based on the amount of land found to be financed by the USAID project funds, an estimate can be made of the amount of employment generated by the project both in terms of person days and in terms of salary (or implicit salary).

Next, the BFA is examined. The progress which the bank has made in increasing its capacity to extend credit to the agricultural sector is assessed based on the amount of credit it has been able to disburse since the inception of the project. The efficiency of the bank in disbursing this credit is also discussed. Finally, regarding the "end of project status," a qualitative evaluation of the progress which the BFA has made in strengthening itself as an institution is made.

Chapter III looks at the constraints that the project has faced. Essentially, all factors found to significantly affect the success of the project will be reviewed. These factors include the profitability of crop production in El Salvador, inflation, the cost of agricultural imports, the decline in per capita income, civil strife, and issues regarding the nation's banking system outside the BFA. Internal problems that the BFA has encountered is addressed. Again, the basic methodology used in assessing each of these factors is discussed in the chapter itself.

Finally, from the results found in Chapters II and III, the "lessons learned" from the project are covered, and the team's conclusions and recommendations are summarized in Chapter IV.

Terms of Reference

Purpose of Evaluation

The evaluation will provide the Mission with an independent assessment of the progress and impact since the last formal evaluation more than three years ago. During this period, more than $21 million has been disbursed for credits approved for project beneficiaries. At the time of the last evaluation, efforts to improve the capacity of the national financial system particularly that of the BFA, to deliver such credit, were just getting underway in earnest. Since then, a large effort in terms of project management, activities, and financial and human resources has been put forth

to achieve this element of the project purpose. These efforts and their results need to be evaluated to provide the Mission with information that will be useful in guiding implementation of other ongoing credit activities, especially the Agrarian Reform Financing Project, No. 519-0307. In addition, the evaluation process itself, as well as the results, will facilitate policy dialogue concerning the definition of the BFA's overall role in providing services to the sector and specifically its role in A.I.D.-sponsored credit activities.

The objective of the evaluation is to determine the end-of-project impact at the goal and purpose levels of the project. At the goal level, we will assess how and to what extent the project has contributed to the improvement of the socio-economic well-being of agrarian reform beneficiaries and other small farmers through increased agricultural production, income, and employment resulting from the use of credit made available through the project. At the purpose level, the evaluation will assess (1) the extent and significance of increased availability and productive use of credit in the reform and traditional sectors and (2) the extent to which the project has contributed to improving the capacity of the national financial system, particularly that of the BFA, to deliver such credit. It will include an analysis of the BFA's institutional, managerial, financial, and technical strengths and weaknesses in serving the target clientele.

Background

Setting

In March 1980, the Government of El Salvador (GOES) instituted sweeping social and economic reforms to transfer ownership of farm lands from large landholders to those who worked the land. The shift in ownership of more than 20 percent of El Salvador's land under the agrarian reform program increased agricultural credit demand by its beneficiaries. Their need for credit was considered immediate and crucial to the successful implementation of the reform program. To help meet this increased demand, USAID/El Salvador developed an agrarian reform credit program.

History

The Agrarian Reform Credit Program, Project No. 5198-0263, was authorized in June and was signed on July 7, 1980. The combined loan/grant agreement (519-T-028) was for $10 million to ". . . increase the availability of credit to the agrarian reform sector and the capacity of the Agricultural Development Bank (BFA) to provide such credit." Of the $100 million provided, $9.5 million was a loan to provide capital to the BFA and $500,000 was a grant to provide it with technical assistance.

The agreement was amended nine times, increasing the assistance to $85.8 million, of which $81.5 million were grant funds. The GOES was to provide the equivalent in local currency of $33.1 million, bringing total project funding to $129.9 million. The project purpose, though expanded, remained essentially the same, ". . . to increase the availability of credit to the agrarian reform and traditional farm sectors and improve the capacity of the national financial system to deliver such credit" (underscoring indicates expanded project purpose). The original project assistance completion date (PACD) of September 30, 1982 was revised four times to the present PACD of June 30, 1988.

Project Design and Implementation

The project contained four discrete components: an integral line of credit, a refinancing line of credit, institution building (including the credit agent program in the mixed banks), and integrated pest management. The project was implemented principally by three Salvadoran agencies:

- The BFA managed the $77.8 million loan-funded integral line of credit, providing short-term credit for crop loans to reform beneficiaries under Phases I and III, as well as to traditional farmers; trained BFA personnel; facilitated the provision of technical assistance to Phase I cooperatives; and implemented measures to improve its institutional capability.

- The Salvadoran Central Reserve Bank (BCR) managed the refinancing line of credit providing long-term refinancing for Phase I cooperatives and the training of credit agents for the Phase I cooperatives.

- The Center for Agricultural Technology (CENTA) implemented an integrated pest management activity.

According to the 1985 evaluation, the project was a qualified success in terms of the attainment of its basic objectives. Its beneficial impact on the economy in general and its contribution to the flow of credit to the reform sector and traditional small farmers were found to be unquestionable. The financial and technical assistance provided to the BFA also led to a significant improvement in the Bank's financial viability and institutional capability. However, factors that have been anticipated in project design, such as changes in BFA leadership, problems with the technical assistance contracted to assist the BFA in automating its accounting and financial management and reporting system, and a higher number of agrarian reform clients than originally projected caused accomplishments in terms of strengthening the institutional capability of the BFA to fall short of expectations. The extensive

training program carried out by the BFA for its staff in credit supervision and loan control activities has resulted in major improvements to these aspects of the BFA's work. But, the massive growth in the number and volume of loan transactions had placed a continuing strain on the operational capacity of the BFA in other stages of the loan cycle, such as loan processing, early recognition of problem loans, and the initiation of corrective action to recover loan funds and reduce loan delinquencies.

Given these weaknesses, the last amendment to the project added funding for the BFA to purchase computer equipment and obtain technical assistance for the design and installation of a new automated management information system (MIS). The PACD was also extended, first for two years and then again for six months, to provide the time needed to implement the MIS.

Current Status

Most principal components of the project were completed or nearly completed by the PACD. The refinancing and pest management activities were completed and the credit agent activity was incorporated into the Agrarian Reform Financing Project No. 519-0307 as planned. However, the BFA portion of the institution-building component was not completed as planned because significant improvement in most areas of the BFA's institutional capability, such as financial accounting and reporting and reductions in delinquency and administrative costs depend heavily on completion of the MIS. The implementation of the MIS, initially expected to require two years, was slow in starting and was later delayed when the BFA decided to terminate the initial technical assistance contractor for excessive cost overruns and poor performance. The October 1986 earthquake further delayed implementation of the MIS when the BFA had to move from its damaged facilities. Notwithstanding the many problems and delays, considerable progress was made in establishing a new and efficient automated system by the PACD. A.I.D. is continuing support for its completion using other sources of funding and believes the system can be completed satisfactorily in the near future.

A balance of nearly $4 million remains for the integral credit line. Disbursements for this activity were suspended during the last 12 months of the project pending satisfactory progress in improvement of the BFA's institutional capability.

Statement of Work

Working under the guidance of USAID/El Salvador's Rural Development Office, the contractor will prepare and present an evaluation report that will

- Provide a summary of the Agrarian Reform Credit Project's development since its inception in 1980 and A.I.D.'s contribution thereto. This section will include a detailed description of key commitments by the GOES to the program. Similarly, it will describe A.I.D.'s investment in Project No. 519-0263 including its various amendments. The last evaluation report, GOES documents, BFA records, A.I.D. project documents, and other secondary sources including interviewers, will serve as sources of information for this summary.

- Describe A.I.D. inputs including ESF transfers, P.L. 480 local currency generation and capital assistance to the BCR that are linked directly or indirectly to the agrarian reform credit effort.

- Quantify outputs achieved as of the PACD against output targets. The quantification will include the number and amount of loans granted, purpose of loans, number of farmers benefited directly or indirectly, and type of borrowers (reform sector cooperative, Decree 207 beneficiaries, or traditional small farmers).

- Evaluate the extent to which achievement of the purpose contributed to goal achievement. The indicators of goal achievement employed will include estimates of the value of production, amounts of employment generated, and income produced through activities financed with project funds. The number of direct and indirect beneficiaries of the project will also be estimated along with any other appropriate indicators of goal achievement.

- Evaluate the impact of the project on the improvement of the BFA's institutional capability to provide credit to the agrarian reform sector and other target clients. The contractor will specifically (1) analyze the BFA's assets and liabilities, including a thorough analysis of the overall loan portfolio to

determine this liquidity and the Bank's present financial condition and worth, including a separate analysis of the integral credit line; (2) assess the project's contribution to improvement of the BFA's management and administrative capability with emphasis on its effectiveness in controlling delinquency and administrative costs; and (3) evaluate progress towards improving recordkeeping and reporting capabilities through the installation of the new data management system. Critical observations should be made on the ability of the GOES, through the BFA, to respond in a timely and efficient manner to the agrarian reform beneficiaries' agricultural production and investment credit needs as well as the ability of A.I.D. to program project resources supportive to those efforts.

- Assess the adequacy of the assumptions (according to log frame) underlying the project design and determine the extent of impact of exogenous factors such as civil strife, agricultural prices, and devaluation on project accomplishments (actual implementation condition vs. assumptions).

- Include a summary with conclusions and specific recommendations as to how the project might have been improved (lessons learned). This summary will include recommendations to guide the Mission in the design and implementation of ongoing and future credit activities, specifically the Agrarian Reform Financing Project, as well as in defining the role of the BFA in such activities. The evaluation team will complete the abstract and detailed summary portion of the "A.I.D. Evaluation Summary." USAID/El Salvador will provide the team with appropriate forms.

Reporting Requirements

The contractor shall provide A.I.D. and the GOES with the following reports:

- Within 10 days from the day of arrival, the team shall submit for A.I.D. approval a detailed work plan and a working outline for the first draft report.

- The team shall provide A.I.D. with a list of places to perform field trips for approval, at least 48 hours in advance, before making the scheduled trip.

- At least six working days before leaving El Salvador, the chief of party shall give A.I.D. a copy of a draft report in both English and Spanish, which shall contain the same sections outlined and agreed upon at the beginning of the consultancy. This draft will be reviewed by A.I.D. and returned to the chief of party with corresponding comments and recommendations.

- The contractor shall incorporate the comments and recommendations suggested by A.I.D. into the final report. A final draft report will be delivered in English and Spanish to A.I.D. immediately before departure. This final draft report shall contain the same sections to be included in the final evaluation report as outlined below.

- Within three weeks after leaving the country, the contractor shall send to A.I.D. 10 copies of the final report, 5 in English and 5 in Spanish. The evaluation report shall include (1) an executive summary, including the purpose of the evaluation, methodology used, findings, conclusions, and recommendations. It shall also include comments on development impact and lessons learned. It should be complete enough so that the reader can understand the evaluation without having to read the entire document. The summary should be a self-contained document. (2) A copy of the scope of work under which the evaluation was carried out. The methodology used shall be explicitly outlined and each scope shall contain the requirement to assess how (and how successfully) the project or program being evaluated fits into the mission's overall strategy. Any deviation from the scope shall be explained. (3) A listing of the evaluation team, including host country personnel, their field of expertise, and the role they played on the team. (4) A clear presentation of the evaluation recommendations, in a separate section of the report if convenient, so that the reader can easily locate them. (5) A discussion of any previous evaluation reviewed with a brief description of conclusions and recommendations made in the earlier report. The evaluators shall discuss briefly what use was made

of the previous evaluation in their review of the project. (6) The project's lessons learned should be clearly presented. These should describe the casual relationship factors that proved critical to project success or failure, including necessary political, policy, economic, social, and bureaucratic preconditions within the host country and A.I.D. These should also include a discussion of the techniques or approaches which proved most effective or had to be changed and why. Lessons relating to applicability and sustainability will be discussed. (7) A paginated table of contents.

Methodology

The contractor shall work under the direct supervision of the USAID/El Salvador rural development officer. This study is to be carried out in El Salvador.

The team leader will initiate the evaluation with a one-day briefing visit to A.I.D./Washington, D.C., for interviews with A.I.D. officials to be designated by the mission.

Field work as may be necessary and preparation of a draft report and an exit conference will take place in El Salvador. Access to appropriate secondary data sources and contacts necessary to gather primary data and to interview GOES and BFA or BCR officials will be facilitated by A.I.D.

The contractor will certify that under the Executive Privilege Procedure of the USG, no copies of any documents prepared and/or obtained in the process of carrying out its work will be made available to any person(s) or institution(s) without the prior written consent of USAID/El Salvador.

Level of Effort

It is estimated that the performance of the tasks described above will require 136 work days. Eighty-four will be performed by two highly qualified consultants with experience in the field, and the balance of 52 will be performed by one or two locally hired junior professionals. Most of the activities will be carried out simultaneously. A six-day work week is authorized. Work time may vary for the consultants but total work time will not exceed five person-months. The level of effort figures were obtained from the actual buying agreement for this assignment.

Team Composition

- Senior Economist (Agricultural Credit Policy and Analysis). Services to commence on/or about January 4, 1989 and terminate on/or about March 15, 1989.

- Financial Analyst. This specialist should have experience in credit operations at the bank level. He/she should also be knowledgeable about Central America and have banking experience in LDC's. Services to commence on/or about January 4, 1989 and terminate on/or about March 15, 1989.

- Junior Credit Specialist. One or two researchers with training and experience in small farmer credit and banking will be hired locally by the contractor through individual contracts or subcontracts with a local firm. Sixty person-days of professional services are contemplated for these specialists. Their work will commence with A.I.D.'s acceptance of the contract team's detailed work plan with accompanying schedules.

Evaluation Team

The evaluation team provided by RRNA was composed of three members of the firm's staff and one Salvadoran consultant hired by the firm.

Gustavo Gómez, financial institutions and credit specialist, was the team leader and carried out the evaluation at the purpose level. The evaluation covered the impact of the project on the availability of credit and progress made in strengthening the Agricultural Development Bank. He also analyzed the bank's capabilities and limitations and the commercial bank's potential for lending to agriculture. These aspects were analyzed in the chapter on project constraints. In addition, he prepared the chapters on lessons learned and conclusions and recommendations.

Edgar Ariza-Niño, senior agricultural economist, analyzed the profitability of crop production and the effect of external factors on the project. He also documented the coordination arrangements between BFA, FINATA, and ISTA. In addition, he prepared a separate paper on the appendices on the following topics:

- Crop profitability and loan repayment prospects
- Incentives for non-payment
- Agricultural sector overview
- Turnover analysis of credit disbursements under the Agrarian Reform Credit project

Kimberly Katz, junior economist, carried out the evaluation of the end-of-project status at the goal level and prepared the introductory chapter of the report. She also backstopped the other two RRNA staff members on the consulting team. At the goal level, the following variables were analyzed: agricultural production, employment, and value added to the economy.

Jenaro Martinez, Salvadoran financial and institutional analyst, provided support to the team leader in the preparation of the financial and institutional aspects of the evaluation.

II. END-OF-PROJECT STATUS

Production, Employment, and Value Added

This chapter provides both quantitative and qualitative measures of the status of the project as of the end of 1988. First, the project is examined quantitatively at the level of the original project goal, which was increased agricultural production, employment, and income. Various estimates were necessary for quantifying even the financial benefits of the project, but the methodology used to derive these estimates will be spelled out fully.

After the agricultural sector is examined as such, the progress made in increasing the BFA's capability to provide credit to the agrarian reform beneficiaries and traditional small farmers is studied, using both quantitative and qualitative measures. The BFA receives the attention here, as it has been the main channel for USAID agricultural credit since the inception of the project.

Agricultural Crop Production Financed by the Project

In this section, we measure the increase in agricultural production which has taken place as a result of the Agrarian Reform Credit Project. The funding of this production was handled through the BFA integral line of credit, for which approximately U.S. $77.8 million and GOES $16.7 million were authorized.

It is assumed here that farmers requesting credit from the BFA under this project are doing so because they need the credit, and that without the credit, they would produce significantly less, possibly just enough to meet their subsistence needs. For the most part, this production would be without the advantages of improved seeds, fertilizers, or pesticides. For this reason, the increase in national agricultural production attributed to the Agrarian Reform Credit project here is based initially on no agricultural production by the farmers receiving credit. Another way of viewing this is to say that the BFA lends for all or approximately all of the farmers' production costs. We also analyze the increase in production resulting from the project, assuming other levels of production based on varying percentages of the production

costs which the USAID credit may have covered. It is impossible to measure accurately or even to estimate the exact amount of production which would have occurred in the absence of the project.

The BFA was able to provide some records on the amount of land financed, by crop, with funds from the USAID project for the period 1980-1988. Because of the form in which these data appeared, however, it was impossible to incorporate the data into this study. Further, the figures maintained by the BFA tend to overstate the amount of land actually financed with USAID project money because they do not take into consideration the amount of land which realistically could have been planted with the sum disbursed to farmers each year. Instead, they appear to provide a more reasonable estimate of the total amount of land worked or even the total amount of land owned by farmers using BFA credit. Because farmers frequently do not borrow from the BFA for all of their land holdings, the BFA figures are not appropriate for determining the actual amount of agricultural output which resulted from the project. Therefore, we make the following estimates of the amount of land financed using USAID project funds based on BFA statistics and various other assumptions thought to be reasonable.

With USAID project funds, production credit is provided to Phase I and Phase III agrarian reform beneficiaries and to traditional small farmers for the production of basic grains and export crops. The basic grains financed are corn, sorghum, beans, and rice; the export crops are coffee, cotton, and sugar cane. A small amount of the funding, less than 5 percent, is used for production of various fruits and vegetables. The BFA also issues credit for the production of livestock, but our initial discussion will be limited to crops. Livestock will be considered separately later in this section.

To estimate the number of manzanas of each crop which the BFA finances using USAID project money, it is useful to look at the overall BFA lending pattern. Records are available for the years 1980-88 which specify the total number of manzanas of each crop for which the BFA authorized credit. This information is also broken down by sector, or in effect, by beneficiary type. For the purpose of illustration, the 1987 information is provided in Table 2.1. During the preparation of this report, we did not have similar information on the amount of credit actually disbursed to farmers by the BFA.

In Table 2.1, the value of credit authorized for these crops, in colones. This, when correlated with the amount of credit authorized by the BFA using USAID project funds, gives an estimate of the percentage of BFA land financed which resulted from the Credit Project.

The BFA also publishes information on a yearly basis of the amount of credit authorized and disbursed from USAID project funds. This information can be seen in Table 2.2.

Table 2.1. BFA Credit Authorized in 1987 for Agricultural Crops
(Colones)

	Traditional Sector		Phase I Sector		Decree 207 Sector		Total	
	Number of Manzanas	Sum	Number of Manzanas	Sum	Number of Manzanas	Sum	Number of Manzanas	Sum
Basic Grains	135,273	107,195	12,710	17,445	30,857	23,857	178,840	148,497
Corn	87,773	76,922	6,467	8,500	17,679	15,958	111,919	101,380
Sorghum	20,606	6,888	2,178	1,656	5,670	1,698	28,454	10,242
Beans	21,898	14,591	1,888	2,064	6,184	3,573	29,970	20,228
Rice	4,996	8,794	2,177	5,225	1,324	2,628	8,497	16,647
Fruits and Vegetables	2,017	3,724	1,525	4,468	620	1,125	4,162	9,317
Fruits	367	614	537	1,433	46	170	950	2,217
Vegetables	1,650	3,110	988	3,035	574	955	3,212	7,100
Export Crops	15,986	47,917	21,882	38,378	2,044	2,660	39,912	88,955
Cotton	1,510	6,625	1,814	7,313	186	717	3,510	14,655
Sugar Cane	5,254	5,263	7,715	9,706	484	493	13,453	15,462
Coffee	9,222	36,029	12,353	21,359	1,374	1,450	22,949	58,838
Subtotal - crops	153,276	158,836	36,117	60,291	33,521	27,642	222,914	246,769
Livestock	29,506	46,863	14,967	17,515	2,316	2,650	46,789	67,028
TOTAL - crops + livestock	182,782	205,699	51,084	77,806	35,837	30,292	269,703	313,797

Source: BFA Memoria (Yearbook) 1987.

Table 2.2. BFA Execution of the USAID Project 519-0263 Integral Line of Credit Funds
(Colones)

	1980/81	1982	1983	1984	1985	1986	1987	1988 (b)	Total
Phase I Reform Sector									
Fresh USAID funds contracted (a)	30,649,964	27,849,839	39,519,017	49,915,635	21,026,720	56,728,449	13,894,420	54,358,567	293,942,611
Recycled USAID funds contracted	0	1,637,968	1,999,198	3,035,944	40,802,521	17,540,032	63,633,498	918,160	129,567,321
Total USAID funds contracted	30,649,964	29,487,807	41,518,215	52,951,579	61,829,241	74,268,481	77,527,918	55,276,727	423,509,932
Fresh USAID funds disbursed	26,707,506	20,951,485	30,218,796	39,390,460	16,360,791	42,772,210	10,373,211	25,489,475	212,263,934
Recycled USAID funds disbursed	0	846,324	1,953,861	2,066,768	31,260,360	13,453,147	39,514,125	392,710	89,487,295
Total USAID funds disbursed	26,707,506	21,797,809	32,172,657	41,457,228	47,621,151	56,225,357	49,887,336	25,882,185	301,751,229
Decree 207 (Phase III) Reform Sector									
Fresh USAID funds contracted (a)	0	3,255,043	9,187,178	19,495,279	11,623,965	202,263	11,487,848	22,107,907	77,359,483
Recycled USAID funds contracted	0	1,775,091	844,294	2,343,833	6,706,475	22,745,151	21,199,550	413,260	56,027,654
Total USAID funds contracted	0	5,030,134	10,031,472	21,839,112	18,330,440	22,947,414	32,687,398	22,521,167	133,387,137
Fresh USAID funds disbursed	0	2,111,352	6,619,581	15,152,208	8,965,594	180,835	8,451,153	13,463,546	54,944,269
Recycled USAID funds disbursed	0	1,367,991	752,414	1,710,533	5,598,053	16,649,025	14,419,717	93,429	40,591,162
Total USAID funds disbursed	0	3,479,343	7,371,995	16,862,741	14,563,647	16,829,860	22,870,870	13,556,975	95,535,431
Traditional Small Farm Sector									
Fresh USAID funds contracted (a)	49,215	47,462,739	67,088,930	5,567,559	12,732,940	857,665	5,187,447	2,418,698	141,365,193
Recycled USAID funds contracted	4,260	8,512,478	5,653,138	54,378,960	44,421,605	95,763,614	51,439,202	38,288,346	298,461,603
Total USAID funds contracted	53,475	55,975,217	72,742,068	59,946,519	57,154,545	96,621,279	56,626,649	40,707,044	439,826,796
Fresh USAID funds disbursed	29,148	35,376,630	51,271,443	3,433,363	10,343,282	187,578	5,152,992	1,195,237	106,989,673
Recycled USAID funds disbursed	3,580	7,353,998	5,252,307	41,652,959	35,231,986	72,971,442	38,240,170	25,247,634	225,954,076
Total USAID funds disbursed	32,728	42,730,628	56,523,750	45,086,322	45,575,268	73,159,020	43,393,162	26,442,871	332,943,749
Total - All USAID 519-0263 Sectors									
Total USAID funds contracted	30,703,439	90,493,158	124,291,755	134,737,210	137,314,226	193,837,174	166,841,965	118,504,938	996,723,865
Total USAID funds disbursed	26,740,234	68,007,780	96,068,402	103,406,291	107,760,066	146,214,237	116,151,368	65,882,031	730,230,409
Percent of USAID funds disbursed	87.1%	75.2%	77.3%	76.7%	78.5%	75.4%	69.6%	55.6%	73.3%

(*) The figures shown in this table represent the amount of credit provided by BFA directly to the farmers. They do not include the project funds channeled through the banca mixta. The total funds contracted and the total funds disbursed amount the C. 1,003,892,598 and C. 734,650,074, repectively taking into consideration the banca mixta.

(a) Includes all funds, US and GOES, provided to the BFA through AID-519-0263

(b) January through September 1988

Source: BFA Unidad de Administracion de Operaciones

The percentage of total BFA funds authorized which use USAID project money each year can be determined by dividing the USAID authorization amount, by year, by the total BFA authorization amount for these crops. From this information, we can also obtain the percentage of USAID authorized funds which were actually disbursed in each year.

Finally, all of this information can be combined. To determine the amount of land financed with BFA funds, a few assumptions are necessary. First, it is assumed that the structure of BFA lending with USAID funds (by crop, by sector) has been the same as that for the BFA as a whole. Thus, if 30 percent of the BFA's authorized lending to traditional small farmers (in manzanas) is for corn, then it is assumed that 30 percent of the USAID project authorizations to traditional small farmers are also for corn. Further, the percentage of total crop and livestock lending which is used for crops is assumed to be the same for the USAID funds as it is for overall BFA lending.

It is also assumed that a reasonable estimate for the number of manzanas actually financed by the USAID project can be derived by looking at the percentage of authorized USAID funds which are actually disbursed. This is a good measure of the percentage of land for which USAID project funds were authorized that was actually financed. In effect, if USAID funds were authorized for 10 manzanas of beans, but only 75 percent of the authorized funds were disbursed, it is assumed that the USAID project money only financed 7.5 manzanas of beans.

Combining the BFA data with the assumptions spelled out above, as shown in Table 2.3, the estimated total number of manzanas of basic grains which the project has financed is 498,868. In addition, some 156,742 manzanas of export crops and 14,894 of fruits and vegetables were funded.

(At this point, because of the variety of crops in the "fruits and vegetables" category, we will discontinue our analysis of fruits and vegetables. Again, as these crops make up less than 5 percent of the crop land for which farmers receive USAID project funding, the impact of leaving them out of our calculations is relatively insignificant.)

To place a financial value on this production, we will combine the land, by crop, to obtain a total number of manzanas of each crop which were financed with USAID project funds. Next, a measure of average yield per manzana for each crop, average price for which each crop is sold each year, and average production cost per unit each year are necessary. The average yield figure selected for the purpose of this analysis is the national average yield. This figure is actually a bit low, as the Phase I cooperatives have consistently had higher yields than the general farming population because of more advanced machinery, and the BFA lends to most of the Phase I

Table 2.3. Estimated Number of Manzanas Financed by the USAID Credit Project, by Crop, 1980-1988
(manzanas)

	1980/81			1982			1983			1984		
	Phase I	Phase III	Tradit	Phase I	Phase III	Tradit	Phase I	Phase III	Tradit	Phase I	Phase III	Tradit
Basic Grains												
Corn	5,913	0	29	4,326	4,517	33,699	3,033	8,231	40,601	3,696	18,779	31,046
Sorghum	1,110	0	13	755	1,650	8,855	830	2,293	10,078	930	5,571	7,138
Beans	851	0	7	2,027	1,769	8,411	516	2,426	7,225	720	5,023	6,201
Rice	1,382	0	3	1,613	148	3,294	2,273	779	4,071	2,433	1,920	2,910
Total	9,256	0	51	8,721	8,084	54,259	6,653	13,729	61,975	7,778	31,293	47,295
Fruits and Vegetables												
Fruits	259	0	0	65	0	38	196	1	114	273	52	82
Vegetables	85	0	1	516	65	669	779	304	974	815	770	508
Total	345	0	1	581	65	708	975	305	1,087	1,088	822	590
Export Crops												
Cotton	1,476	0	2	3,298	0	3,282	4,593	270	3,251	5,197	549	3,015
Sugar Cane	4,490	0	2	3,444	64	2,734	4,413	159	3,146	5,470	259	2,943
Coffee	6,575	0	1	2,066	224	2,158	3,239	208	3,021	5,751	1,892	2,227
Total	12,540	0	6	8,807	289	8,173	12,245	636	9,418	16,418	2,701	8,185

Table 2.3, continued

	1985			1986			1987			1988 (a)		
	Phase I	Phase III	Tradit	Phase I	Phase III	Tradit	Phase I	Phase III	Tradit	Phase I	Phase III	Tradit
Basic Grains												
Corn	4,285	14,486	34,132	5,407	9,947	28,819	4,146	13,348	18,516	1,962	6,758	10,938
Sorghum	1,015	3,766	7,090	1,248	2,450	6,281	1,396	4,281	4,347	611	2,334	2,554
Beans	903	4,467	7,572	1,139	3,501	7,477	1,211	4,669	4,619	458	2,734	3,044
Rice	2,484	1,548	3,259	1,967	699	1,970	1,396	1,000	1,054	863	802	820
Total	8,687	24,266	52,053	9,761	16,597	44,547	8,149	23,297	28,536	3,894	12,628	17,356
Fruits and Vegetables												
Fruits	206	12	59	135	20	73	633	35	77	162	15	68
Vegetables	973	552	717	715	332	728	978	433	348	331	417	310
Total	1,179	564	775	851	352	801	1,611	468	425	493	432	378
Export Crops												
Cotton	4,016	270	1,169	1,286	106	550	1,163	140	319	740	61	244
Sugar Cane	5,276	286	2,359	5,545	312	2,032	4,947	365	1,108	2,612	200	694
Coffee	7,738	713	993	9,448	575	4,931	7,920	1,037	2,116	4,056	995	1,003
Total	17,030	1,269	4,520	16,278	992	7,512	14,030	1,543	3,543	7,408	1,256	1,942

Table 2.3, continued

	Total			
	Phase I	Phase III	Tradit	Total
Basic Grains				
Corn	32,768	76,067	197,780	306,615
Sorghum	7,897	22,344	46,355	76,596
Beans	7,825	24,588	44,556	76,969
Rice	14,410	6,896	17,381	38,688
Total	62,900	129,895	306,073	498,868
Fruits and Vegetables				
Fruits	1,930	135	511	2,575
Vegetables	5,192	2,873	4,254	12,319
Total	7,122	3,008	4,765	14,894
Export Crops				
Cotton	21,770	1,396	11,832	34,998
Sugar Cane	36,195	1,646	15,018	52,859
Coffee	46,792	5,644	16,449	68,885
Total	104,757	8,686	43,299	156,742

cooperatives. Thus, the average yield for BFA credit beneficiaries will be slightly higher. In this analysis, however, the difference will be almost insignificant. Table 2.4 provides the yield information.

Prices for the seven crops, in current prices, can be found in Table 2.5. These are average prices received by farmers in the various years.

The information on the number of manzanas financed, yields, and prices, is combined in Table 2.6 to derive an estimate of the total value of the crop production which occurred on the land financed with USAID funds. Over the period 1980-88, the USAID project essentially produced up to 1.46 billion colones worth of basic grains and export crops. This is equivalent to 730 million colones at 1980 prices or 2,855 million colones at 1988 prices.

Finally, to calculate the profit received by the farmer per manzana, and thus of the profit resulting from the USAID project funds, the cost of production for the various crops was considered. The BFA publishes a manual of production costs each year which they then use in determining the maximum amount they will lend to a farmer for each manzana of land he has (by crop). Unfortunately, production figures for the full project period were only available for the basic grains, and only the complete 1988/89 crop year manual was available. Therefore, all cost-of-production figures for export crops for the years 1980-88 are based on the 1988/89 figures and are deflated by the general CPI for El Salvador.

The costs of production developed in the BFA manual are often higher than those which the farmers using USAID project funding actually incur, especially for the production for basic grains. This is in part because farmers do not make financial disbursements to themselves and their families for their labor. Also, because most of these farmers, excluding the Phase I cooperatives, are very small farmers, it is unlikely that they make use of all of the technology and inputs outlined in the BFA budgets. (This will be discussed in more detail in Chapter III.) As a result, profits will tend to be lower and losses higher than is realistically the case for the production of basic grains; this will become evident below.

Based on the figures above, we can estimate that the profit to the farmers generated by the project in terms of agricultural production has been approximately 532 million colones before interest expense. The equation which brings about this result (see Table 2.7) is the following:

> (Estimated number of manzanas financed with USAID project funds) * [(Average yield per manzana) * (Average price per quintal received by farmers) - (Cost of production per manzana)]

The amount of profits was 258 million colones at 1980 prices and 1,010 million colones at 1988 prices. The farmers' profits before interest expense represented 35 percent of the value of production.

Table 2.4. Agricultural Performance Measured as Yield by Crop, 1980-1988
(quintales/manzana)

	1980	1981	1982	1983	1984	1985	1986	1987	1988
National Average									
Corn	27.50	27.50	26.40	27.90	33.00	29.70	25.80	31.60	32.17
Sorghum	17.80	17.90	15.90	14.50	18.40	17.60	18.70	3.20	19.13
Beans	11.60	11.70	10.50	11.40	12.80	9.00	12.60	5.90	12.90
Rice	55.00	55.00	48.10	52.20	62.90	60.60	59.30	54.80	63.20
Coffee	14.69	14.81	16.37	14.13	14.67	14.13	12.77	12.13	7.20
Cotton	30.60	32.90	34.00	32.00	32.60	30.80	35.10	29.00	35.11
Sugar Cane	52.19	54.29	60.24	63.65	61.79	64.04	53.28	50.38	n.a.

Source: Banco Central de Reserva

Table 2.5. Agricultural Producer Prices, 1980-1988 (a)
(colones/quintal)

	1980	1981	1982	1983	1984	1985	1986	1987	1988
Corn	17.41	18.49	21.35	26.33	25.00	23.46	36.50	40.33	48.19
Sorghum	19.66	21.39	21.58	26.50	21.00	22.71	30.00	38.30	45.77
Beans	73.36	88.97	74.10	60.35	63.70	78.16	100.00	103.92	124.18
Rice	30.16	31.64	33.00	36.45	33.00	33.50	24.80	31.00	37.04
Coffee	384.86	292.29	289.84	301.11	341.93	410.99	891.59	1114.49	1331.80
Cotton	191.51	198.37	168.59	198.16	220.28	301.44	241.20	328.39	392.42
Sugar Cane	40.39	46.16	49.21	50.01	50.00	50.00	52.00	65.00	77.67

(a) 1987 prices for rice, coffee and sugar cane are estimates based on 1986 prices and CPI figures for the relevant years. All 1988 prices are based on 1987 prices and CPI figures.

Source: Banco Central de Reserva

Table 2.6. Estimated Value of Agricultural Production
Resulting from the USAID Agrarian Reform Credit Project, 1980-1988
(colones)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	Total
Corn	1,422,441	1,510,679	23,978,373	38,100,392	44,171,325	36,860,800	41,597,714	45,892,152	31,315,882	264,849,758
Sorghum	196,496	214,988	3,863,554	5,072,484	5,270,110	4,744,791	5,598,219	1,228,541	842,447	27,031,630
Beans	365,069	446,567	9,497,656	6,994,794	9,738,660	9,103,920	15,267,420	6,116,980	4,541,562	62,072,629
Rice	1,148,719	1,205,089	8,023,802	13,552,861	15,075,809	14,801,459	6,817,887	5,602,919	5,044,657	71,273,201
Coffee	18,583,953	14,235,065	21,099,183	27,525,141	49,515,786	54,855,679	170,233,661	143,116,628	97,808,641	596,973,737
Cotton	4,330,692	4,822,990	37,716,955	51,451,848	62,913,862	73,541,352	16,441,205	15,446,809	12,439,824	279,105,537
Sugar Cane	4,734,011	5,628,017	18,504,464	24,567,833	26,791,710	25,361,458	21,858,589	20,097,911	13,719,485	161,263,479
TOTAL	30,781,381	28,063,395	122,683,987	167,265,353	213,477,262	219,269,460	277,814,695	237,501,940	165,712,497	1,462,569,970

Source: Tables 2.1 - 2.6.

Table 2.7. Estimated Profit from Agricultural Production
Resulting from the USAID Agrarian Reform Credit Project, 1980-1988
(colones)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	Total
Corn	(1,545,678)	(1,692,712)	(21,323,752)	(13,542,107)	(20,135,164)	(26,282,634)	(33,581,640)	(15,510,299)	(3,714,674)	(137,328,660)
Sorghum	(118,657)	(352,655)	(7,417,052)	(8,357,025)	(8,469,001)	(8,033,865)	(9,395,229)	(11,488,241)	(7,494,037)	(61,125,763)
Beans	(108,513)	(67,439)	(5,128,161)	(5,062,149)	(478,716)	(2,332,925)	(304,743)	(6,331,159)	(4,001,758)	(23,815,563)
Rice	133,472	103,730	164,793	3,496,681	4,898,894	3,899,518	(5,342,851)	(2,730,384)	(2,149,418)	2,474,435
Coffee	16,991,636	12,406,910	18,336,481	22,980,287	41,768,113	45,788,955	151,282,537	125,575,686	86,348,419	521,479,023
Cotton	3,546,297	3,922,417	28,759,430	38,955,654	47,840,830	56,873,976	11,047,097	9,815,216	8,104,119	208,865,036
Sugar Cane	1,857,046	2,324,944	8,249,833	10,223,457	8,786,410	5,247,322	(4,585,374)	(6,801,924)	(3,835,057)	21,466,658
TOTAL	20,755,603	16,645,194	21,641,572	48,694,797	74,211,367	75,160,348	109,119,798	92,528,894	73,257,593	532,015,167

Source: Tables 2.1 - 2.5 and BFA Cost of Production Figures.

It is evident that the majority of the financial profit derived from the agricultural crop sector is from export crops. Three of the four basic grains actually registered net losses. These losses are likely to be somewhat exaggerated, for reasons which will be discussed in Chapter III. For all of these crops, however, it is important to note that the cost-of-production figures do include a value for the labor input, while most of the farmers who benefit from the USAID project, with the exception of the Phase I cooperative farmers, do not pay for their own labor and that of their family. Further, the amount of labor they contract is relatively small. Thus, the employment figures derived in the next section are estimates of the figure which should be added back into the cost of production to obtain the full benefit to the agricultural sector.

Again, it is not possible to determine exactly what percentage of this production is directly attributable to the credit project because it is impossible to calculate the production which would have occurred in the absence of the project. We can instead determine a possible range into which the production resulting from the project will fall. In Table 2.8, we provide estimates of the amount of production which can be attributed to the project based on a number of different assumptions. We consider a reasonable range to begin with the assumption that no agricultural production would have taken place on the manzanas of land "financed by the project" without the project and end with the assumption that 50 percent of the agricultural production which occurred on the land would still have occurred without the project. This is essentially saying that the BFA finances, with USAID funds, between 50 and 100 percent of the total costs of production incurred by the farmer. It is most likely that production would have been around 25 percent of its current value, because on average, the BFA lends some 75 percent of the total costs of production (excluding those for labor) to agrarian reform and traditional small farmers. Because of increasing returns to scale, this figure could possibly be reduced further to 20 percent, but 25 percent should be considered reasonable.

Employment Generated on Crop Land by the Project

Once again, the problem of how to estimate the situation in the absence of the credit project arises. There is no real way to determine the level of employment which would have taken place on the BFA-financed land without the project. Therefore, we can only estimate the level of employment which was needed to cultivate the number of manzanas financed by the project.

It is reasonable to assume that the amount of labor input required to cultivate a manzana of any particular crop has not changed significantly

Table 2.8. Value of Production and Profit Levels Obtained from the USAID Credit Project, by Various Assumed Percents of Total Costs Financed (thousands of colones)

Percent of Total Costs Incurred by Farmer Financed by Project	Total Value of Production which could be attributed to project	Total Level of Profit which could be attributed to project
20	5,307	1,931
30	26,537	9,653
40	88,456	32,176
50	221,141	80,441
60	442,281	160,881
70	737,135	268,136
80	1,053,050	383,051
90	1,316,313	478,814
100	1,462,570	532,015

between 1980 and 1988. For basic grains — corn, sorghum, beans and rice — the Ministry of Agriculture estimates an average of 49 person-days per manzana per year.[1] Multiplying this by the total number of manzanas financed for basic grains production between 1980 and 1988 (498,868 manzanas), we can estimate the total number of person-days needed to cultivate USAID-financed land to be a little less than 24.5 million person-days. Using the government-mandated minimum wage for agricultural employees in 1988 of 14.27 colones per day and adjusting it by the CPI to obtain a reasonable estimate of the wages paid in 1980-1987 equates to income of approximately 186.6 million colones.

A similar calculation can be made for employment generated by the financing of the export crops. BFA statistics show that an estimated 81 person-days per year are needed to cultivate one manzana of cotton. Coffee production requires 109 person-days and sugar cane, 86. Multiplying these requirements by the number of manzanas financed for each of these crops, we obtain an additional 16.1 million person-days of employment generated. This equates to approximately 65.7 million colones of employment, again at the minimum agricultural wage. The amount of salaries paid by basic grain and export crop production activities is equivalent to 580 million colones at 1988 prices.

As a result, we can say that even though some of the crops financed by the project are not financially profitable, the impact of the project on employment has been significant. The implications of a reduction in employment by more than 40 million person-days in a country with an already high unemployment rate would be severe.

Total Value Added to the Economy from Crop Production

To obtain an estimate of the value added to the economy as a result of the USAID project, we can add the total profits obtained by farmers from agricultural production financed by the project, the value of agricultural employment generated as a result of the project, and interest paid by farmers to the bank. The results of doing this are shown in Table 2.9. We derive a total value-added benefit to the economy of 1.7 billion colones over the project period. This assumes that all interest owed to the bank is paid at a rate of 13 percent for an average loan period of 9 months.

This figure of 1.7 billion colones may be slightly low because the losses which appear in the production of basic grains (see Table 2.6) are probably overstated. However, according to this estimate, the USAID project financed

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1. This figure was actually provided by the BFA in the "Estadisticas de Servicio" published in 1987, but the figure orginally comes from the Ministry of Agriculture.

Table 2.9. Estimated Total Financial Benefit Derived from the USAID Agrarian Reform Credit Project, 1980-1988
(thousands of colones)

	1980	1981	1982	1983	1984	1985	1986	1987	1988 (a)	Total
Basic Grains										
Profit	(1,639)	(2,009)	(33,704)	(23,465)	(24,184)	(32,750)	(48,624)	(36,060)	(17,360)	(219,796)
Employment	832	956	16,304	21,376	25,042	30,145	33,191	35,098	23,689	186,632
Total	(807)	(1,053)	(17,400)	(2,089)	858	(2,605)	(15,433)	(962)	6,329	(33,164)
Export Crops										
Profit	87,539	63,511	168,681	194,399	237,285	212,774	235,628	153,662	90,617	1,444,097
Employment	1,373	1,576	2,621	4,225	6,970	8,019	16,131	14,985	9,803	65,703
Total	88,912	65,087	171,302	198,624	244,255	220,794	251,759	168,647	100,420	1,509,800
Interest	10,191	22,575	28,547	27,161	25,337	28,109	16,916	7,676	71,197	237,711
TOTAL	98,297	86,609	182,449	223,696	270,450	246,298	253,242	175,361	177,946	1,714,347

(a) First nine months of 1988.

approximately 10 percent of the total value added to the economy by agricultural production, as published annually by the Central Bank. Even if an adjustment were made for the losses in the basic grains group as discussed earlier, it is unlikely that this percentage would change significantly.

Livestock Production Resulting from USAID Funds

As discussed in the previous section, USAID funds were also used for livestock. In this case, the majority of the funds were lent for beef production, rather than for dairy production. These funds are used to purchase and feed cattle for fattening. Thus, our discussion will assume that all USAID funds which are lent for livestock are for these purposes.

Over the project life, we can estimate that some 124.8 million colones of the USAID funds were lent for livestock production. Based on the tentative budget outlined below for the purchase and fattening of steer, we can assume that the necessary loan is approximately 1,200 colones per head and thus, that 104,000 head of livestock were financed during the project period. Because of the lack of accurate information for the years 1980-86, we will use 1987 figures only for the purpose of this discussion. This will provide an estimate of the benefits derived from the credit project for livestock production only. What is considered to be reasonable since more of the project funds lent for livestock were lent in the later years of the project.

We assume that farmers purchase steers at the end of the growing season and keep them for a period of five months. Further, we assume the animals are fed a grain-based ration supplemented with grazing in the dry season pastures. Sorghum is the main component of the ration.

Further, we assume that farmers purchase steers weighing an average of 500 pounds and sell them five months later weighing 650 pounds. The gain of 150 pounds during the 150 days is equivalent to 450 grams per day, which is a reasonable rate for adult cattle under grazing conditions with a nutritional supplement.

Prices of slaughter cattle on the hoof averaged 2.30 colones per pound in 1987 (MAG Agricultural Statistical Yearbook). We can assume that farmers pay 10 percent below this price, or 2.07 colones per pound. Thus, the average price for one 500-pound steer is 1,035 colones, and the selling price for the same steer at 650 pounds five months later is 1,495 colones. The gross revenue per head is therefore 460 colones. Part of this revenue must pay for feeding and other expenses.

Feed expenses are computed here assuming that four pounds of grain are necessary to produce a gain of one pound of bodyweight. This is considered an approximate rate for ruminants growing at one pound per day at this age. The price of sorghum in 1987 averaged 38 colones per quintal, and we will thus use the figure of .38 colones per pound as the price of feed for steers. As a result, we can say that farmers spent 228 colones for feed to produce 150 pounds of weight gain.

Other costs in a cattle feeding budget include interest on capital, labor, management, veterinary care, and transport, which contribute some 25 percent of the total costs of beef producing. We therefore estimate that costs per head total 304 colones. As stated earlier, gross revenue per head is 460 colones. Thus, net revenue to the farmer is 156 colones per head. Using our estimate of 104,000 head of steer financed with USAID financing, we can therefore deduce that the credit produced profits from beef production of 16.2 million colones (in 1987 terms) over the project life.

Again, because most of the money lent for livestock was lent in the final years of the project, this can be considered a reasonable estimate. Further, although 1,200 colones probably could have financed more than one steer in the earlier years, the profitability of beef production in these years was also lower because of steady beef prices and declining sorghum prices; as a result, total profits will be balanced out.

Finally, while some labor is involved in the production of beef, it is generally a small amount. Thus, the employment generated by the livestock activities is also relatively small. It is difficult to quantify because of large variances in the amount of labor used in different sectors, especially on a per head basis, so we do not attempt to assign a figure to employment generated.

Increased Availability of Credit

The credit project significantly increased the availability of credit to the project's target groups, the agrarian reform sector and traditional small farmers. The aggregate amount of credit disbursed since the inception of the project, however, is much lower than the stream of credit which could have resulted from the initial funds.

The combined amount of money invested by USAID and the GOES in the project's credit component is much larger than the overall budget originally earmarked for it. The BFA's records show that the cumulative amount of subloans financed with project fresh funding to the BFA's retail credit clients is 374 million colones. The project has obtained only 250 million colones from the original project budget, however, of which 3.6 million colones were channelled through the nationalized banks.

The difference between these figures represents funding provided by the BFA in addition to the amount of counterpart funding required by the project contract. The BFA's shortfalls in classifying certain transactions gave rise to this situation. The following observations illustrate this situation.

- USAID disallowed a number of reimbursement claims for subloans provided by the BFA. However, the BFA did not remove these transactions from their records of loans financed by Project 0263. The result was an unintended increase in the project budget and portfolio.

- The BFA refinanced project subloans with fresh funding provided by the Central Bank. New subloans financed by the BFA with this source of funds were classified as being under Project 0263, while refinanced loans were reclassified as non-0263 loans. The net result was an increase in the project budget with no impact on the project's actual portfolio.

It is appropriate here to evaluate the project on the basis of funding actually used rather than on funding disbursed from the project budget, because all of the subloans were provided to the project's intended beneficiaries. Further, it would be extremely difficult or impossible to disaggregate the subloans disbursed each year according to the original source of funds.

The total amount of credit provided by the project between 1980 and September 1988 is significantly lower than the credit disbursement stream which could have been generated from the 374 million colones in fresh funding. The aggregate amount of credit disbursed during the period was only 730 million colones, while the theoretical disbursement at 100 percent efficiency is 1,557 million colones (see Table 2.10). The actual turnover of the 374 million colones was only 1.95, compared with a theoretical turnover of 4.2 at 100 percent efficiency. Essentially, under conditions of 100 percent efficiency, the funds would have been fully invested at all times, and no subloans would have fallen into arrears. Even if total credit disbursements represented only 90 percent of the theoretical amount of funds available each year, 1,178 million colones could have been provided. Analyzing this situation from a different perspective, we can say that the amount of fresh funding required to provide 730 million colones in credit at 90 percent efficiency would have been only 232 million colones instead of 374 million. The turnover ratio to achieve this lending volume would have been 3.15 at 90 percent efficiency.

Table 2.10

Disbursements from Integrated Agricultural Credit Line. 1980-1988

(Thousands)

Year	81	82	83	84	85	86	87	88	TOTALS
FRESH FUNDS									
Reform, Phase I	26,707.5	20,951.5	30,218.8	39,390.5	16,360.8	42,772.2	10,373.2	25,489.4	212,263.9
Reform, Phase III	0.0	2,111.3	6,619.6	15,152.2	8,965.6	180.9	8,451.1	13,463.6	54,944.3
Traditional Sector	29.2	35,376.7	51,271.4	3,433.3	10,343.3	187.6	5,153.0	1,195.2	106,989.7
Subtotal	26,736.7	58,439.5	88,109.8	57,976.0	35,669.7	43,140.7	23,977.3	40,148.2	374,197.9
REFLOW FUNDS									
Reform, Phase I	0.0	846.3	1,953.9	2,066.7	31,260.3	13,453.1	39,514.1	392.7	89,487.1
Reform, Phase III	0.0	1,368.0	752.4	1,710.6	5,598.0	16,649.0	14,419.7	93.4	40,591.1
Traditional Sector	0.0	7,354.0	5,252.3	41,652.9	35,232.0	72,971.4	38,240.1	25,247.6	225,950.3
Subotal	0.0	9,568.3	7,958.6	45,430.2	72,090.3	103,073.5	92,173.9	25,733.7	356,028.5
TOTAL ALL SOURCES	26,736.7	68,007.8	96,068.4	103,406.2	107,760.0	146,214.2	116,151.2	65,881.9	730,226.4
Cumulative New Funds	26,736.7	85,176.2	173,286.0	231,262.0	266,931.7	310,072.4	334,049.7	374,197.9	
Cumul Credit Granted	26,736.7	94,744.5	190,812.9	294,219.1	401,979.1	548,193.3	664,344.5	730,226.4	
Actual Turnover Ratio	1.00	1.11	1.10	1.27	1.51	1.77	1.99	1.95	
Annual Potential Credit (90% Prodn & 10% Invest)	26,736.7	82,502.5	163,030.5	207,434.4	229,167.4	261,384.0	276,276.3	310,322.2	
Cumul. Potential Credit	26,736.7	109,239.2	272,269.7	479,704.2	708,871.6	970,255.6	1,246,531.8	1,556,854.1	
Potential Turnover Ratio	1.0	1.3	1.6	2.1	2.7	3.1	3.7	4.2	
Performance Rates									
Annual, Pct of potential	100.0	82.4	58.9	49.9	47.0	55.9	42.0	21.2	
Cumula, Pct of potential	100.0	86.7	70.1	61.3	56.7	56.5	53.3	46.9	

Source: BFA. "Linea Integral de Credito AID-519-0263.
Situation al 30 de Septiembre de 1988"

The low turnover rate of the 374 million colones provided for credit disbursement is due to a combination of the following factors:

- Arrears have represented a high percentage of the portfolio throughout the life of the project. Loans with their total balance in arrears as of the end of September 1988 represented 82 million colones, or 40 percent of the project portfolio of 206 million colones.
- The full amount of portfolio reflows have not been continuously invested.
- The bank's cash flow situation (operating losses) has forced the bank to withdraw funds from the project in order to finance the operating deficits.

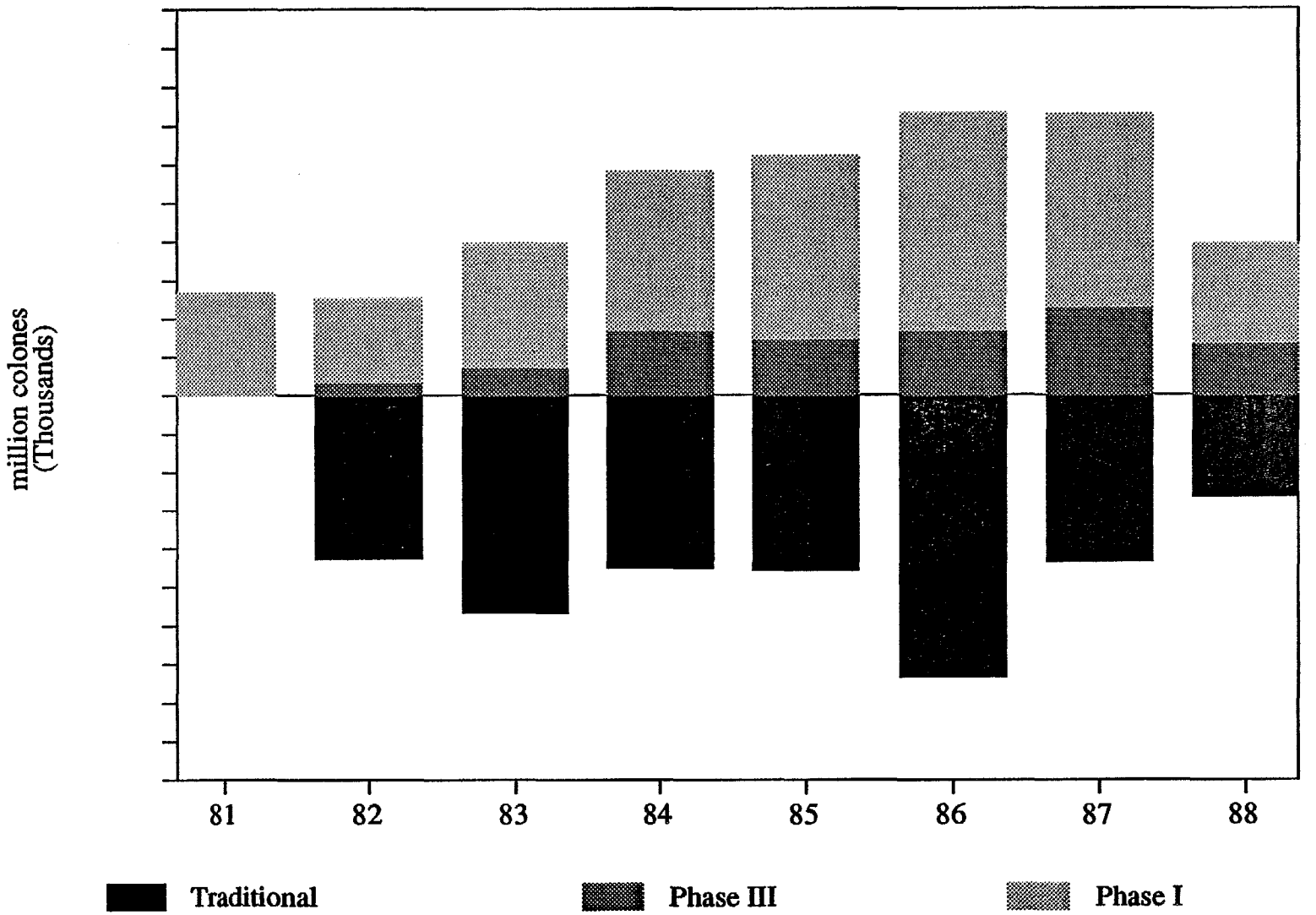
The project fund has decapitalized. As of September 30, 1988, the project portfolio balance was only 206 million colones, or 202.4 million colones excluding the portfolio of the nationalized banks. This is 171.6 million colones lower than the original funding of 374 million colones. The BFA indicated that it held in cash 44 million colones of the project credit fund. The amount reportedly held in cash plus the portfolio of 206 million colones is equal to 250 million colones, which is the sum disbursed by the project from the budget established in the project agreement.

The project has made a significant contribution to the BFA's efforts to supply credit to the agrarian reform sector and traditional sector. We estimate that the project's credit disbursements of 730 million colones represented more than 50 percent of the total amount of credit disbursed by the bank to these sectors between 1980 and 1988. The project portfolio represented approximately 30 percent of the bank's overall credit portfolio for these sectors as of September 30, 1988. The project's share of this overall portfolio is high despite some of the loans in the bank's portfolio being provided before the project began.

The amount of credit disbursed annually to project beneficiaries increased steadily between 1980 and 1986. In 1986, it reached 146 million colones. It then decreased in 1987 to 116 million colones and to only 65 million colones as of September 30, 1988. This is illustrated more clearly in Figure 2.1.

BFA officers point out that there has been a significant decrease in credit demand as a result of the droughts which occurred in 1986 and 1987. They indicated that risk-averse farmers do not want to increase their financial exposure while they are in arrears for loans contracted during these years. The project's overall credit supply in general appears to have been adequate with respect to the credit demand, taking into consideration the

Figure 2.1: PROJECT CREDIT DISBURSEMENTS BY SECTOR



funding supplied by the BFA in addition to the project budget. However, we were informed that the project suffered from temporary liquidity constraints every once in a while. Lately, the bank has been approving between 98 and 99 percent of the credit applications submitted by the target group, and, throughout the project life, has generally approved new loans even to clients with previous loans in arrears.

It was wise to include the traditional farmers in this agrarian reform project. They represent a significant portion of the overall credit demand. As seen in Table 2.11 this sector obtained 219,000 project loans out of a total of 275,009 during the project life and obtained 46 percent of the total amount of credit disbursed.

Table 2.11 Credit Disbursed, January 1, 1980-September 30, 1988

(Millions of colones)

	Credit disbursements[a]		
	Number	Amount	Percent
Phase I	5,442	301	41
Phase III	50,407	96	13
Traditional	219,160	333	46
Total	275,009	730	100

a. Data from the BFA

The amount of credit disbursed for investment in fixed assets, shown in Table 2.12, represented only 11 percent of the total disbursements of 730 million colones. The Phase I cooperatives used 53 percent of the credit provided for this investment. It is important to take into consideration the historical breakdown of the credit demand in planning of new credit programs for these sectors.

As was seen earlier in this chapter, the BFA financed basic grains production heavily. It is likely that the project benefits could be improved significantly if farmers could be encouraged to diversify their farm production gradually, thereby reducing their dependence on basic grains. Again, it appears that basic grain production is not highly profitable.

Table 2.12 Credit Disbursed and Crop Area Financed, Beginning of Project-September 30, 1988

(Million of colones)

	Total	Investment	Percent of total credit	Percent of investment credit
Phase I	301	42	16	53
Phase III	96	9	10	11
Traditional	333	28	9	36
Total	730	79	11	100

The total amount of production credit was 651 million colones.

The diversification of farm production would probably increase the credit demand for fixed investment. However, farmers would require support services in addition to credit to succeed in any diversification effort.

Progress Made in Strengthening the BFA

Since the inception of the credit project in 1980, many significant changes have taken place at the BFA, and much progress has been made in the institutional development aspects addressed in the project design. The implementation of the integral line of credit has forced the bank to institute a major strengthening program over the last few years. Computerization has been the key factor in the progress in enhancing the information systems for financial management and loan portfolio administration. However, many refinements still need to be made in the systems and in the institutionalization of the systems. Also, the bank should update its organization manual and operating procedures in order to take advantage of the efficiency improvements that it can obtain by using the computerized information system more actively.

The innovations introduced in the credit mechanism have improved the credit service for the beneficiaries because they are now able to obtain credit disbursements in a timely fashion. However, portfolio recuperation is still very weak.

The expenditures incurred in the institutional development effort have totalled 37.5 million colones, of which 13.5 million colones was used for technical assistance and 1.9 million colones for training. The rest of the

funding, or 22.1 million colones, was used to purchase vehicles and equipment and other institutional development support. The overall cost appears to be high when compared with the achievements attained. The high cost and slow pace of improvement are due in part to the difficult environment of El Salvador and possibly to the high turnover of the BFA's department heads.

Table 2.13 presented below details the expenditures made by USAID and the GOES for institutional strengthening of the BFA.

Table 2.13 Expenditures in Institutional Development Inputs

	Colones	U.S. dollars
Technical Assistance	13,535,885	3,721,000
Institutional Support	6,562,500	2,625,000
Training	1,953,000	400,000
Vehicles and Equipment	15,010,705	4,081,036
Other	422,000	145,000
Total	37,484,085	10,972,000

Note: the exchange rate changed in 1986 from US$1:2.50 colones to US$1:5.0 colones.

The project design outputs specified in the original logical frameworks have been broken down into six areas: credit, finance, organization and staffing, training, information systems, and inter-institutional coordination. The expected end-of-project situation of each of these outputs is presented in Table 2.14. As can be observed, most of the indicators are qualitative.

Table 2.14 Institutional Strengthening Outputs Indicated in Project Design

Outputs	End of project status	Year in which plan was prepared
Credit		
Revised credit mechanism for Phase I and Phase III beneficiaries	Begins with establishment of Special Line in June 1980; continuous thereafter	1980
Finance		
Improved financial situation	Liquidity higher than 4.0 Quick ratio higher than 1.0 Working capital higher than 90 million colones Loan recuperation higher than 80 percent	1984
Development and implementation of a financial policy	Loan recuperation problems researched; write-off and recuperation policy developed and procedures implemented	1983

(continued)

Table 2.14. Continued

Outputs	End of project status	Year in which plan was prepared
Organization and Staffing		
Strengthening field operation and credit management, including expansion of credit outreach program	Personnel policies and procedures developed and implemented	1983
	Increased number of BFA personnel assigned to credit operations	
	New field personnel hired	1984
Management structure reorganization	Reorganization completed by September 1983	1983
Training		
Expansion of BFA internal training program	Number of graduates of BFA training will increase by 20 percent during 1983	1983
	New training plan finalized, with 50 percent in number of BFA personnel trained	1984

(continued)

Table 2.14 Continued

Outputs	End of project status	Year in which plan was prepared
Information System		
Improved financial records management and reporting capability	Computerized financial reporting system implemented; timely and accurate reports on financial operations produced for BFA management	1983
	New computer installed and operating; timely and accurate reports on BFA	1984
Inter-institutional Coordination	BFA provides personnel who participate in all ISTA Regional Coops co-management	1983
Participation of ISTA regional cooperative co-management program		
Coordination of BFA with other agrarian reform institutions improved	Quarterly meetings held among BFA, FINATA, ISTA, MAG and formal subagreements made BFA/ISTA and BFA/MAG	1984

Source: Project Design Logical Framework

Credit Mechanism

The revised credit mechanism called for in the project design was established by the BFA in 1980 and has been improved periodically since. The loan application, approval, and disbursement procedures are simple and fairly efficient. The farmers obtain their credit disbursements in a timely fashion. The credit agents visit the clients of previous years well ahead of the planting period for the next season in order to fill out the loan applications and prepare the credit budget. This approach allows the bank to process the applications gradually over a period of several months and to provide credit to the farmers at the appropriate times before the planting seasons.

Authority for loan approval has been decentralized, largely because the Agencies' credit committees have a credit authorization limit of 50,000 colones per client. Loans for small amounts are approved by the Agency Manager, Credit Coordinator, or Credit Officer, depending on the amount of the loan. Loans for more than 50,000 colones must be approved by the BFA's Board of Directors. It appears that at least 90 percent of the loans are approved at the agency level. This credit approval authority should be decentralized even further by increasing the agencies' credit approval limits. The Board of Directors probably approves more than 1,000 loans per year. This means that the board approves about 20 loans in each weekly meeting. We do not think that the board can review such a large number of loans effectively. It would be better to decrease the number of loans it has to review and to improve the effectiveness of the review process.

The bank also introduced a client classification system. This system represented a significant improvement in the credit analysis process and should be complemented by the adoption of a consistent credit analysis methodology based on a scoring system. This approach would assist in making the credit approval process simpler, more consistent, and easier to verify.

The credit mechanism was improved further in 1988 by the computerization of loan records at the agency level and by the generation of reports with the loan situation of each client. The portfolio management organization is sound in some areas. Each credit agent is held accountable for a loan portfolio of a certain number of clients. The number of clients assigned to each agent appears to be high, considering the agent's other activities and the large number of problem loans. We estimate that each credit agent is responsible for between 150 and 250 clients. He should instead be responsible for only about 100 clients, because each agent can only make 300-400 visits to clients in a year, for portfolio recuperation work. It is

necessary to establish an efficient system to monitor compliance with verbal agreements reached with the bank to recuperate loans in arrears.

We recommend that a system be established to register the causes of arrears. Every loan that falls in arrears should be assigned a code for the reason it fell into arrears. This system would provide useful information for policy and operational decisions. Quantitative data on the causes of arrears do not exist at present. This information would be useful for developing ways to improve the quality of the portfolio in the future.

The loan recuperation policy is weak primarily because the bank functions under the assumption that the major cause of problem loans is the civil war. It can therefore always give the benefit of the doubt to clients in default and issue them new loans. While the civil war argument is a valid one, the bank has been financing marginal agricultural activities for farmers who are lacking other support services which are needed to improve the economic performance of the farmers. The portfolio quality continues to be the major threat to the bank's financial sustainability, as will be discussed thoroughly in the next chapter.

Finance

The project design established a few liquidity goals for the bank. We lack the disaggregated data which would be needed to calculate the bank's current liquidity position, but the bank's cash position as of the end of 1988 was high — 77 million colones. A negative sign, however, is the bank's increasing level of liabilities in face of the nearly constant level of performing assets.

The bank carried out a successful deposit mobilization campaign in 1988. The balance of deposits increased by 33 million colones, or by 63 percent, during 1988. This increase represents 33 percent of the increase of 98 million colones in total liabilities.

The reconciliation process for insufficiently documented accounts made substantial progress in 1988. The balance of unreconciled bank claims against others decreased from 47.6 million colones to 24.3 million colones, and the balance of unreconciled bank debt decreased from 25.7 million colones to 10.7 million colones.

The bank also made substantial progress in evaluating its portfolio. The BFA has evaluated 19,058 loans, of which 2,358 are in legal prosecution. The outstanding balance of the other 16,708 had to be written off. The amount written off was approximately 41 million colones as of December 31, 1988. The balance of loans under legal prosecution amounts to $37.4 million. The original plan under the project was to resolve $67.5 million of problem loans.

Organization

The bank's organizational structure lacks clear definitions of responsibility. Essentially, the bank needs to clarify who is to take responsibility for the achievement of the bank's specified goals and who is to be held accountable for the failure to meet any of these goals. The bank's Organizational Manual will need to be revised.

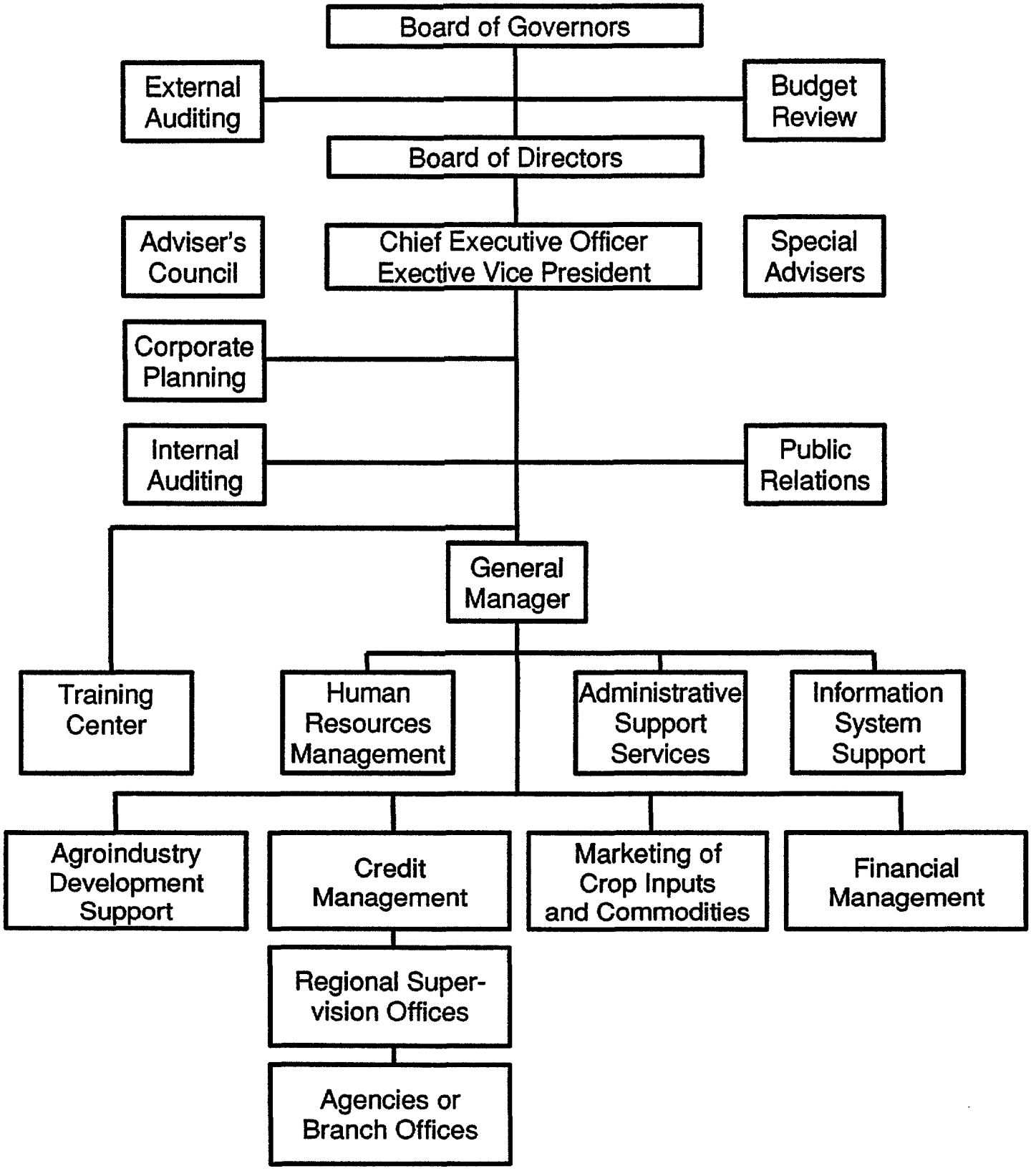
The top branch of the BFA hierarchy is composed of the Board of Governors, the Board of Directors, the Chief Executive Officer and Chairman of the Board, the executive vice-president, the general manager, and seven department managers. The office of the CEO then has the support of an advisory council, special advisers, a "corporate" planning unit, and a Public Relations Office. An Internal Auditing Unit and the Training Center also report directly to the CEO. Below the top branch at the bank are the seven primary departments. Two of these are profit centers, and the other five are responsibility centers with support functions. Detailed information on these can be seen in Figure 2.2.

The responsibility for banking services is shared between the Credit Department and the Financial Management Department. The Credit Department has responsibility only for credit operations, while the Financial Management Department is in charge of international operations and deposits. Finally, the bank has 28 agencies, or branch offices, set up throughout the country. These agencies report to the Credit Department.

At this point, we are not in a position to make specific recommendations on the organizational structure of the bank, mainly because it was not part of the goal of this evaluation to carry out a thorough study of the bank for the purpose of providing technical assistance. However, the following observations are worth further study:

- The credit and savings mobilization services could likely be carried out more efficiently if they were under the responsibility of the organizational unit which has direct authority over the agencies. In this manner, this unit or "banking operations department" would be responsible for the planning, marketing, and delivery of these services. The promotion and other marketing services related directly to the international operations could also be under the responsibility of this unit. This organizational arrangement would improve accountability by centralizing the supervisory/leadership function. However, the communication, coordination, and control of

Figure 2.2 BFA's Organizational Structure



operations with correspondent banks should remain under the direction of the Financial Department without undermining accountability.

- The administration of credit programs with social objectives and the development credit programs could likely be enhanced if they were the responsibility of separate organizational units within the same department. These programs have very distinct characteristics, and each requires special credit techniques and management.

- The internal auditing unit department should function independently of the bank's administration. This department would then report directly to the Board of Directors instead of to the CEO. It should provide the Board with periodic summary reports of audit findings and recommendations. Because this auditing unit is supposed to audit management, it should not report to management.

- The budget control function should be centralized into one organizational unit. Currently, this function is either nonexistent or very thinly dispersed throughout the bank. The Financial Department should be assigned responsibility for the budget and should in turn generate budget implementation progress reports and recommendations to the bank's high level management.

- The agencies should be changed gradually into branch offices and should be managed as profit centers, to make them more accountable for their performance.

In general, the bank's administrative and operational systems need to be revised in an effort to streamline the flow of work and to improve the effectiveness of the management control function. Once the bank redefines its mission and strategy, as outlined in Chapter III, it should prepare a thorough institutional-strengthening plan.

The bank has made substantial progress in the computerization of its major data processing tasks. This progress provides the bank with an excellent opportunity to streamline its operations through further decentralization, because the computerized information system can facilitate management control. This function can be carried out effectively without

much personal supervision under a well-designed and well-managed computerized information system.

At the agency level, operating procedures will have to be updated to take into consideration the computerization of all reports and records. The institutional development process can be enhanced by developing job manuals for certain positions and providing training for each position, based on these manuals. The bank should develop manuals for the credit agents, credit analysts, credit coordinators, agency managers, and regional coordinators.

The agencies' personnel probably also require more training on credit in general. Possibly as many as 85 percent of the agencies' employees have a strictly agricultural background, and only about 30 percent have college degrees. Most of these personnel have received only a minimal amount of credit training through one or two seminars each of three to four days. The importance of training the agencies' personnel is very evident when one considers that some 90 percent of the BFA's loans are approved at the agency level, and the agencies are also accountable for portfolio management.

The bank's outreach capability at present is composed of 28 agencies distributed among the 14 departments of El Salvador. Only two new agencies have been added since 1983, but the bank's outreach capability has been increased significantly through improvements in the credit mechanism discussed before and through the availability of more vehicles to carry out credit-related activities in the countryside. As seen in Table 2.15, the agencies employ approximately 959 persons, of which only 437 or 46 percent are involved in credit functions.

Table 2.15 Personnel of the Agencies, As of December 31, 1988

Position	Number of employees	Percent
Credit agent	297	31
Credit analyst	86	19
Agency manager	27	3
Credit supervisor	27	3
Other	522	54
Total	959	100

The number of persons employed by the Central Office, described in Table 2.16, appears to be high when compared with the number in the agencies.

Table 2.16 Total BFA Personnel

Office	Number of employees	Percent
Agencies	959	56
Warehouses	148	9
Headquarters and regional offices	597	35
Total	1,704	100

Finally, we should add that the bank has developed sound personnel policies, but they have not been fully implemented yet. However, we perceived that substantial progress has been made in human resource management.

Training

The bank's training center (CENBAFA) used USAID funding to address the training needs spelled out in the Credit Project's Amendatory Agreements 4 and 9. Between 1985 and 1987, CENBAFA organized eleven training events in El Salvador which were then attended by 368 participants. They also trained 75 officers through short courses and seminars offered overseas. Training was provided in the following areas:

- Farm planning
- Credit analysis
- Portfolio administration
- Agricultural technology
- Management
- Finance

The training was provided by prestigious organizations, such as INCAE, ALIDE, and IICA.

CENBAFA spent the total authorized sum of US$ 300,000 that was earmarked for training. It also used the total amount of GOES counterpart funding of US$ 100,000, reported by CENBAFA at an exchange rate of

US$1:C2.50. The counterpart funding was used for training events provided by Salvadoran institutions. The average cost per participant was approximately US$ 900. We did not analyze the impact of the training program on the bank's performance, because CENBAFA did not have adequate records available on the graduates of its training program. CENBAFA, in coordination with the personnel management office, should establish a tracking system for CENBAFA's graduates.

It would have been useful to start the training program at the beginning of the project implementation and to increase the funding earmarked for this component.

Information System

The BFA has made significant progress in the implementation of its information system at all levels of the organization. The progress since September 1987 is rather extraordinary, considering the change in computer configuration and software.

The database for all of the bank transactions has been established, and the system is actually generating 294 reports, compared with the 343 which were planned. The financial and credit information systems are generating useful reports for top management and for staff at the operations level. In our judgment, the number of reports that BFA has planned to generate is rather large in comparison with other computerized development banks. The bank has already decided to go over these reports with the information users in order to reduce the number of reports that it has to produce regularly.

The bank has thus already implemented the most difficult part of the computerization effort. However, it still has a long way to go in the process of internalizing the system at the managerial level and in increasing management efficiency. The Information Systems Department has a clear understanding of these challenges and is in the process of preparing a work plan to address them.

The new computer configuration and equipment is operating, but the manual system of calculations throughout the bank has not yet been eliminated. Some of the agencies still need to obtain more equipment in order to meet the data entry demand. This lack of equipment is causing operating inefficiencies in these agencies, BFA has already ordered new equipment and plans to install it around April 1989.

BFA-ISTA-FINATA-MAG Coordination

Credit from BFA constitutes an essential ingredient in the functioning of the Agrarian Reform program. In the view of BFA officials, without the provision of credit to fund day-to-day operations in the cooperatives created under the Land Reform, cooperative activities would likely come to a halt, and their membership would probably disband. The BFA therefore views its credit program to the cooperatives as an essential input for the success of the Agrarian Reform program. "The easiest way to do away with the Agrarian Reform would be to deny credit to its beneficiaries." Coordination of BFA credit activities with other agencies of the government concerned with the management of agrarian reform cooperatives is therefore an essential part of the credit program. ISTA, FINATA, and MAG are the main institutions involved.

The BFA is the principal source of credit for the beneficiaries of the Agrarian Reform. It provides about 75 percent of the credit to Phase I beneficiaries, and nearly all the credit going to beneficiaries of Phase III, or Decreto 207. Most funding for these credit activities have been provided by the project until now.

Coordination with agrarian reform institutions is required when the BFA lends to cooperatives, but not when it lends to individuals. However, if individual farmers organize themselves into a Grupo Solidario (3 to 10 members) or a Pre-cooperative (more than 10 members), the BFA works together with FINATA or other agencies providing advice to these groups. Once cooperatives are legally organized, the Ministry of Agriculture's Department of Agricultural Cooperatives provides the corresponding certifications that entitle them to treatment as cooperatives.

There is within the Credit Division of the BFA a Cooperative Department, charged with responsibility to oversee the credits granted to cooperatives. There are also five BFA regional cooperative coordinators in charge of supervising the credit programs to cooperatives. They are supported by 80 credit agents to oversee 420 cooperatives; each agent is in charge of 4 or 5 cooperatives; this allows an agent to visit each co-op at least once a week. These credit agents are expected to coordinate with each coop the disbursement, utilization, and repayment of credits.

Cooperatives founded under Phase I of the Agrarian Reform program are supposed to have a manager and an accountant, known as the Grupo Tecnico de Coadministracion (GTC). This unit is established by ISTA to direct the affairs of the cooperative, in coordination with the President and other elected officials of the coop. Initially these two officials are paid with financing provided by USAID, under the PAU or Programa de Administracion Uniforme. Every following year the cooperative must assume more and more responsibilities for the salaries of these officials. The manager is selected

out of a list of candidates by ISTA, BFA, and representatives from the cooperative.

Operating plans approved by the Administrative Council of the cooperative, and having the approval of the Grupo Tecnico de Coadministracion, are presented to the BFA for financing. The BFA credit agent is the principal person responsible for coordinating the credit requirements of the coop with the BFA. Investment plans presented to the BFA require separate approval by ISTA's regional managers, but annual production loans are handled directly between the BFA and the cooperative, including the GTC.

Every loan granted by the BFA to cooperatives under ISTA supervision carries a collateral agreement (aval) in which ISTA assumes responsibility for payment of the loan in case the cooperative does not pay it. This document is an integral part of the loan agreement between the BFA and the coop. For investment loans, the BFA must have the previous approval of ISTA's regional manager. For regular annual production loans, BFA procedures require only approval by the GTC from each cooperative. There are already some cooperatives that have "graduated" from the PAU program, i.e., they have assumed full responsibility for their affairs and are paying the GTC managers out of their own funds. In those cases, the BFA is dealing with the cooperatives directly, without the ISTA coordination. So far, 52 cooperatives have qualified for this status.

So far BFA has never needed to take action to recover loans in default by asking ISTA to honor the payment guarantee. Instead, whenever the loan default situation becomes critical, the Central Bank comes along and opens a refinancing line of credit that provides the BFA with liquidity. Since 1984, the BCR has contributed more than 150 million colones in refinancing overdue loans. The latest refinancing fund, introduced in 1988, is known as FRAP (Fondo de Reactivacion de Actividades Economicas). This Fund is open for 400 million colones and covers not merely cooperatives but also private farmers and Phase III beneficiaries. However, the BFA will not obtain any fresh funding under the FRAP arrangement. The net result will be only to improve BFA's balance sheet structure.

Most of the coordination between the BFA and ISTA regarding cooperative credit takes place at the cooperative level, between the Grupo Tecnico de Coadministracion and the credit agent of the BFA. There are also regular meetings and agreements between the BFA Zonal Cooperative Coordinator and the regional managers at the head of each ISTA region. In each region, ISTA maintains separate managers for technical assistance, marketing, management, and social affairs. At the national level, the agreements with ISTA are carried out by the Division of Cooperatives at BFA headquarters. The President of ISTA is one of the members of the Board of Governors of the BFA, together with the Ministers of Planning, Treasury, and Economics, and representatives from the IRA, the Central Bank, and Banco

Hipotecario. The President of the BFA sits on the Board of Directors of ISTA.

Coordination with FINATA cooperatives is less well structured than with ISTA. FINATA does not provide the payment guarantees that ISTA offers to the BFA. Formal coordination is only sought in case of special loans that include technical assistance components. FINATA then helps with the services of its own agronomists and those from CENTA and other dependencies of the government. For most credits, however, especially those involving regular crops, the BFA grants the loans to cooperatives of 207-beneficiaries without requiring FINATA's previous accord. There used to be greater coordination in the earlier years of the Agrarian Reform program because of the lack of organization of the cooperatives at the time. The urgency is less now, even though the problem of administrative disorganization in cooperatives remains a serious one.

III. PROJECT CONSTRAINTS

As we saw in Chapter II, the success of the project has been badly compromised by the low repayment rates of the BFA's credit beneficiaries. We will examine in the following sections some of the constraints which the project faced, particularly those that in our view contribute to the high default rates on BFA loans.

Profitability of Crop Production in El Salvador

There are a variety of reasons for the low repayment rate on BFA loans. One of the most important is probably the profitability to the farmer of producing the crops which the BFA finances. Low rates of profitability are most evident in basic grains production, as was seen in Chapter II. The following is a summary of the more detailed discussion which appears as Appendix I. The discussion examines some of the problems which arise in the production of corn, the basic grain most heavily financed. The profitability of producing other crops varies greatly; sorghum tends to be less profitable, while rice and beans are often more profitable. Export crops are almost always more financially profitable than are any of the basic grains.

The three basic factors which determine the profit a farmer can expect from his production of corn are the costs of production he experiences in growing the corn, the yield he obtains from the crop, and the price he receives for his corn in the market. As mentioned in Chapter 2, the BFA publishes a manual of production costs each year for all of the crops it finances. In this manual, it estimates that in 1988/89, the cost of production to the farmer for one manzana of corn (grown for consumption) is approximately 2,067 colones. According to the BFA, these 2,067 colones should produce an average yield of 55 quintals of corn which will then be sold at an average price of 45 colones per quintal, providing a profit to the farmer of 408 colones per manzana.

Average corn yields in El Salvador in 1987 were estimated by the Ministry of Agriculture and Livestock at 31.6 quintals per manzana. Yields obtained by BFA beneficiaries were 32.7 quintals, not vastly different from

those obtained by the general population of corn growers. Despite a late season drought, 1987 was considered a good year for the production of corn. Yields of beans and sorghum were badly affected, but corn yields were higher in than in previous years. BFA yield estimates of 55 quintals per manzana seem therefore, at least somewhat unrealistic. It is possible that farmers are not fully employing the resources which the BFA expects them to employ. Thus, their costs of production could be lower than estimated and as a result, their yields also could be lower. Another possibility is that the conditions under which the BFA expects farmers to produce are unrealistic and that only heavily mechanized farms, such as the Phase I cooperatives, can hope to obtain yields such as those assumed.

It is likely that both of these possibilities occur to some extent. Preliminary estimates of national average yield of corn for the 1988 harvest, as calculated by the Ministry of Agriculture and Livestock after its annual field survey of yields throughout the country, is 33.9 quintales per manzana. Although farmers' yields do vary, they tend to cluster between 28 and 40 quintales. If we fit a histogram of the distribution of yields which actually occurred to a normal distribution curve whose mean is 34 quintales, as is done in Figure 2.1, we can see that virtually none (less than 1 percent) of the Salvadoran farmers obtained or even could have been expected to obtain yields of 55 quintales. Thus, even if we assume that farmers receive the higher-than-market price of 45 colones per quintal for their corn, the vast majority of farmers would be losing money if their production costs are indeed 2,067 colones per manzana. At a price of 45 colones per quintal, farmers would need to obtain a yield of at least 46 quintals just to break even with their corn production. As can be seen in the normal distribution curve, very few farmers achieve even this yield. Further, the price of 45 colones per quintal represents an "official" price; most farmers sell their corn for slightly less, generally averaging in 1987 between 35 and 40 colones.

According to the BFA's cost-of-production manual, almost all farmers would be losing money on the production of corn. This seems to be somewhat overstated because of various discrepancies between the farmer's actual costs of production and the amounts budgeted by the BFA. First, the farmer's family labor cost is probably very low. Thus, his labor costs in financial terms are very low. Further, farmers may not be using all of the inputs specified in the budgets. And finally, certain costs, such as "administrative costs" which the BFA provides for in its budgets, are probably not applicable to the small farmer.

Even extracting these costs from the BFA budgets and accounting for the fact that the BFA will lend only up to 85 percent of the total calculated costs of production, many farmers will find it difficult to repay their corn production loans simply because it is difficult for them to make a large enough profit on their corn. To compound the problem, most basic grains farmers cannot sell their entire crop of corn because they must first meet their family subsistence needs.

As illustrated, a farmer planting 3 manzanas of corn would have a net cash flow deficit of 434 colones after interest expense under the following assumption: production cost is 1,200 colones per manzana, yield is 34 quintals per manzana, price is 40 colones per quintal, and family consumption is 17 quintals of corn. This illustration does not take into consideration after-harvest losses. The farmer in this illustration would have to obtain a yield of 37.7 quintals per manzana or an overall value of production of 1,512 colones in order to reach his break-even point (Appendix I). We estimate that about 49 percent of the corn farmers do not generate this production value (Figure C-4 in Appendix C).

Clearly, the BFA should reconsider its methodology in deriving production budgets for basic grains crops. Because the bank lends to a large number of small farmers, it should find a way to calculate more accurately both costs of production and expected outputs for these farmers. In doing so, it may even be found that the BFA is suggesting that the farmer use more inputs than he actually should be in order to maximize his profits.

External Factors

The following pages discuss the extent to which exogenous factors affected project performance. It examines causal relationships which are deemed critical to achieving project goals. Factors such as agricultural prices, foreign exchange controls, armed conflict, and overall investment climate had an adverse effect on this project.

Inflation

Inflation is one of the principal factors detracting from a good performance by Project 263. Its role is all the more insidious because its effects are not readily apparent to the participants. We first look at the incidence of inflation in El Salvador during the 1980s. Then, we trace some of the ways that inflation affects the performance of the agricultural credit program.

Incidence. Monthly estimates of the consumer price index are maintained by the *Dirección General de Estadistica y Censos.* The most recent information available on the rates of change in the CPI is given below in Table 3.1.

Table 3.1 Consumer Price Index

Rates of Change

Year	CPI-December	Annual change (percent)
1978	100.00	
1979	114.84	15.9
1980	136.15	17.3
1981	152.01	14.8
1982	172.44	11.7
1983	197.87	13.1
1984	217.30	11.7
1985	286.68	22.3
1986	373.70	31.9
1987	446.96	24.9
1988	528.53	19.8

Source: Dirección General de Estadística y Censos.

In the last three years there has been a definite slowing in the increase in prices. Inflation dropped from 32 percent in 1986 to 20 percent in 1988.

Negative Interest Rates. The BFA is required to lend to farmers at a rate of 13 percent, as mandated by the Central Bank and specified in the project contract. When the inflation rate is 20 percent, for example, as it was in 1988, farmers get loans at negative rates of interest. Instead of paying a real rate of 8 percent, farmers are paying -7 percent, giving their loans an

implicit subsidy of 15 percent. The implicit subsidy represents an actual transfer of income from the project to credit recipients.

Incentive for Slow Payback. Some borrowers probably capture the implicit subsidy by keeping the loans for as long as possible. They find it preferable to accumulate the simple interest being charged by the BFA on their outstanding loans, while they delay final payment for as long as possible. Fewer and slower repayments mean less funding available to the BFA for relending in the next year.

Higher Production Costs. The costs of inputs, labor, and services increase rapidly under inflationary conditions. The size of loan per manzana to finance crop production must also increase every year. The result is that fewer and fewer manzanas can be financed with the same level of funding.

Higher Administrative Costs. Inflation raises the Bank's administrative expenses in managing its agricultural credit. The increase in administrative expenses can be compensated for by increasing the interest rate on loans and increasing the performance of the loan portfolio. This has not taken place at the BFA.

Decapitalization. The combined effects of lower payback rates and higher administrative costs result in a rapid erosion of capital in current and real terms. The long-run benefits of the project are severely compromised by this erosion of capital.

Impact. We have made some estimates of the potential impact of inflation on the sustainability of a revolving fund, by looking at the crop area that can be financed by a fund that does not generate enough to compensate for inflation. A rotating fund of 1 million colones operating under hypothetical conditions of 90 percent disbursement on loans and a 95 percent payback ratio, can finance 10,000 manzanas in the first year, at 1,000 colones per manzana. In the fifth year, however, at 20 percent annual inflation, the fund would be able to finance less than 4,000 manzanas. This decrease reflects the combined impact of decapitalization of the fund and increased loan size requirements. In terms of the long-term evaluation of benefits, if we assume a profit of 400 colones per manzana financed, the fund would generate an internal rate of return of 19 percent at 5 percent inflation, but only 8 percent at 20 percent inflation.

Declining Crop Profitability

A serious deterioration in the profitability of agricultural production has taken place in the last decade for all major crops. Prices received by farmers have fallen by one-half in real terms, though in nominal terms they have increased. Prices paid by farmers have also declined in real terms, but not by as much as product prices.

Declining Real Producer Prices

Table 3.2 shows the evolution of producer prices, or the prices farmers receive for their production, for El Salvador's principal crops during the last decade. In nominal terms, producer prices are increasing, but when they are deflated by the consumer price index, farm prices are declining uniformly. The price of corn, for example, has increased from 19.4 colones per quintal in 1978 to 40 colones per quintal in 1987. In real terms however, the price has declined to 47 percent of its 1978 level.

Equally disturbing is the downward trend in real producer prices for all agricultural products. Only beef producers seems to have maintained their purchasing power during the last decade. In addition to corn producers, producers of cotton, sugarcane, beans, rice, and sorghum have suffered a depression of their earnings of more than 50 percent during the last decade. These are the products produced predominantly by the beneficiaries of Project 263 credit, namely farmers in the reform sector and smallholders in the traditional sector.

Lower Real Input Prices

Tables 3.3 and 3.4 provide information on the decline in real producer prices and the evolution of production costs for the four basic grain crops- corn, beans, sorghum, and rice. The cost of agricultural inputs has increased with inflation, but in real terms their cost has declined for the basic grains, except sorghum. Input costs are nonetheless increasing in nominal terms more quickly than are the prices which farmers are receiving for their products. In real terms, input costs for corn, for instance, are now 67 percent of what they were a decade ago. Meanwhile the price of corn declined to 47 percent of its original value.

The most dramatic deterioration in profitability has occurred in rice, for which producer prices have declined steadily over the decade to reach in 1986 barely 20 percent of their 1978 level. At the same time, production costs per manzana have declined to 70 percent, and inputs have actually increased by 6 percent in real terms in the same period.

We conclude that the profitability of agricultural production activities across the spectrum has deteriorated over the past decade. The availability of credit, even at negative rates of interest, is of little consolation to farmers whose prices are falling rapidly.

Table 3.2: Agricultural Producer Prices in El Salvador, 1978-1988.

Year	Coffee	Cotton	Sugarcane	Corn	Beans	Rice	Sorghum	Beef	Milk	C.P.I.
1978	325.65	157.38	29.05	19.39	59.15	34.11	17.49	490.55	0.76	93.82
1979	406.60	179.58	30.64	15.13	46.68	35.58	16.80	720.34	0.77	108.69
1980	384.86	191.51	40.39	17.41	73.36	30.16	19.66	727.72	0.86	127.55
1981	292.29	198.37	46.16	18.49	88.97	31.64	21.39	1,154.36	1.07	146.44
1982	289.84	168.59	49.21	21.35	74.10	33.00	21.58	1,423.84	1.16	163.60
1983	301.11	198.16	50.01	26.33	60.35	36.45	24.50	1,186.61	1.15	185.07
1984	341.93	220.28	50.00	25.00	63.70	33.00	21.00	1,404.67	1.23	206.74
1985	410.99	301.44	50.00	23.46	78.16	33.50	22.71	1,810.02	1.30	252.86
1986	891.59	241.20	52.00	36.50	100.00	24.80	30.00	1,618.58	1.62	333.64
1987				40.33	103.92		38.29			416.56
1988										498.91

Indices of real producer prices, 1978=100

Year	Coffee	Cotton	Sugarcane	Corn	Beans	Rice	Sorghum	Beef	Milk
1978	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
1979	107.78	98.50	91.04	67.35	68.12	90.04	82.91	126.75	87.45
1980	86.93	89.51	102.27	66.04	91.23	65.04	82.68	109.12	83.23
1981	57.50	80.75	101.80	61.09	96.37	59.43	78.35	150.76	90.20
1982	51.04	61.43	97.14	63.14	71.84	55.48	70.76	166.45	87.53
1983	46.87	63.83	87.27	68.84	51.72	54.17	71.01	122.63	76.71
1984	47.65	63.52	78.11	58.51	48.87	43.90	54.49	129.95	73.45
1985	46.83	71.07	63.86	44.89	49.03	36.44	48.18	136.90	63.47
1986	76.99	43.10	50.34	52.93	47.54	20.45	48.23	92.78	59.94
1987				46.85	39.57		49.31		
1988									

Sources: RRNA, "Food Imports, Agricultural Policies and Agricultural Development in El Salvador, 1960-1987."
Direccion General de Estadistica y Censos.

Table 3.3 Corn: Costs of Production and Producer Prices, 1978-1988

Year	Input Cost	Production Cost	Producer Price	Input Cost	Production Cost	Producer Price
	----------colones----------			-------index 1978=100-------		
1978	201	807	19.39	100	100	100
1979	246	918	15.13	106	98	67
1980	353	1,176	17.41	129	107	66
1981	419	1,257	18.49	134	100	61
1982	407	1,244	21.35	116	88	63
1983	330	1,182	26.33	83	74	69
1984	419	1,432	25.00	95	81	59
1985	371	1,350	23.46	69	62	45
1986	633	1,898	36.50	89	66	53
1987	594	1,900	40.33	67	53	47
1988						

Rice: Costs of Production and Producer Prices, 1978-1988

Year	Input Cost	Production Cost	Producer Price	Input Cost	Production Cost	Producer Price
	----------colones----------			-------index 1978=100-------		
1978	302	1,135	34.11	100	100	100
1979	429	1,286	35.58	123	98	90
1980	611	1,665	30.16	149	108	65
1981	712	1,793	31.64	151	101	59
1982	680	1,756	33.00	129	89	55
1983	532	1,640	36.45	89	73	54
1984	495	1,588	33.00	74	63	44
1985	552	1,684	33.50	68	55	36
1986	1,141	2,844	24.80	106	70	20
1987	956	2,632		71	52	
1988						

Sources: RRNA and DGEA

Table 3.4 Beans: Costs of Production and Producer Prices, 1978-1988

Year	Input Cost	Production Cost	Producer Price	Input Cost	Production Cost	Producer Price
	----------colones----------			-------index 1978=100-------		
1978	168	632	59.15	100	100	100
1979	249	829	46.68	128	113	68
1980	414	1,267	73.36	181	147	91
1981	498	1,330	88.97	190	135	96
1982	498	1,330	74.10	170	121	72
1983	487	1,318	60.35	147	106	52
1984	300	1,003	63.70	81	72	49
1985	324	1,032	78.16	72	61	49
1986	506	1,445	100.00	85	64	48
1987	443	1,336	103.92	59	48	40
1988						

Sorghum: Costs of Production and Producer Prices, 1978-1988

Year	Input Cost	Production Cost	Producer Price	Input Cost	Production Cost	Producer Price
	----------colones----------			-------index 1978=100-------		
1978	92	575	17.49	100	100	100
1979	140	664	16.80	131	100	83
1980	170	696	19.66	136	89	83
1981	290	1,138	21.39	202	127	78
1982	282	1,129	21.58	176	113	71
1983	281	1,144	24.50	155	101	71
1984	249	1,233	21.00	123	97	54
1985	283	1,304	22.71	114	84	48
1986	483	1,742	30.00	148	85	48
1987			38.29			49
1988						

Sources: RRNA and DGEA

Credit Demand

A decline in real prices paid to farmers is likely to discourage them from requesting credit. As they see their revenues declining in real terms while their costs increase, they might prefer to avoid incurring debt obligations. There are several indications that the BFA's availability of credit has been larger than farmers' actual demand: Few farmers are being denied credit at the moment, even though the total volume of agricultural credit has declined in current terms. The BFA has also reduced the amount lent per manzana for the main crops during the past couple of years without apparent complaint from recipient farmers.

In terms of the goals of Project 263, the income impact of the project through increased production and implicit interest subsidy is somewhat negated by the loss of income from lower producer prices. In fact, lower prices discourage production; farmers tend to reduce planted areas and input use. The principal benefits of credit availability, namely increased production, cannot therefore manifest themselves when crop prices are declining. The resilience of staple crops is due to their presence in the diet of the population, especially among rural households. In commercial crops such as sugarcane, cotton, and coffee, the decline in producer prices has translated directly into drastic reductions in output.

Cheaper Imports

What have been the factors behind the downward trend in agricultural producer prices?

International Prices. The agricultural import price index of El Salvador has been increasing at a much slower rate than the producer price for food stuff because of low agricutural commodity prices in the international markets during the 1980s. Norton *et al.* (1988) constructed a composite price index for the 32 principal agricultural goods that El Salvador imports. From 1980 to 1986 the agricultural import price index, in current colones, increased by 39 percent, while the producer price for foods increased by 74 percent.

The result is that imported agricultural goods have become more attractive to both consumers and importers. Many of the food imports are bought under concessional terms, especially from the United States. In 1987, for example 83,000 metric tons of corn and 23,000 metric tons of rice were imported, along with 123,000 metric tons of wheat.

Overvalued Currency. A major factor contributing to imports becoming cheaper has been the increasing overvaluation of the colon. Table 3.5 below, prepared by Loehr (1988) and complemented by Norton *et al.* (1988), gives the estimates of parity exchange rates of the colon against the dollar, based on the differential inflation rates in El Salvador and its trading partners.

Table 3.5 Parity Exchange Rates

(Colones per dollar)

Year	Exchange rate	Parity rate	Overvaluation percent
1980	2.50	3.21	28.2
1981	2.50	3.39	35.4
1982	2.50	3.35	34.1
1983	2.82	4.05	43.7
1984	2.87	4.31	50.1
1985	3.60	5.44	51.2
1986	4.96	7.09	42.9
1987	5.00	8.33	66.5

Source: Loehr (1988) and Norton *et al.* (1988).

In 1987 the exchange rate was 5 colones per dollar, while the parity was estimated at 8.33. This represents an overvaluation of 66 percent. The situation in 1988 probably worsened because inflation in El Salvador remained higher than that in the United States, its principal trading partner.

The agricultural sector in El Salvador is particularly vulnerable to exchange rate policy because it is strongly linked to the international market for both its exports — coffee and cotton — as well as for imports of inputs and products also produced locally. The current exchange policy has meant that El Salvador has become a high-cost producer in dollar terms relative to the outside world. Both of its exports, and especially cotton, have suffered a severe loss of competitiveness against the prices of other countries.

Overvaluation has also contributed to the decline in domestic agricultural prices by encouraging the expansion of grain imports and imports of other commodities. We have reached a paradoxical situation where for products such as corn the price is too low for farmers to make a profit and yet too high relative to external sources of corn. Agricultural producers

derive a slight benefit from the overvalued exchange rate to the extent that imported inputs become relatively cheaper. However, the cost of these inputs accounts for only a small fraction of the drop in gross revenues from lower product prices.

Exchange rate policy has emerged as the main instrument of agricultural pricing policy in El Salvador. The overvalued colon has been the major cause of the decline in producer prices, although lower world prices and declining domestic demand have also contributed. Norton (1988) points out that ". . . it is not the amount of agricultural imports that is depressing domestic production, but rather their prices, and the exchange rate has been the principal factor in making those prices low relative to domestic farm prices." In other words, increasing imports are not causing depressed domestic production, but rather both changes are the results of a third force, namely the overvalued exchange rate.

Personal Income Decline

During the last decade personal income levels have suffered a steep decline in El Salvador, with a consequent reduction in market demand for agricultural products. Table 3.6 below gives figures on GDP and private consumption per capita in constant 1962 colones.

Table 3.6 Gross Domestic Product and Consumption Per Capita

(Constant colones 1962 = 100)

Year	GDP/capita	Private consumption
1978	825.7	689.6
1979	820.6	618.4
1980	728.7	552.9
1981	661.0	499.3
1982	617.2	451.8
1983	615.3	449.2
1984	622.5	461.3
1985	627.9	472.0
1986	621.1	462.9
1987	626.7	459.5

Source: BCR and Norton *et al.* (1988).

From 1978 to 1982, private personal consumption expenditure dropped by 34 percent in real terms. This decline has since been arrested and to some extent reversed, but in 1987, living standards remained one-third below the levels of a decade ago.

Rural areas and the agricultural sector have likely been affected more severely than other segments of the society by this decline in living standards. External assistance has undoubtedly prevented the situation from becoming even more critical. There are currently some indications of a possible limited economic recovery, even under the conditions of social conflict.

A contraction in consumption of such magnitude has a correspondingly negative impact on demand and prices of food staples and other agricultural products. The persistent drop in producer prices across the range of agricultural products is in part the predictable outcome of the overall decline in purchasing power of the population. Prices of basic grains in particular are sensitive to changes in income levels, though generally not as sensitive as prices of optional food items.

The Agrarian Reform Credit project has been affected by the decline in personal income, stemming primarily from lowering prices of farm products. Over the life of the project, producer prices have been driven down by the combined forces of these three factors — lower international commodity prices, an overvalued national currency, and the overall decline in disposable income. The currently low or negative profit levels for many crops reflect the depressed state of agricultural prices. Recurring low profits and losses for farmers undoubtedly have contributed to the low repayment rate on crop production loans financed under Project 263.

The nationalization of the banking system, was motivated primarily by the desire to spread the availability of credit to small farmers and the beneficiaries of the Land Reform program. The State's takeover of the export functions for coffee, cotton, and sugar has also had rather inimical impacts on these subsectors.

Sabotage

The BFA's credit activities have been disrupted on occasion by the armed conflict, but the actual impact has been small in the last few years. A couple of remote agencies of the BFA have been firebombed; however, the documents lost were replaced promptly. In several instances, farmers and cooperatives have claimed damages from the war as reasons for loan payment rescheduling or forgiveness. The BFA operates agencies throughout the country; its field officers and credit agents move about with some interference, and the potential for danger is ever-present.

Natural Calamities

Drought

Two consecutive droughts in 1986 and 1987 are often cited as critical factors in the poor results of the agricultural sectors in those years. They also contributed to the high rates of non-payment of crop production loans granted in those years. The 1987 drought was especially serious because farmers' resources were already strained from the previous year.

The Ministry of Agriculture and Livestock, Agricultural Economics Division, surveyed the areas most affected and found that differences in impact depended on the specific crops. Table 3.7 includes the MAG's quantitative estimate of losses. Corn was affected in about 6.2 percent of the planted area, and the production loss was estimated at 478,000 quintals or 3.8 percent of normal production. Drought damage in beans was more serious, estimated at 697,000 quintals or 57 percent of total production. Rice was the basic grain least affected by the drought in absolute terms; It had a loss of 201,000 quintals, but this represents 18 percent of normal production.

Table 3.7 Production Losses Due to 1987 Drought

Crop	Manzanas planted	Production (quintals)	Manzanas damaged	Loss (quintals)	Percent loss
		------- thousands -------			
Maiz	398.5	13,054	24.6	478	4
Beans	89.3	1,228	68.9	697	57
Rice	16.7	1,116	4.5	201	18
Sorghum	178.7	3,476	176.5	2,912	84
Cotton	20.5	715	17.4	153	21

Source: MAG, DGEA

Sorghum was by far the crop most affected by drought in 1987. Almost the entire crop was lost; only 16 percent of the production was harvested, which represents a loss of 2.9 million quintals. Cotton losses were also substantial, at 21 percent of national production.

Rains

Excessive rains were a problem in 1988 in some areas. Farmers and BFA officials in the south-western part of the country report losses in maize from rot in the field, after the plants were bent over to allow ears to dry in the field. Since the loss is partial and primarily affected grain quality, it is difficult to assess its impact on farmers' ability to pay back loans.

Earthquakes

The earthquake of 1986 greatly disrupted the operations of the BFA. Its headquarters building was damaged beyond repair, and the main offices had to be moved to the new location on the outskirts of San Salvador. Some of the accounting and credit offices continued operating in town in makeshift conditions. Only now (February 1989) are all of the main departments consolidated in the headquarters building.

Among the activities set back most severely by the earthquake was the introduction of the computerized MIS system. Fortunately, much progress has been made in recovering and advancing in this area.

No major effect has been detected from the earthquake in rural areas in terms of reduced production, damaged infrastructure, or farmers' willingness to pay.

Winds

In 1988, coffee farmers also suffered losses because intense winds whipping their plantations at flowering time, which resulted in poor pollinization and extremely low yields. Damage was especially high on the slopes of Santa Ana Volcano, despite the massive network of windbreak.

Marketing

The main marketing problem that farmers complain about is low prices for their products and too high prices for their inputs. Both have been discussed earlier in this section.

State Monopolies

Critical comments are often heard about the operations of the IRA, the government-run grain marketing board set up to stabilize prices to consumers and support prices to farmers. The ineffectiveness of IRA operations have been well known for many years. We would ignore the IRA, but the BFA has stepped in during the last year to fill the role of the IRA by purchasing grain from its own borrowers in order to cover the loans. In the process, the BFA is paying the "official" price of 45 colones per quintal when the

market price is below 40 colones. The BFA is also incurring the cost of storing the grain in the IRA's silos until the BFA sells the grain.

Export Marketing Boards

Two organizations have legal monopolies for exporting products widely financed by the project. INCAFE and COPAL are responsible for exporting coffee and cotton, respectively. A study of their operations and their effects are beyond our mandate. It appears, however, that their pricing policies place a considerable tax burden on producers. The decline in production and exports of coffee, for example, can be attributed in great part to the declining share of the world price that INCAFE passes on to producers (Norton *et al.*, 1988). The collapse of cotton production and exports can also be attributed partially to the pricing and management deficiencies of COPAL.

There is little Project 263 can do to influence the policies and operations of those bodies. Even so, the BFA's expectations about the profitability of lending and prospects for repayment of coffee and cotton lending are greatly affected by INCAFE and COPAL.

BFA Capability and Limitations

Among the major obstacles which the project has faced have been the institutional problems which have persisted at the BFA. These problems occur in terms of its financial situation, management systems, and general strategy. In this section, these areas will be discussed in an effort to determine the extent to which they constrain the success of the USAID project.

Financial Situation

At present, the bank is probably bankrupt. If its balance sheet were to be adjusted to conform with sound accounting norms, it is likely that it would have a negative net worth. Thus, it does not have the financial capability to maintain its present level of credit activity, even in current terms, unless it continues to obtain fresh funding.

The following observations provide a useful starting point for understanding the BFA's financial situation as of December 31, 1988.

- The accrued interest on loans in arrears amounts to 121 million colones, while the provision for or reserve for default on interest payments is only 53 million colones. Contrary to sound accounting norms, the bank has been crediting to income the accrued interest on loans in arrears.

- The balance of the "other asset" account, which includes accrued interest, is 421 million colones. Possibly about 50 percent of this balance might be composed of non-performing assets which it is highly uncertain will ever be converted to cash. For this exposure, the bank has established a provision of only 22 million colones.

- The loans for which the full balance is in arrears represent 291.9 million colones and those which have installments in arrears represent 217 million colones. The provision for this exposure is only 121 million colones.

- The bank's reported net worth is 96.3 million colones. This represents only 7.9 percent of its total assets, which are valued at 1,215 million colones. The BFA should function with a ratio of net worth to total asset value of between 20 and 25 percent, even if its social mission were carried out under the trust fund agreement discussed later in the report.

Portfolio Quality

The main threat to the bank's financial survival is the poor quality of its portfolio. The Central Bank has had to bail out the BFA several times in the past by refinancing the BFA's non-performing loans portfolio. Under the refinancing arrangement, the Central Bank has provided the BFA with fresh funding so that the BFA could maintain its level of lending.

The BFA's bad loans are a recurring problem. In spite of the refinancing by the Central Bank, the BFA's portfolio of loans with a total balance in arrears at the end of 1988 was 291.9 million colones (see Table 3.8). This represented 35 percent of the bank's total portfolio of 836 million colones. (The BFA was taking legal action against some of its borrowers; this action is in an effort to recoup 24.6 million colones.) The provision established for bad loans was only 121.1 million colones, or 41 percent of the balance in arrears. Loans which had been in arrears for one year or longer amounted to 140 million colones.

Loans that had installments in arrears but were not entirely in arrears at the end of 1988 represented 217 million colones, or 26 percent of the BFA's gross portfolio of 836 million colones. Although the prospect of repayment of

Table 3.8 Loans with the Total Balance in Arrears, as of December 31, 1988

Age of arrears (days)	Amount (millions of colones)	Percent
1-90	17.9	6
91-360	109.6	38
361-1,080	87.2	30
1,081-2,160	35.4	12
over 2,160	17.2	6
Subtotal	267.3	92
Legal action taken	24.5	8
Total	291.8	100

Note: Includes only loans with total balance in arrears.

these loans is not as dim as for repayment of the loans fully in arrears, it is nevertheless uncertain.

The result of the high percentage of loans in arrears is that only 313 million colones, or 33 percent, of the bank's portfolio is in good standing. Recently issued loans make up a large part of this portfolio; this is derived from the fact that the bank disbursed 327 million colones in 1988. It is assumed that the majority of the loans disbursed in 1988 had not yet come due as of December 31, 1989.

Loans in Arrears, by Beneficiary Sector

The poor quality of the BFA's portfolio is seen in all of the sectors to which the BFA lends. Here, sectors refers to Phase I cooperatives, Phase III farmers, small traditional farmers, and nonagricultural activities (see Table 3.9). In its agriculture portfolio, 235 million colones is in arrears. This is equivalent to 34.7 percent of the total agriculture portfolio, which had a balance of 677 million colones at the end of 1988. Other areas in which the BFA lends also have low quality portfolios. Loans in arrears outside of agriculture make up 35.8 percent of the total lending outside of agriculture.

Table 3.9. Structure of Arrears by Sector, as of December 31, 1988

Sector	Amount in arrears	Total portfolio	Percent in arrears
Agriculture			
Phase I Reform	54	195	27.7
Phase III Reform	18	38	47.4
Traditional farmers	163	444	36.7
Total agriculture	235	677	34.7
Other sectors	57	159	35.8
Total all sectors	292	836	34.9

Note: Includes only loans with total balance in arrears.

Credit Programs

The BFA's lending is done under three different programs, a commercial banking program, a development (social) program, and a trust agreement. The percentage of loans in arrears is very high in both the commercial banking and the development programs. While the percentage of loans in arrears is very low under the Trust Agreement, lending under the Trust Agreement represents only 2 percent of the BFA's total portfolio, and it was only recently instituted (see Table 3.10).

Table 3.10 Structure of Arrears by Credit Program

(Millions of colones)

Program	Amount in arrears[a]	Total portfolio	Percent in arrears
Commercial banking	84	285	29
Development (social) programs	190	533	35
Trust agreement	0.2	18	1.1
Total	274.2	836	32.8

a. Includes only loans with total balance in arrears and excludes loans under prosecution, which represent 24.6 million colones.

Terms of the Loan

In all categories of short- and medium-term loans, the percentage of arrears is also high. Loans in the long-term portfolio have a lower percentage in arrears, but the long-term portfolio includes refinanced loans which were previously in arrears (see Table 3.11).

Table 3.11 Structure of Arrears by Loan Term

(Millions of colones)

Term	Amount in arrears	Total portfolio	Percent in arrears
Short	182	372	48.9
Medium	85	246	34.6
Long	26	218	11.9
Total	293	836	35.0

Note: Includes only loans with total balance in arrears.

Size of Loans

The BFA's largest loans, as seen in Table 3.12, those over 100,000 colones, represent the highest percentage of the delinquent portfolio. They account for 43.8 percent of the loans with the total balance in arrears.

Table 3.12 Arrears by Size of Loan

Size of loan	Amount in arrears	Percent in arrears
Less than 5,000 colones	47	17.6
5,000-20,000 colones	45	16.8
20,000-100,000 colones	58	21.8
More than 100,000 colones	117	43.7
Total	267	100.0

Provisions Made for Delinquent Loans

The provision expense which the BFA has had to make for delinquent loans has grown to have a very significant adverse effect on the bank's income statement. The overall provision expense, presented in Table 3.13, has fluctuated between 4.5 and 6.4 percent of the bank's gross portfolio since 1984. This represents between 27.9 and 48.9 percent of its operating income; however, even these provisions seem to be insufficient to cover losses which have occurred from lending to the low quality portfolio.

Table 3.13 Provision Expenses

(Millions of colones)

Year	Operating provision	Percent of gross portfolio	Percent of income
1984	31.5	6.4	48.9
1985	24.4	4.5	37.9
1986	55.7	8.3	48.6
1987	37.3	4.7	27.9
1988	50.1	6.1	33.7

Interest Rate Spread

The BFA has been operating with a relatively high interest rate spread, that is with a relatively high spread between the interest rate which the bank charges its customers and the interest rate at which the BFA must borrow funds. The theoretical net interest yield has been between 9 and 13 percent during the years 1984-88, as seen in Table 3.14.

Table 3.14 Net Interest Rate Yield

Year	Yield (percent)
1984	10
1985	9
1986	13
1987	11
1988	11

The yields noted here are theoretical because the bank credits the interest accrued on loans in arrears to income. These yields were calculated by dividing the bank net interest income by the average gross portfolio value.

The theoretical interest yield appears to be quite high, primarily because the bank has been operating with very low cost funds. As an illustration, the bank's overall interest expense in 1988 was 23.9 million colones, which represented only 2.14 percent of its total liabilities.

In the future, the BFA's interest yield will probably decrease unless the Central Bank allows the bank to raise the interest rate that it charges on its credit operations. The average cost of the BFA's liabilities will almost certainly begin to increase and will continue to do so steadily. It is reasonable to assume that the BFA will not be able to find enough sources of inexpensive money to allow it to maintain the current average cost of its liabilities.

Further, even though the interest yield of approximately 11 percent is relatively high by development bank standards, it does not leave enough of a margin to cover the bank's losses due to bad loans. Because the BFA's administrative costs were about 8 percent of the average gross portfolio in 1987 and 1988, the bank incurs operating losses whenever the overall provision for losses is greater than 3 percent of the portfolio balance. The expense for this provision has been equal to between 4.5 and 8.3 percent during the period 1984-88, as mentioned above, and we consider it to be insufficient.

Administrative Expenses

The BFA's administrative expenses have been increasing at a rate faster than the rate of growth of the gross portfolio. Between 1984 and 1988, these expenses increased by 105 percent, while the portfolio increased by only 55 percent as seen below in Table 3.15.

Table 3.15 Administrative Expenses

Year	Expense	Total Portfolio	Percent
1984	32	483	6.6 percent
1985	39	548	7.1 percent
1986	56	670	8.4 percent
1987	62	797	7.8 percent
1988	66	821	8.0 percent

We believe that the rapid increase in administrative expenses has been due primarily to the following factors:

- Rate of inflation. The consumer price index rose by 141 percent during the period 1984-88.
- Addition and/or expansion of organizational units at the BFA's headquarters office. The number of employees increased from 1,508 in 1984 to 1,704 in 1988.
- Increase in the number of loans in the BFA's portfolio. The number of loans increased from 44,588 in 1985 to 58,507 in 1986, though it decreased to 46,126 in 1988.

Although the BFA does not have control over inflation, there are ways in which it can compensate for the increase in costs which it incurs. The following are options which the BFA should consider.

- Increase the interest rate spread on its lending operations
- Increase the portfolio of good quality, performing assets and/or the net income generated by other banking services
- Increase the bank's administrative efficiency
- Reduce the percentage of small loans in the portfolio

The bank's administrative efficiency can be increased gradually through an institutional strengthening plan. However, it would not be prudent for the bank to undertake drastic cost reduction actions at this time because the bank has not sufficiently consolidated its organization and systems, and drastic actions in the absence of sound planning could be counterproductive. Currently, the bank does not have any formal or updated institutional strengthening plan. However, part of the administrative cost increase has been due to the establishment of new organizational units such as Information Systems and CENBAFA, which was called for in the original institutional strengthening plan. The organization and methods unit, also contained in the original plan, has not yet been established; this unit should be in charge of

carrying out an analysis aimed at improving the bank's administrative efficiency.

The bank should concentrate its efforts on improving the quality of its loan portfolio through better loan approval decisions and portfolio administration. Problem loans have been the main cause of the bank's poor financial performance. The BFA should also attempt to negotiate with the Central Bank regarding the interest rate which it is allowed to charge on agricultural loans, primarily because of the large number of small loans which the bank must provide. A loan of 5,000 colones generates a contribution of only 550 colones in interest, while the bank's average administrative cost per loan is 1,653 colones.

The bank's reported profits were not discussed above because they require significant adjustments to make them realistic. Tables 3.16 and 3.17 contain the bank's financial statements.

The BFA's Strategy

The following discussion of the bank's mission and strategy is based on our own observations and on conversations with various BFA officers.

The bank's basic mission is generally perceived to be to contribute to the social and political stability of El Salvador. Its strategy is to support the farming activities of agrarian reform Phase I and Phase III beneficiaries and traditional small farmers. The bank's credit program for lending to these sectors is called its "development bank operations." The bank considers these operations to be unprofitable. For example, the bank's policy has been to continue providing credit to the Phase I cooperatives, even though the rate of loan repayment by these cooperatives is very low.

The bank's strategy for achieving financial sustainability or at least compensing in part for the losses it incurs in its development banking program is to engage in profitable retail banking operations and to sell various agricultural crop inputs, such as fertilizers. The inputs marketing activities were also conceived of as a support service to the development banking beneficiaries. Unfortunately, while the bank's strategy for addressing financial sustainability may appear to be sound, it has some very significant flaws. They are discussed below.

Financial Intermediation

The only way in which the bank can maintain its level of credit activity will be to obtain increased lines of credit and/or refinancing in cash from the Central Bank and/or fresh funding from outside donors as long as its "development banking" programs generate significant losses. This will increase inflationary pressures on the economy, because with the government running

Table 3.16 Consolidated Balance Sheet of Seven Commercial Banks
(C000,000)

	7/31/86	12/31/87	5/31/88
Assets			
Cash and deposits in banks	1,142	1,123	1,346
Bonds	444	477	587
Loan portfolio (a)	3,412	3,735	3,590
provision	(67)	(93)	(203)
Net portfolio	3,345	3,642	3,387
Accrued interest	221	290	352
provision	(36)	(49)	(112)
Net accrued interest	185	241	240
Various outstanding accounts pending collection	167	81	113
Provision	(3)	(3)	(12)
Net balance	164	78	101
Furniture and equipment	65	85	90
Other assets	133	171	232
Total assets	5,479	5,823	5,987
Loans whose total balance is in arrears	146	192	247

Liabilities and Net Worth

	7/31/86	12/31/87	5/31/88
Deposits			
Checking accounts	1,303	1,131	1,238
Time	2,001	2,215	2,322
Savings	1,103	1,220	1,317
Total	4,407	4,566	4,877
Central bank	348	547	483
Foreign Organizations	78	75	53
Interbank transactions	43	18	17
Other liabilities	312	291	561
Total liabilities	5,188	5,497	5,791
Equity	140	140	148
Reserves	48	81	104
Earnings	103	105	(56)
Net worth	291	326	196
Total	5,479	5,823	5,987

Note: This is the consolidated balance sheet of seven of the nine commercial banks. The banks not included are Credito Popular and Banco de Desarrollo.

Table 3.17 Consolidated Profit and Loss Statement of Seven Commercial Banks
(Millions of colones)

Interest income	533	642	285		
Interest expense	(355)	(429)	(190)		
Net interest income	178	213	95		
Less provision for uncollectible portfolio	(38)	(58)	(185)		
Adjusted net interest income	140	155	(90)		
Other financial income	82	73	39		
Nonfinancial income		3	5		4
Personnel	153	176	76		
Other administrative expenses	16	21	9		
Total admin. expenses	169	197	85		
Net operating income	46	21	(133)		
Other income or expenses	(2)		9		1
Adjustments to previous year's statement	5	3	1		
Profit or loss	49	(a)	33		(133)

a. The profit shown does not take into consideration a legal reserve expense of 19.7 million colones incurred by NCO Agricola.

a fiscal deficit, the only way in which the Central Bank can provide additional funding to the BFA is by printing new colones. Further, additional injections of foreign capital into the economy will increase inflation.

Marketing

The profits reported by the bank's marketing of crop inputs do not necessarily generate a net positive cash flow to the bank. Essentially, these inputs are sold against credit provided by the bank to farmers. Therefore, when farmers do not repay their loans, the sale of inputs to these farmers represents a net negative cash flow, and a real loss to the bank.

Institutional Capability

The bank's crop input sales operation place additional time demands on the bank's management and auditing staff. The opportunity cost of time of these personnel is very high during any institutional strengthening process.

As long as the bank's primary mission is a social and political one rather than a standard development banking one, there will be no easy answers to the bank's financial problems. A development bank's mission should be to foster the country's economic development and business opportunities of certain sectors of the economy by offering financial services, and especially credit, to projects of the target sectors. Though the development bank's role is not to maximize profits, it must function within financially sound parameters in order to remain effective as a development institution.

The bank can only maintain its present level of lending activity if it replenishes its losses with fresh funding from the Central Bank, the GOES, or foreign donors. A program such as this one, whose primary purpose is political and social, should be managed under a trust agreement with the GOES. Under this arrangement, the bank would carry out the GOES' social credit programs under policies and systems approved by the GOES. The GOES would then oversee the trust fund operations using external auditors. Bank management would be held fully accountable for the trust fund operations, but the bank would not be compelled to increase its financial exposure beyond the financial parameters which it should observe as a bank. Neither would it have to engage in other businesses or nonbanking activities to compensate for losses on its credit operations.

The trust fund agreement contract between the BFA and the GOES would need to include clauses that provide the bank with incentives for managing the trust efficiently under the agreed-upon policies. It should also specifically define a graduation criterion by which the clients of the trust fund could become clients of the development banking programs.

The strategy of financing credit granted to achieve various social and political objectives through a trust fund agreement will increase the bank's chances of becoming an efficient development bank, even if the GOES is not able to replenish the losses of the trust fund. However, the GOES will become more acquainted with the costs associated with financing social and political credit programs. Currently, it is difficult to determine this cost because the bank's financial statements overstate the value of assets on its balance sheet and the level of income it receives on its profit and loss statement.

Commercial Banks

The commercial banks are already an important source of credit to the agricultural sector. After the BFA, they are the largest lenders of agricultural credit. As of December 31, 1987, the portfolios of the commercial banks and the BFA for agricultural credit were 337 million colones and 757 million colones, respectively. These banks used about 3.6 million colones of Project 263 task funding to provide credit to the project's target group.

In our judgment, the commercial banks should not be encouraged to expand their loan portfolio of high risk agricultural activities or clients. The banks are already very weak financially and generally are operating unprofitably.

The net worth of seven of the nine commercial banks decreased in current terms from 326 million colones at the end of 1987 to only 196 million colones as of August 31, 1988. The net worth, as of the end of 1987, represented 5.6 percent of their total assets (see Table 3.16). This had decreased to only 3.3 percent by the end of August, 1988. A prudent commercial bank in El Salvador should probably be operating with a net worth to total asset ratio of at least 15 percent.

Further, the banks' credit operations are generating losses. The net interest yield of the banks was only 6.1 percent in 1987. This yield was almost equivalent to the percentage of administrative costs which the banks were incurring. Therefore, the yield generated by their credit operations was not covering both administrative costs and the cost of a provision for bad loans. The consolidated profit and loss statements for seven of the nine commercial banks are shown in Table 3.17.

IV. LESSONS LEARNED

In our judgment, the Agrarian Reform Program would have been a total failure without the support of this project. It is very evident that the timely delivery of credit to farmers has been an important tool for maintaining and increasing agricultural production even in the difficult environment of El Salvador. The project was reasonably successful in achieving its goal despite the fact that certain key assumptions made in the project design turned out to be unrealistic. These assumptions concerned conditions necessary for achieving the project goal and purpose. The following key conditions were not met:

- Political stability. The democratic process has been strengthened significantly through a reliable electoral system, but political stability has not yet been fully achieved.

- GOES commitment to provide support to the project. The GOES has provided adequate financial support to the project, but the overall framework of economic policies and the weakness of other support services required by farmers had an adverse effect on the sucess of the project.

- Decrease in violence in the country. The decrease in violence has not been significant, and it has had an adverse effect on project implementation and on farming activities.

- Stable or increasing prices for export commodities and basic foodstuffs. The prices of export commodities and basic food generally decreased in real terms, and certain government policies exacerbated this problem.

The project was successful at the purpose level because it provided credit in a timely fashion to meet the credit demand. It did not succeed in achieving a good quality portfolio for several generic reasons:

- The strategic purpose of the BFA has not been promoting development banking, but rather to perform a social and political mission. The BFA can be considered a failure as a bank; however, it has been fairly successful in accomplishing its social and political duties and functions.

- The external factors mentioned above and especially the decrease in prices of certain commodities in real terms have contributed. The GOES did not successfully address certain policy issues in the agricultural sector and relied too heavily on credit as a means to trigger progress in the sector.

- Basic grains production and especially corn production has low profitability.

- The GOES and the BFA have a policy of granting credit to the target group without any selection criteria other than the borrowers' compliance with the definition of the target group.

- The BFA had not achieved the institutional strength required to expand credit on a massive basis when the project started, and progress toward improving its institutional capability has proceeded at a very slow pace.

The BFA's social and political mission probably would have been carried out at a much lower cost, if the design of its organization, financial arrangements, and management systems would have been based on this type of mission. The lack of accountability within the organization is one of the BFA's major weaknesses.

The institutional strengthening program would have been more successful if the design and implementation of the computerized information system had been assigned top priority from the beginning. The bank was able to expand fairly quickly its capability to deliver credit, but it was not able to implement a reasonably effective portfolio management system without a computerized information system.

V. RECOMMENDATIONS

Agricultural Sector Credit Strategy

The agricultural sector credit strategy must give priority to addressing the high rate of default faced by agricultural credit programs. We do not foresee any quick solution to this problem. It is necessary to develop a comprehensive plan to ameliorate this problem substantially in the future.

The long-term strategy should provide in a soundly planned manner the support required to address the present causes of arrears, which are beyond the control of the credit institutions. We recommend carrying out an in-depth study to identify and rank the causes of arrears as a step towards formulating a strategy and a plan to solve them.

We realize that the agricultural sector is functioning in a difficult economic, social, and political environment and that to a large extent this situation has affected the farmers' abilities to repay loans. But, we also realize that basic grains have not been a profitable agricultural activity for many farmers. Therefore, the agricultural sector will have to identify ways to increase the farmers profitability by one or several of the following means:

- Improved policies
- Improved support services
- Gradual diversification of farm plans into more profitable agricultural activities

The agricultural sector credit strategy in the short run should be based on a clear definition of the objectives that it plans to achieve. We perceive that the achievement of social and political stability has been the objective of a significant percentage of the credit that have been provided since 1980. The loan approval or refinancing decisions have not given enough weight to the project's profitability and the borrower's creditworthiness, or the Bank's risk.

We recommend formulating two separate credit strategies. One would address the credit needs of projects or borrowers who represent a higher risk than what can be considered acceptable under any banking criteria. The other would address the credit needs of bankable projects.

Credit for programs with social objectives can be established by the GOES through a trust fund under the management of the BFA. The trust fund agreement could be structured under the following framework.

- The GOES would appoint a Board of Directors which should include representatives of the Ministry of Agriculture, Ministry of Finance, the Central Bank, and the target group of the credit program. A representative of the BFA should participate in the meetings without voting rights.

- The Board should define the credit policy and credit approval criteria.

- The BFA should appoint a Trust Fund Director who should report to bank's credit/operations manager.

- The target group will be agrarian reform beneficiaries and traditional farmers who do not meet the BFA's banking or normal lending criteria. Land tenure and asset value ceilings should be established for individual farmers under the trust fund program.

- A graduation criterion should be established for moving farmers from the GOES's social credit program to the BFA's normal banking program.

- The Board of Directors should approve the volume of lending activity and the budget for each year.

- The trust fund would provide the BFA with an adequate advance of funds in order to finance the approved lending activity and to reimburse the bank for the direct cost of managing the fund plus an overhead fee.

- The GOES should established an attractive incentive fee for the BFA based on the BFA's portfolio recuperation performance.

- The funding for the credit programs should be obtained or negotiated directly by the GOES with the cooperation of the BFA.

- The BFA must be accountable to the Board of the Trust Fund for managing the fund according to the policies and guidelines established by this board. Similarly, the BFA will be accountable to its own board of directors and the GOES for carrying out its banking operations under sound management criteria and in a reasonably profitable manner.

We do not recommend involving "*banca mixta*" institutions in the operation of any credit program with social objectives. The banca mixta should dedicate its management and operations efforts to providing efficient commercial banking services and obtaining an adequate return on its net worth. The banca mixta should function as private banks rather than government agencies in charge of implementing government programs.

The banca mixta's top priority at present should be to strengthen its financial situation, which is already very weak. The trend of the banca mixta's financial performance of the last few years could lead the financial sector to its collapse.

BFA Mission

The BFA should remain the major agriculture credit institution and should be in charge of implementing the GOES's credit program with social and political objectives. The BFA's mission will then be twofold:

- To implement social and political credit programs of the GOES under a trust fund agreement with the government

- To provide agricultural development banking services in a financially self-sustainable manner

Central government would be directly responsible for financing the credit programs which ahve social and political objectives.

In the past, the BFA has functioned under conflicting objectives. The bank has had the mandate to finance these types of programs and to maintain its financial health. In these circumstances, nobody is or feels accountable for the bank's financial performance. Another possible bad consequence of the present arrangement is that the social objective mentality could have prevailed in the other type of credit programs. The poor quality

of portfolios appears to be the common denominator of all types of loans. The conflict of objectives has led the bank to enter into other business activities as a source of profits, in order to compensate for its banking losses.

Financial Structure

The BFA will have to be capitalized by the GOES in order to provide it with a suitable financial structure. The implementation of the trust fund agreement will have to start by removing from the bank's balance sheet all the assets and liabilities that should be transferred to the Government of El Salvador because they were originated by credit programs with social and political objectives. The opening balance sheet of the trust will be made up of these assets and liabilities, and additional capital will be provided by the GOES.

The funding that might be required to bail out the BFA and the manner in which it will be provided will have to be determined once a clean balance sheet is prepared. The BFA's new financial structure should have a ratio of net worth to total assets of at least 20 percent.

The separation of accounts indicated above will require the assistance of a team of consultants in accounting. We estimate that at least two senior and four junior accountants will be required for a period of six months. The separation of the trust and bank accounts and the implementation of separate accounting systems will also require substantial support from the Information System Department. We anticipate the need to hire one system analyst and two programmers for a period of six months.

Top Priority

We recommend assigning top priority to the development of the bank's institutional capabilities in order to achieve a good quality portfolio in its banking credit programs and satisfactory performance in managing the trust fund. Both types of credit programs should function under well-defined and measurable performance objectives.

We do not think the bank should push credit in any one of its programs for the time being. That would lead to a higher percentage of delinquent loans.

The bank should design and implement an institutional strengthening plan in order to improve the quality of its portfolio. The plan should focus on the agencies rather than on the whole bank. A plan focusing on the whole bank would be more complex to manage, and its implementation would probably move at a much slower pace. It would depend on the support, participation, and availability of a much larger number of employees. We

recommend a focus on the agencies, because we believe that it will be easier to obtain more tangible results in the shortrun by strengthening the capabilities at the bank's operating level. We describe below the basic framework for the design of the institutional strengthening plan.

Improvement of Loan Recuperation Performance

This output is broken down into the following subcomponents:

- Improving information for structuring credit policies by establishing a system to record the causes of arrears and generate analytical studies of this data. The data on the causes of arrears will be provided to the headquarters office for analysis.

- Improving credit analysis methodology by establishing a consistent and controllable credit scoring system as an aid in credit analysis and loan approval decisions, and by carrying out periodical analysis of the correlation between arrears and the scores.

- Improved portfolio administration by increasing the time that credit agents spend visiting clients and by establishing a computerized system for monitoring negotiation with clients in arrears. The portfolio administration system will also include performance incentives for agency personnel based on portfolio recuperation.

Accountability and Efficiency

The agencies will function as profit centers and will be accountable for meeting specific performance goals. The loan authorization limits will be increased, increasing the bank's efficiency through greater decentralization. Also, the agencies' procedures and coordination with the headquarters office will be updated in light of the computerized information system, in order to achieve greater decentralization. A job manual will be designed for each position involved in credit operations. An agency supervision manual will be designed for the regional offices. An incentive system will be established for agency personnel, based on goal achievement.

Training

A curriculum will be designed for providing periodic training in credit to all levels of the agencies and regional offices. Also, each employee will receive training for his position on the basis of the job manual for that position.

The headquarters office will also implement activities aimed at improving the effectiveness and efficiency of their management control by making more effective use of the computerized management information system. The headquarters supervision system will be documented for each organizational level that has supervisory responsibility for the agencies.

The Information System Department will implement a strengthening plan aimed at increasing the system's efficiency and effectiveness by analyzing the demand for information in light of its usefulness. The purpose and usefulness of each report will be defined with the users of the information.

A training program will be designed and implemented in order to train the headquarters personnel on the use of the computerized information system and the performance evaluation of the agencies.

The Internal Auditing Unit will be provided with the software and the training required in order to audit the computerized data processing system and reports.

Organization

Organizational changes will be studied and implemented in order to manage the trust fund and the banking programs efficiently. Other organizational adjustments will be implemented to clarify the accountability of each organizational unit and to enhance the management control function.

APPENDIX A. AGRICULTURAL SECTOR OVERVIEW

Traditionally, export crops have dominated the development of the agricultural sector in El Salvador. This situation continues despite the considerable decline in production of coffee and cotton during the 1980s. The table below provides estimates of percent shares of agricultural sector output value at current prices during 1975-78 and 1983-86. The four staple crops — corn, beans, rice, and sorghum — contributed only 13.4 percent of the sector output value in the 1983-86 period. The three traditional exports — coffee, cotton, and sugar — contributed more than half of the value, 53 percent.

Shares of Output Value in Agricultural Sector

(Percent)

	1975-78	1983-86
Coffee	45.11	43.87
Cotton	9.76	3.99
Sugar	4.64	4.89
Corn	6.43	8.15
Beans	2.00	2.06
Rice	1.27	1.13
Sorghum	2.47	2.02
Fruits, vegetables	9.85	8.72
Livestock products	15.48	22.22

Source: BCR and Norton *et al.* (1988)

Two observations emerge from this comparison. First, farmers remain highly dependent on the traditional export crops as the major determinants of their income. The high share of traditional exports makes farmers vulnerable not only to the vagaries of the international commodity markets, but also to the decisions of the exchange control authorities in San Salvador.

Second, the percentage of value contributed by the four basic grains is surprisingly small; livestock production alone provides almost twice as much total income, 22 percent, as that contributed by basic grains. The high proportion of resources and attention given by Project 263 to staple crops contrasts sharply with their small importance as contributors to sector output value and farmers' incomes.

Agricultural Production

The most notable feature in Table A-1 is the rapid and widespread decline in absolute terms in agricultural production since 1978, across nearly all products of importance. Most dramatic of all has been the drop in cotton production from 1.7 million quintals of fiber to barely .25 million in 1987, a fall of 85 percent.

Coffee

The decline in coffee production is equally disturbing, because of its importance as a source of foreign exchange, farmer income, rural and urban employment, and government revenue. Coffee production steadily diminished over the last decade from a high of 4.1 million quintals in 1979 to an expected 2.5 million in 1988, a drop of 38 percent in absolute terms. In per capita terms, the drop is, of course, even more severe.

Many factors are advanced to explain the drop in production. Most commonly cited are the lack of maintenance and the abandonment of coffee plantations by their owners. There has been a general deterioration of the care given to coffee trees in the form of pruning, new plantings, shading, fertilizer application, and disease and pest controls. These symptoms reflect the reaction of coffee growers to the deterioration in real prices for coffee over the decade, the shortcomings of the state marketing policies, the insecurity in the coffee-producing areas of the country, and the uncertainty regarding the land tenure situation.

Coffee prices received by producers have deteriorated as a consequence of the drop in international prices, but also as a result of the combined effects of the coffee export tax and the overvaluation of the exchange rate. A study by FUSADES (1988) estimated that the effective tax on coffee amounted to 67 percent in 1987, and it was probably higher in 1988. If one considers that INCAFE pays producers after a delay of about six

Table A-1. Agricultural Production Levels, 1978-1988
(Millions)

Year	Coffee qq	Cotton qq	Sugar mt	Corn qq	Beans qq	Rice qq	Sorghum qq	Beef qq	Milk lt	Poultry lb	Eggs	Pork qq
1978	3.522	1.713	3.596	11.088	0.939	0.718	3.518	0.228	231.890	33.023	833.827	0.167
1979	4.125	1.410	3.321	11.392	1.139	0.823	3.485	0.214	252.437	34.068	835.829	0.147
1980	4.094	1.350	2.564	11.473	0.852	0.858	3.041	0.185	203.605	35.145	818.563	0.127
1981	3.825	0.948	2.263	10.919	0.834	0.726	2.950	0.148	197.821	36.247	800.499	0.125
1982	3.796	0.870	2.372	8.999	0.828	0.513	2.700	0.149	164.267	37.405	844.136	0.147
1983	3.360	0.886	3.016	9.630	0.914	0.583	2.677	0.147	128.331	38.589	849.118	0.154
1984	3.246	0.684	3.402	11.464	1.055	0.899	3.054	0.148	169.400	39.811	853.303	0.140
1985	3.235	0.542	3.455	10.764	0.744	1.003	2.883	0.140	191.781	46.308	950.879	0.146
1986	3.004	0.232	3.647	9.500	1.080	0.701	3.207	0.155	184.923	45.290	1,049.549	0.164
1987	3.300	0.224	3.300	12.575	0.531	0.567	0.564					
1988	2.541	0.252		12.800	0.903	0.748	2.986					

Source: BCR, DGEA, Norton et al (1988), OSPA

months, the burdens and disincentives for coffee producers are glaringly evident.

The problems of coffee production have become so serious that El Salvador has seen its export quota reduced under the International Coffee Agreement, because of its failure to fulfill the quota in the last few years. The decline in output is likely to continue even after new plantings are begun, because of the lag in starting production; meanwhile, existing trees continue to age.

Cotton

The decimation of cotton production in the last decade is plainly evident from the statistics in Table A-1. Cotton suffered from a combination of several factors: First, there is a growing lack of competitiveness of domestic cotton production in the world market at the current levels of international prices and exchange rates. Norton (1989) has evaluated the domestic resource cost of cotton and found it to be unprofitable to produce domestically. Second, the armed conflict has also affected the traditional cotton-growing areas, affecting production as well as the processing infrastructure. Finally, managerial, financial, and pricing policy problems in the processing and marketing cooperative, COPAL, have contributed significantly to the demise of the crop.

Sugar

Sugarcane is the only one of the traditional export crops that has maintained its production levels, and in fact, has grown slightly since the beginning of the decade. From 3.6 million metric tons in 1978, sugarcane production descended to 2.5 million in 1981, but has since recovered to 3.3 million in 1987. Export earnings from sugar have replaced those from cotton as the second source of foreign exchange. In 1988, it contributed US$ 19.1 million compared with US$ 0.2 million from cotton and US$ 360 million from coffee. Sugarcane production is helped because producers have access to the U.S. sugar market, thanks to the generous quota provided by the U.S. government, at prices three to four times higher than the international market. Domestic production costs and internal prices remain above the world market price (OSPA, 1988).

Basic Grains

The importance of basic grains emanates mainly from their place in the diet of the population and the political consequences that could be generated from shortages of these commodities in the market. During the 1980s, basic grains have maintained roughly their levels of production, although in per capita terms their availability has been reduced

(see Table A-2). Evaluated at constant prices of 1985-86, availability per capita of staple crops in 1985-86 was only 82 percent of the levels reached in 1978-79 (Norton, 1988).

Corn production during 1987-88 has shown a slight but definite improvement over previous years, both in area planted and in expected yields, to reach output levels of more than 12 million quintals, or just above the output of 10 years ago. Yields in 1987 were estimated by MAG/DGEA at 31.6 quintals per manzana, and in 1988 the preliminary estimate is 33.6 quintals per manzana. Both compare well with the average yield of 25.8 quintals per manzana obtained in the 1986 season.

Two consecutive years of unfavorable rains, 1986 and 1987, have left their imprint on the production figures for basic grains. The 1986 drought affected corn but had no noticeable impact on the production of the other basic grains. In 1987, the reverse was the case. Corn production was the highest in many years, but beans, rice, and sorghum were badly hurt. The difference in drought impact is due to the timing of these crops: corn is produced mainly in the long rainy season, while beans and sorghum are predominantly short-season crops. Most beans and sorghum are cultivated in the same fields that are planted with corn in the main season.

Preliminary estimates of production of basic grains in the 1988 harvest are now available from the Division of Agricultural Economics, Ministry of Agriculture and Livestock. The results are favorable for all four basic grains crops. Yields per manzana being reported are: 33.6 quintals for corn, the highest in the decade; 11.0 quintals for beans; 39.0 for rice; and 16.9 for sorghum. In the case of corn, however, some late season rains resulted in rot damage to ears in the field. The extent of this late damage has not been assessed, but it certainly lowered the quality of the grain, some of it becoming unfit for human consumption.

One striking feature of basic grains, observed over the last decade and evident in Figure A-1, has been the relative constancy of area planted in all four crops. The combined area fluctuated between 600,000 and 700,000 manzanas. Corn constitutes the bulk of basic grains in both output and area, so it is not surprising that the total areas of basic grains and corn move in close harmony. The percentage of area planted in corn ranges from 53 to 61 percent, but for most years is about 57 percent.

The relative constancy of area planted in basic grains also implies that most variation observed in total production has been the result of yearly variations in yields, rather than in planted areas. Yield variability is largely attributable to the vagaries of the weather, but it can be influenced by farmers' decisions about intensity of input use. To the extent that credit availability makes a difference in the level of inputs applied per unit of area, it should affect observed yields. The series of yields reported for the

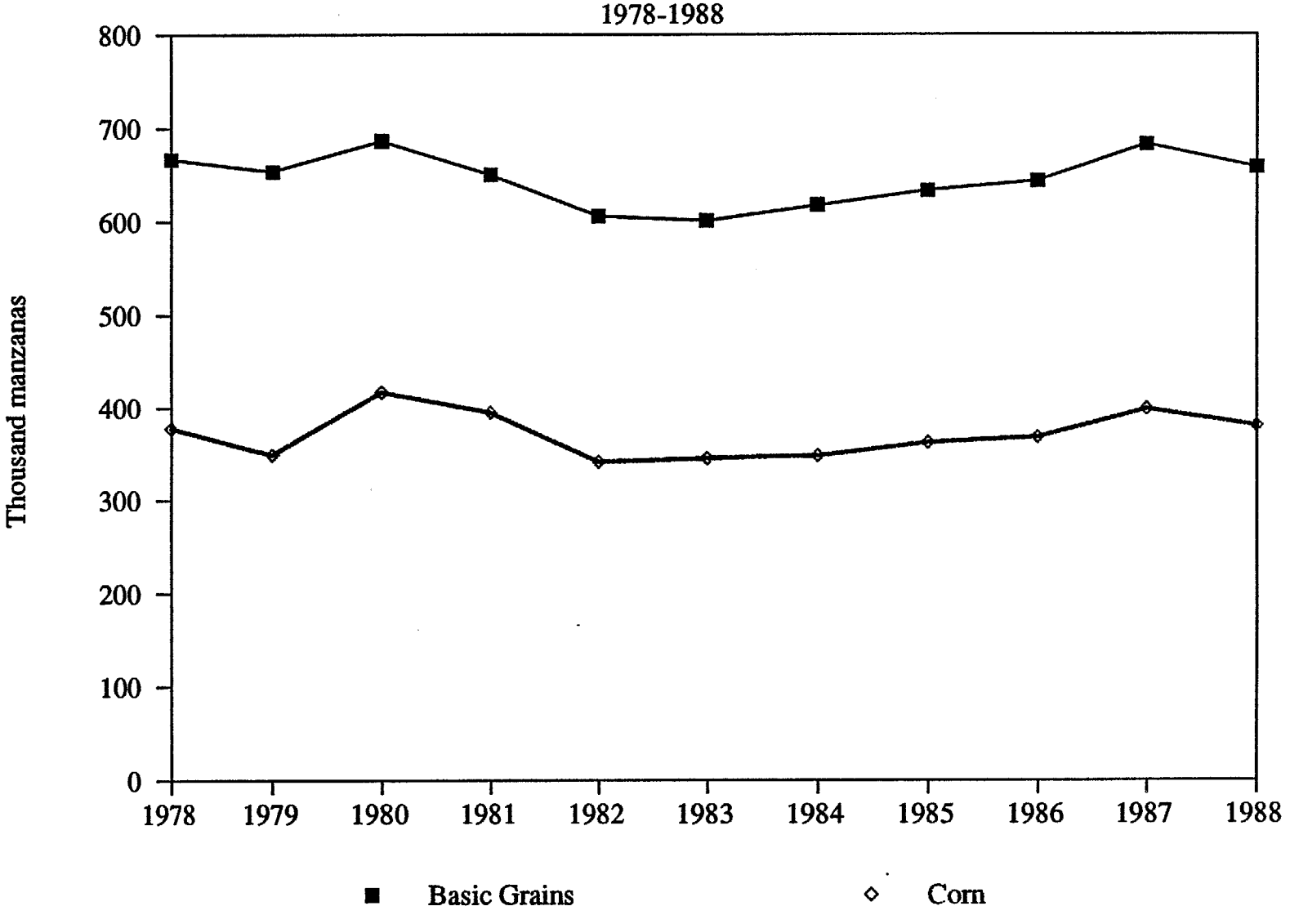
Table A-2. Basic Grains. Area Planted and Yields, 1978-1988

Year	Corn	Beans	Sorghum	Rice	Total
		Area: Thousand manzanas			
1978	377.6	74.0	195.4	19.9	666.9
1979	349.3	78.7	205.0	21.1	654.1
1980	417.0	75.0	170.7	24.0	686.7
1981	395.0	71.0	165.0	19.8	650.8
1982	341.0	79.4	170.0	16.0	606.4
1983	345.0	80.5	158.0	18.0	601.5
1984	347.7	82.5	166.0	21.9	618.1
1985	362.1	83.3	163.4	24.7	633.5
1986	368.1	87.1	171.5	17.2	643.9
1987	398.5	89.3	178.7	16.7	683.2
1988	380.4	82.3	176.4	19.2	658.3

Year	Corn	Beans	Sorghum	Rice
		Yield: quintals/manzana		
1978	29.2	12.6	18.0	36.2
1979	32.5	12.8	17.0	39.0
1980	27.5	11.6	17.8	35.8
1981	27.5	11.7	17.9	36.7
1982	26.4	10.5	15.9	32.1
1983	27.9	11.4	16.9	32.4
1984	33.0	12.8	18.4	41.1
1985	29.7	9.0	17.6	40.6
1986	25.8	12.6	18.7	40.7
1987	31.6	5.9	3.2	33.9
1988	33.6	11.0	16.9	39.0

Source: Statistical Yearbooks, DGEA/MAG, OSPA

Figure A-1. Basic Grains: Area Planted, 1978-1988



different basic grains show no apparent long-term trend, indicating that production technology has basically remained static over the past decade.

Stagnation in productivity of staple crops in the last decade has been the result of the weak economic position of farmers, making them unable to purchase crop inputs in adequate amounts, and of the surrounding social conditions in the countryside. This indicates that there is scope for rapid expansion of output, without relying on major technological breakthroughs, if some of the social and economic constraints on the sector's development are removed.

The livestock subsector offers some of the few positive signs in this overview of agricultural production in El Salvador. During the 1980s, poultry production continued the rapid growth of the 1970s. It increased from 33 million pounds in 1978 to 45.3 million in 1986 (see Table A-1). Egg production also maintained a steady growth, from 834 million in 1978 to 1,050 million in 1986. Unfortunately, the performance of beef and milk production was negative during the same period. Beef output declined 32 percent from 228,000 quintals to 155,000 quintals. Milk dropped from 232 million liters to 185 million between 1978 and 1986. Pork production remained practically unchanged.

Growth in the poultry industry has also brought about the expansion of a feed manufacturing industry and an accompanying distribution network for feeds, veterinary products, and farm equipment. The distribution infrastructure for agricultural inputs is highly competitive and well developed. It is one of the bright spots of El Salvador's agricultural sector, and it offers a potential channel for local input delivery and technical services to small farmers all over the country.

APPENDIX B. INCENTIVES FOR NON-PAYMENT

Current lending practices by the BFA carry an implicit subsidy to farmers of nearly 20 percent per year. This subsidy acts as a major disincentive to farmers for making prompt payment on their loans. Two changes are recommended: First, introduce compound interest on agricultural loans. Second, increase lending rates above inflation to reflect a positive cost of borrowing.

The high levels of non-payment can be attributed in great part to the negative interest rates being charged. A simple financial calculation by farmers or anyone else advising farmers would reveal that it would be greatly advantageous to delay as much as possible payment on agricultural production loans, under the current terms that the BFA grants.

This does not mean that farmers renege on the loans; it means that it is better for them to delay payment as much as possible. They are quite happy to acknowledge the debt to the bank and accept the accumulating interest on their outstanding loan. They are still far better off by not paying.

There are two reasons why farmers are encouraged to delay payment: the low interest rate, and the type of interest. Simple interest is perhaps the main incentive for non-payment. Farmers are being charged simple interest rates on their outstanding capital balance. No interest is charged on the accumulated interest. The banking regulations under which the BFA operates do not permit charging compound interest. Partial payments by the farmer are credited first to the payment of interest, and afterwards to amortization of capital. There are few penalties for non-payment of principal. As long as a farmer makes token payments to cover some interest, the loan is kept in good order. But, even if interest is left to accumulate, since interest is not charged on interest, the incentive for non-payment on interest is even higher than for capital. The low amounts involved in these loans also discourage any efforts for collection. The costs of collecting could quickly become greater than the amounts collected, especially if collectors must travel to farms to talk to the farmers.

A negative real interest rate also encourages delays in payment. Most of the attention is placed on the fact that farmers are charged by the BFA a

rate of interest that is lower than the rate of inflation. Currently, the BFA lends funds for maize at 13 percent. This rate is mandated by the Central Bank of El Salvador (BCR). The BCR has a large number of lending rates, depending on the use of that money and the source of funds. Adjustments on these rates are seldom made to reflect changing conditions in the financial market.

The three factors, a low interest rate, a simple interest type, and a high rate of inflation, combine to discourage farmers from paying their loans. Current rates of inflation are between 20 and 25 percent per year. A real rate of interest of say, 8 percent, with an inflation rate of 22 percent will require charging a lending rate of 30 percent compounded interest.

Therefore, BFA loans for maize are receiving a considerable subsidy. This subsidy is much greater than the difference between the two rates, 30 minus 13. The real lending rate is at compound interest while the interest charged by BFA to farmers is a simple interest rate. To estimate the amount of subsidy it is necessary to know when the farmer might actually pay the loan, if ever. For example, if a farmer actually pays an entire loan of c per 1,000 and interest after four years, he or she would pay c per 1,520 (see Table B-1) The implicit compound rate of interest of this payment is 11 percent, and the implicit subsidy would be almost 19 percent. When one is receiving a subsidy of 19 percent per year on a loan, it would be foolhardy to make any effort to cancel the loan early.

The subsidy rate would be greater if farmers actually take longer to cancel their loans. For example, if cancelation is done after 10 years, the final payment of 2,300 c/ on a loan of c/1,000 ten years earlier, is equivalent to a compound interest rate of 8.7 percent. The implicit subsidy rate would then be 21.3 percent (compound, not simple). Were we to express the rate of subsidy in terms of rates of simple interest (i.e., in terms comparable to the rates currently charged farmers as shown in Table B-2), the rates would be much higher. If payment were made after four years, at a real rate of 8 percent compound (30 percent nominal), the payment would be C.2,856 on a loan of C.1,000. The implicit simple interest rate that would generate the same amount after four years would be 46.4 percent. The implicit subsidy rate is then 33.4 percent (46.4 minus 13) in terms of simple interest rate. Once again, it bears repeating that the subsidy will be even higher if farmers delay final payment for longer periods. A farmer who cancels his loan after 10 years, for example, receives an implicit subsidy of almost 115 percent, expressed as a simple interest rate.

Table B-1 Implicit Subsidy Rates in BFA Agricultural Production Loans

Year loan paid	Amount paid BFA	Implicit compound rate	Implicit subsidy percent compound
1	1130	13.00	17.00
2	1260	12.25	17.75
3	1390	11.60	18.40
4	1520	11.04	18.96
5	1650	10.53	19.47
6	1780	10.09	19.91
7	1910	9.69	20.31
8	2040	9.32	20.68
9	2170	8.99	21.01
10	2300	8.69	21.31

Note: Calculations are based on a loan of c/1,000 at 13 percent simple interest, while there is an inflation rate of 22 percent per year, and a real rate of interest of 8 percent, for a nominal compound rate of 30 percent.
Source: RRNA team.

Table B-2 Implicit Subsidy Rates in BFA Agricultural Production Loans

Year loan paid	Amount paid at 8 percent BFA	Real payment	Amount simple rate	Implicit subsidy percent simple
1	1,130	1,300	30.00	17.00
2	1,260	1,690	34.50	21.50
3	1,390	2,197	39.90	26.90
4	1,520	2,856	46.40	33.40
5	1,650	3,713	54.26	41.26
6	1,780	4,827	63.78	50.78
7	1,910	6,275	75.36	62.36
8	2,040	8,157	89.46	76.46
9	2,170	10,604	106.71	93.71
10	2,300	13,768	127.86	114.86

Note: Calculations are based on a loan of c/1000 at 13 percent simple interest, while there is an inflation rate of 22 percent per year, and a real rate of interest of 8 percent, for a nominal compound rate of 30 percent.
Source: RRNA team.

APPENDIX C. CROP PROFITABILITY AND LOAN REPAYMENT PROSPECTS

The Case of Corn Production

The high default rate in crop loan repayments is an important issue in evaluating the agricultural credit program. Among the many potential factors contributing to the high rate of non-payment on BFA loans is the low profitability of basic grains production. There is a great divergence between the crop budgets used by the BFA in estimating loan requirements and income expectations and the actual field results obtained by farmers. The implications of that disparity for repayment of crop production loans and the benefit-cost evaluation of the credit program are discussed below.

Corn is used in the following discussion as an illustration of the general situation, because it is the main crop being financed under the project, and because there is more information on it than on other staple crops. The economic situations for export crops and livestock, also funded under the project, differ substantially.

Crop Budgets Used by the BFA

Every year, several months before the agricultural cycle starts, the Technical Assistance and Norms Unit in the Credit Division of the BFA prepares a catalog of crop budgets for each of the main crops for which the bank makes loans. The latest production costs manual, for the 1988-89 season, was published in July 1988. Since much of the BFA's agricultural production credit is issued for maize, discussion is limited to that crop.

Four separate budgets are prepared for corn: seed corn, corn for human consumption, intercrop of corn with beans, and intercrop of corn with sorghum. Table C-1 presents the budget used for ordinary corn for consumption (*maiz consumo*). Table C-2 summarizes the budget information for all of the principal crops which the BFA finances.

Production costs per manzana of corn are estimated at 2,067 colones for the 1988-89 crop year. These costs are broken down into four components:

Inputs	580 colones
Land Preparation	283 colones
Labor	716 colones
Transport & other	488 colones
Total per manzana	2,067 colones

On the revenue side, the crop budget anticipates a yield of 55 quintals of corn per manzana, to be sold at an average price of 45 colones. This equates to a total revenue of 2,475 colones per manzana. Net revenue per manzana amounts to 408 colones, or 20 percent of production costs. This is seemingly a sufficient margin to assure that farmers will be able to repay the production loan without difficulty.

Furthermore, the BFA does not lend 100 percent of the production costs to the farmers, since it assumes the farmers will contribute on their own to covering these costs, at least in the form of family labor inputs. Table C-2 shows the maximum loan amount authorized for the different crops; for corn it is 1,735 colones per manzana, or 85 percent of the total production cost. Expressed in terms of costs per quintal, the BFA lends 29.20 colones, or 85 percent of the estimated cost of production, 34.31 colones per quintal.

Crop Budgets and Field Facts

Most farmers find that their corn yields do not approach the levels anticipated in the crop budgets of the BFA. As a result, farmers' revenues tend to be well below BFA expectations, and their unit costs tend to be above those anticipated. Repayment to the BFA is thus compromised. A basic question, therefore, is how realistic are the yields postulated by the BFA budgets?

The BFA's beneficiaries normally obtain yields above those of farmers not receiving BFA credit. Fortunately, there are quantitative estimates of the differences in yield between the two groups.

Table C-1
Estimated Costs of Production of White Maize
for Human Consumption. 1988-89 Season.
(colones per manzana)

Item	Cost	Subtotal
Inputs		580.43
Seed, 30 lbs @ 1.70	51.00	
Fertilizer, Formula, 4.4 qq @ 49.09	216.00	
Fertilizer, Sulphate, 4.4 qq @ 27.27	119.99	
Other Inputs	193.45	
Soil Preparation		279.89
Labor, 7 days @ 14.27	99.89	
Tractor and equipment	180.00	
Planting.		42.81
Labor, 3 days @ 14.27	42.81	
Field Cultivation		364.62
Labor, 24 days @ 14.27	344.62	
Tractor	20.00	
Harvest		310.82
Labor, 14 days @ 14.27	128.32	
Tractor	82.50	
Transport		77.00
In farm	22.00	
Off farm	55.00	
Subtotal, direct costs		1,655.57
Administration, 3% of above	49.67	1,705.24
Contingencies, 5% of above	85.26	1,790.50
Rent for land	150.00	1,940.50
Interest, 6 months @ 13%	126,13	2,066.64
TOTAL PRODUCTION COST		2,066.64

Profitability of Maize

Total cost	2,066.64	colones/manzana
Expected yield	55.00	quintals/manzana
Cost per quintal	37.58	colones/quintal
Expected sale price	45.00	colones/quintal
Value of Production	2,475.00	colones/manzana
Net Revenue	408.36	colones/manzana
Net Revenue	7.42	colones/quintal
Benefit/Cost Ratio	1.20	

Source: BFA, Credit Department

Table C-2. Maximum Amounts of Financement per Produced Unit for Agricultural Season 1988-89

Destiny	Cost per quintal	Finance per quintal	Guide to establish financing				For guaranty purposes		
			Inputs	Trade	Machinery Labor	Management and training	Amount	Product unit	Maximum financing
Corn	34.31	29.20	10.95	5.95	10.45	1.85	55	45.00	1.735*
Corn associated with	38.08	29.20	10.95	5.95	10.45	1.85	50	45.00	1.990*
Maicillo	27.26	15.50	4.35	—	9.40	1.75	20	30.00	—
Rice	46.28	38.92	18.45	6.20	11.72	2.55	65	50.00	2.670*
Maicillo alone	25.78	24.60	7.85	4.35	10.70	1.70	60	30.00	1.600*
Bean (August)	93.00	84.45	38.10	—	43.10	3.25	18	120.00	1.695*
Beans under irrigation	100.93	79.75	36.20	8.60	31.60	3.35	22	120.00	1.900*
Sugar cane sown land[a]	31.82	24.82	13.00	5.70	6.13	—	90	65.00	2.255*
Sugar cane maintenance[a]	16.70	14.12	5.25	1.00	6.17	1.70	74	65.00	1.100*
Coffee (loan 1988-89)	245.22	208.00*	46.50	—	151.23[c]	2.25	—	225.00	—
Cotton (loan 1988-89)[e]	128.09	117.85*	47.00	21.50[b]	36.50[c]	4.00[d]	—	130.00	—
Land preparation for cotton									380.00
Roya Coffee Plant									272.69
Seed production of sugar cane									2,560.00

a. Cost, financement, and production by tons and correspond solely to the agricultural phase.
b. Includes aerial irrigation and related services for a value of 9.50 colones per quintal.
c. Includes labor for cultivation and harvest.
d. Includes insurance payments.
e. Additional financing will be granted up to 250,000 colones per manzana for renting.
* Maximum financement authorized by BCR per manzana and per quintal for the agricultural cycle 1988-89.
Note: Quantities not used in an item could be used in another.
Source: Gerencia de Créditos, Asistencia y Normatividad, El Salvador.

Distribution of Corn Yields

The Agricultural Economics Division of the Ministry of Agriculture and Livestock performs an annual survey of yields throughout the country, in order to arrive at estimates of production and yields for the country's principal crops. We were able to obtain access to the survey results for the last corn harvest season, which took place in October-November 1988. Rainfall during the last growing season was favorable; therefore, the yields observed in October 1988 are indicative of those typical for a good year. Results for seasons with less favorable rainfall would be correspondingly lower.

Figure C-1 presents a histogram of the sample yields obtained by the Agricultural Economics Division. Ninety-three sample observations covering the four regions of the country were recorded. There is strong clustering of observations between 28 and 40 quintals per manzana. The average yield was calculated at 33.9 quintals per manzana, but there is considerable dispersion of yields around the mean, as is evident from the histogram.

Figure C-2 represents a hypothetical scattering of corn yields, assuming that they follow a normal frequency distribution. The histogram suggests that corn yields fit reasonably well into a normal distribution. The normal curve has been calibrated at a mean of 34 quintals per manzana, with a standard distribution of 9. (The calculated standard deviation was 8.62 quintals, but in the interest of simplicity it was rounded to 9 quintals.) Figure C-3 superimposes the theoretical distribution on the actual values collected from the farm survey. The match between the two appears quite satisfactory.

We are now able to make statements about the distribution of corn yields on the basis of the estimated normal distribution. It is remarkable, first of all, that the entire yield curve lies to the left of the 55 quintals per manzana that the BFA budget postulates for its farmers. Less than 1 percent of area planted in corn in El Salvador has yields above 55 quintals per manzana, measured as the relative area under the normal curve to the right of the 55 quintal mark. (Strictly speaking, statements should be based on percentage of area planted in corn rather than percentage of farmers growing corn, but for the sake of simplicity we will use the two interchangeably.) The estimated yield of 55 quintals per manzana is unrealistically optimistic, especially since BFA beneficiaries are presumably farmers with small plots of land and low incomes.

Clearly, the BFA budgets and recommendations are based on research station or model-farm technological packages and resource conditions. Their applicability to actual farm conditions needs to be reexamined. Farmers will quickly lose confidence in technical assistance recommendations that differ so much from their actual observations in the field. The BFA not only risks

Figure C.1: Corn Yields: Observed

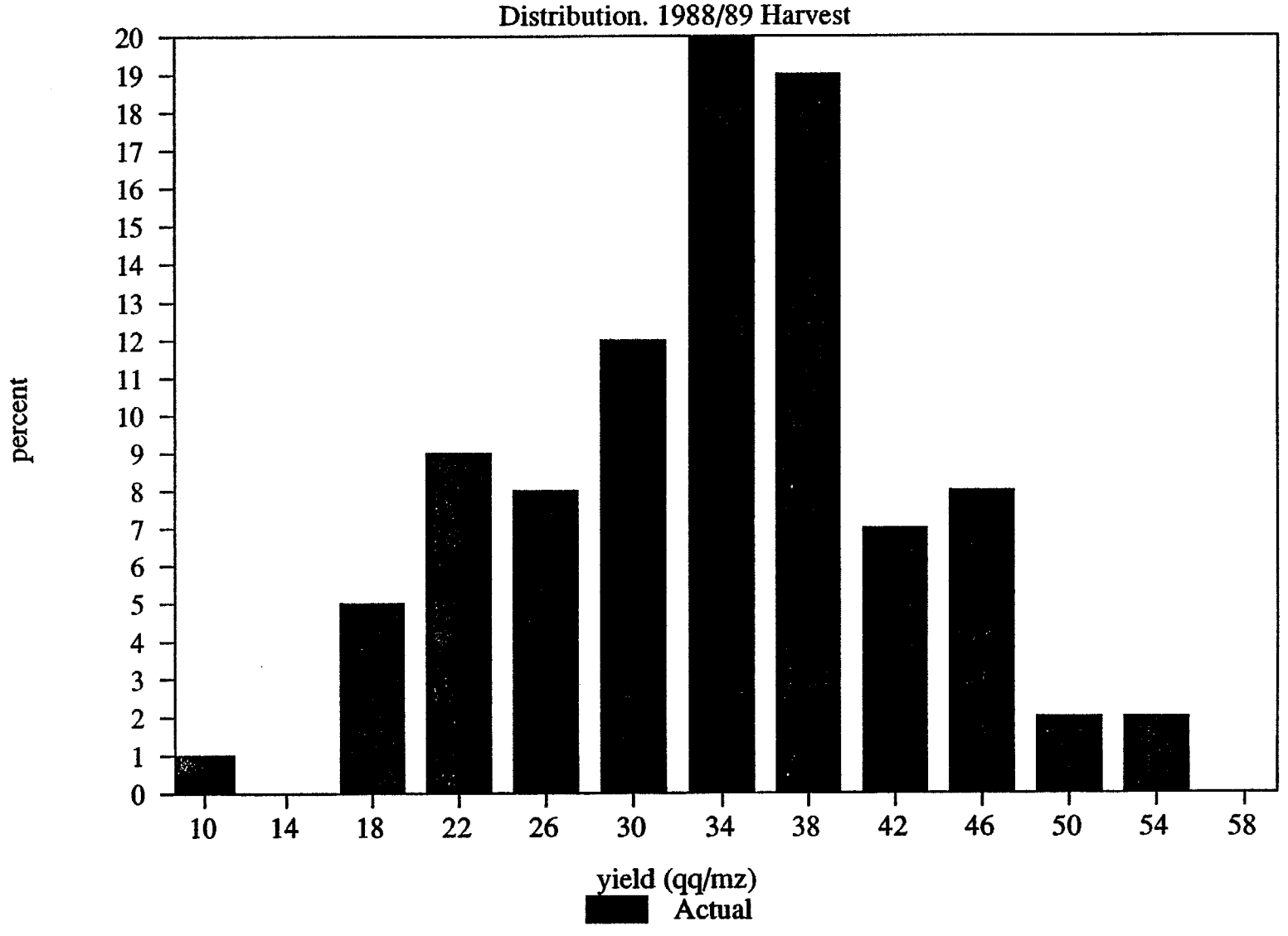


Figure C.2: Corn Yields: Estimated Normal

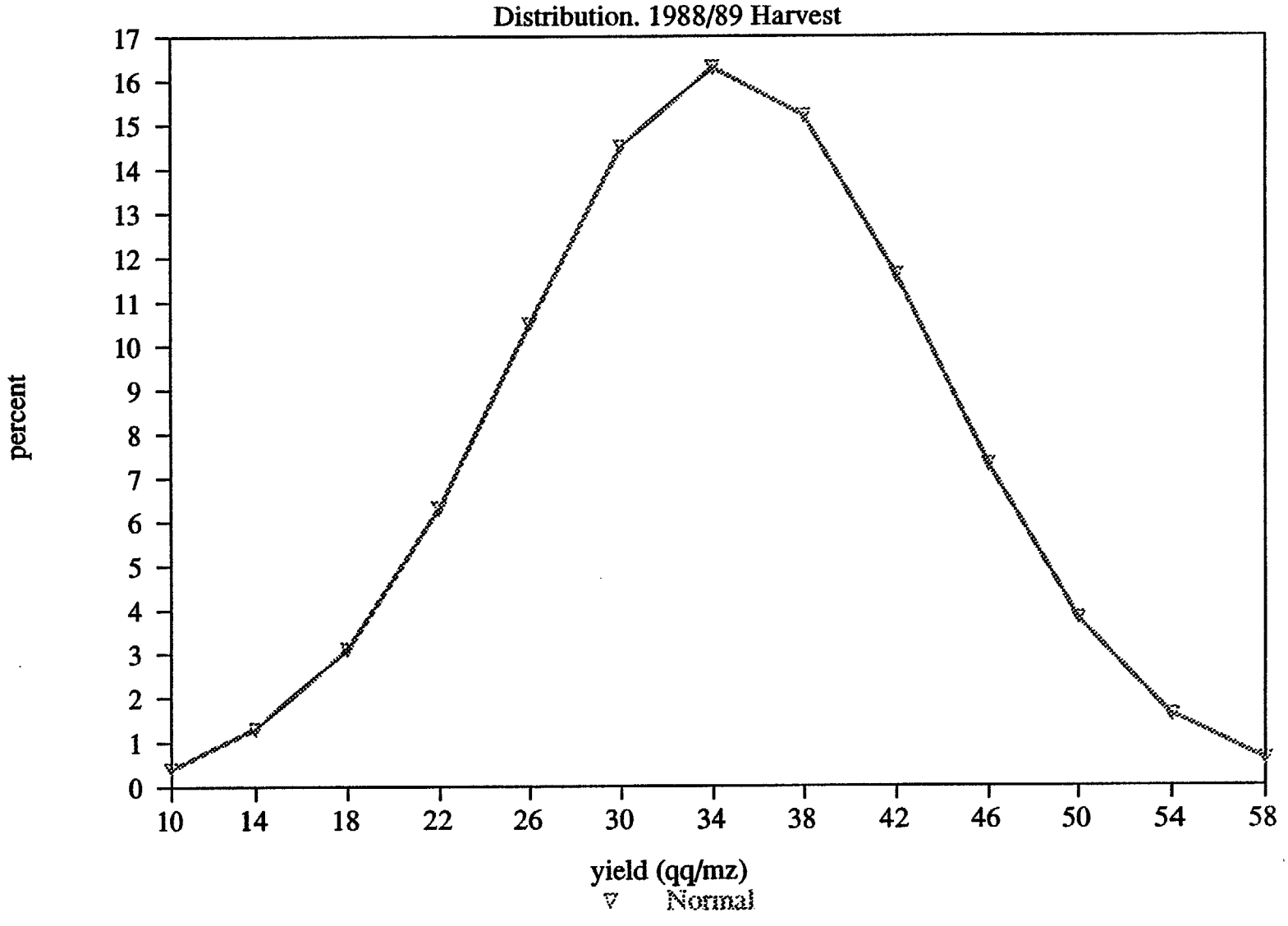
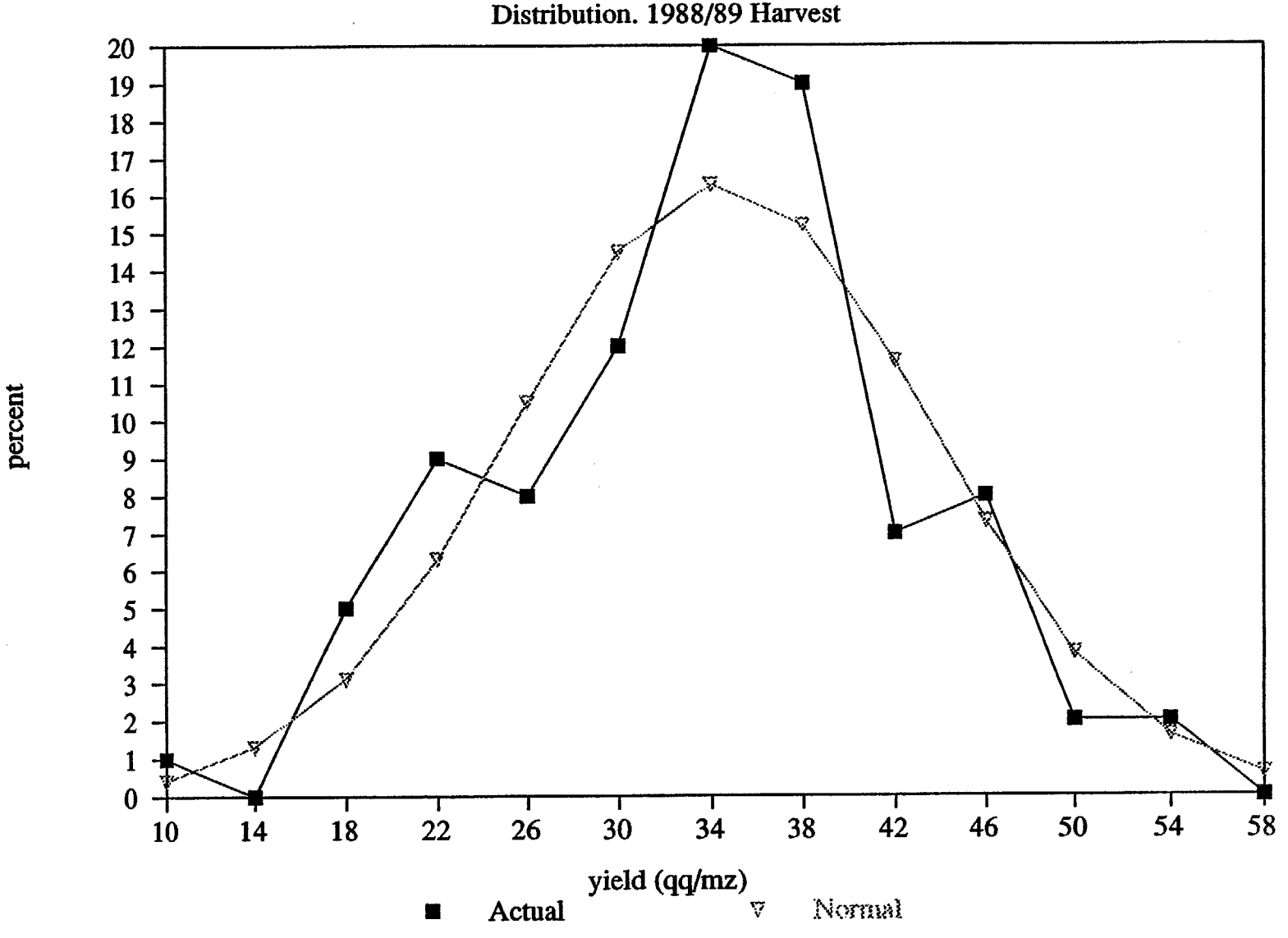


Figure C.3: Corn Yields: Actual and Normal



losing confidence among its farmers, but it could, in fact, harm the farmers, since those who follow BFA recommendations could be incurring costs higher than necessary.

Farm Revenue and Loan Repayment

A farmer obtaining an average yield of 34 quintals per manzana in 1988, a year with a fairly good rainfall, will likely find it difficult to repay a BFA production loan. Producer prices for corn vary greatly by month and by location. Most farmers sell grain to private merchants at prices below the "official prices" specified by the IRA, the Food Supply Stabilization Board (*Instituto Regulador de Abastecimientos*). The reference price published by the IRA is 45 colones per quintal, but the IRA is practically bankrupt and unable to purchase grain from farmers. Farmers selling to traders at the farm reportedly are receiving between 35 and 40 colones. As an additional service to its beneficiaries, the BFA decided last year to enter the corn market directly, buying grain at the official 45 colones per quintal from its own loan clients. The BFA is storing the grain in silos and warehouses belonging to the IRA. Farmers are delighted to be able to settle their loans with the BFA by selling their grain to the BFA at higher-than-market prices. The wisdom of BFA's entering the grain trade, assuming a role which has led the IRA to bankruptcy, seems poor.

We take an arbitrary price of 40 colones per quintal for our subsequent estimates, roughly halfway between the artificially high IRA price and the lower estimate of prices paid by traders. Thus, an average corn farmer would make 1,360 colones in gross revenue per manzana from last year's harvest, if he or she were to sell the entire yield of 34 quintals in the market. Small farmers, however, have substantial family consumption requirements. Let us therefore assume that farmers use an average of 17 quintals per manzana for family consumption. As an illustration, gross cash revenue from corn sale then would be 3,400 colones per manzana for a farmer who planted 3 manzanas.

We recall that the BFA lends up to 1,735 colones per manzana, or 85 percent of the total estimated costs. Most farmers, however, do not use the entire amount. Actual disbursements by farmers range only between 800 and 1,200 colones per manzana, according to BFA loan officials. (Why farmers are reluctant to take advantage of the additional authorized credit is not well understood. Perhaps they are reluctant to incur more debt than they can repay later on.) At any rate, given the expected cash revenue of 3,400 colones per manzana, farmers appear to be acting responsibly by not borrowing the entire amount offered by the bank. The net cash flow after interest expense for this farmer would be -434 colones, assuming a production cost of 1,200 colones per manzana and without taking into consideration after-harvest production losses.

Loan Delinquency Ratio

The farmer in the illustration above would have had to obtain a yield of approximately 37.7 quintals per manzana instead of 34 quintals in order to reach its break-even cash flow and be able to repay the full amount of the loan plus interest. The overall production value of this farmer would have been 1,512 quintals per manzana at the break-even point. Farmers with lower than average yields would have to dip even more into other household resources in order to cover the loan. Figure C-4 presents the value of corn production per manzana at 40 colones per quintal, distributed according to the observed variations in yields.

What proportion of farmers can be expected to default on payment of their production loans for the last season? We estimate that about 49 percent of the corn farmers will not reach the break-even point and will not be able to repay the full amount of the loan plus interest.

Actual Yields and the BFA's Current Estimates

The preceding analysis throws a rather unfavorable light on the profitability of corn production. Equally disturbing is the sharp contrast between field realities and the crop budgets used by the BFA for planning and technical assistance. The current estimate of production costs per manzana used by the BFA, 2,066 colones, is clearly not representative. If true, only the top 1 percent of farmers would be able to cover those costs. Ninety-nine percent of farmers would be making losses on the corn crop.

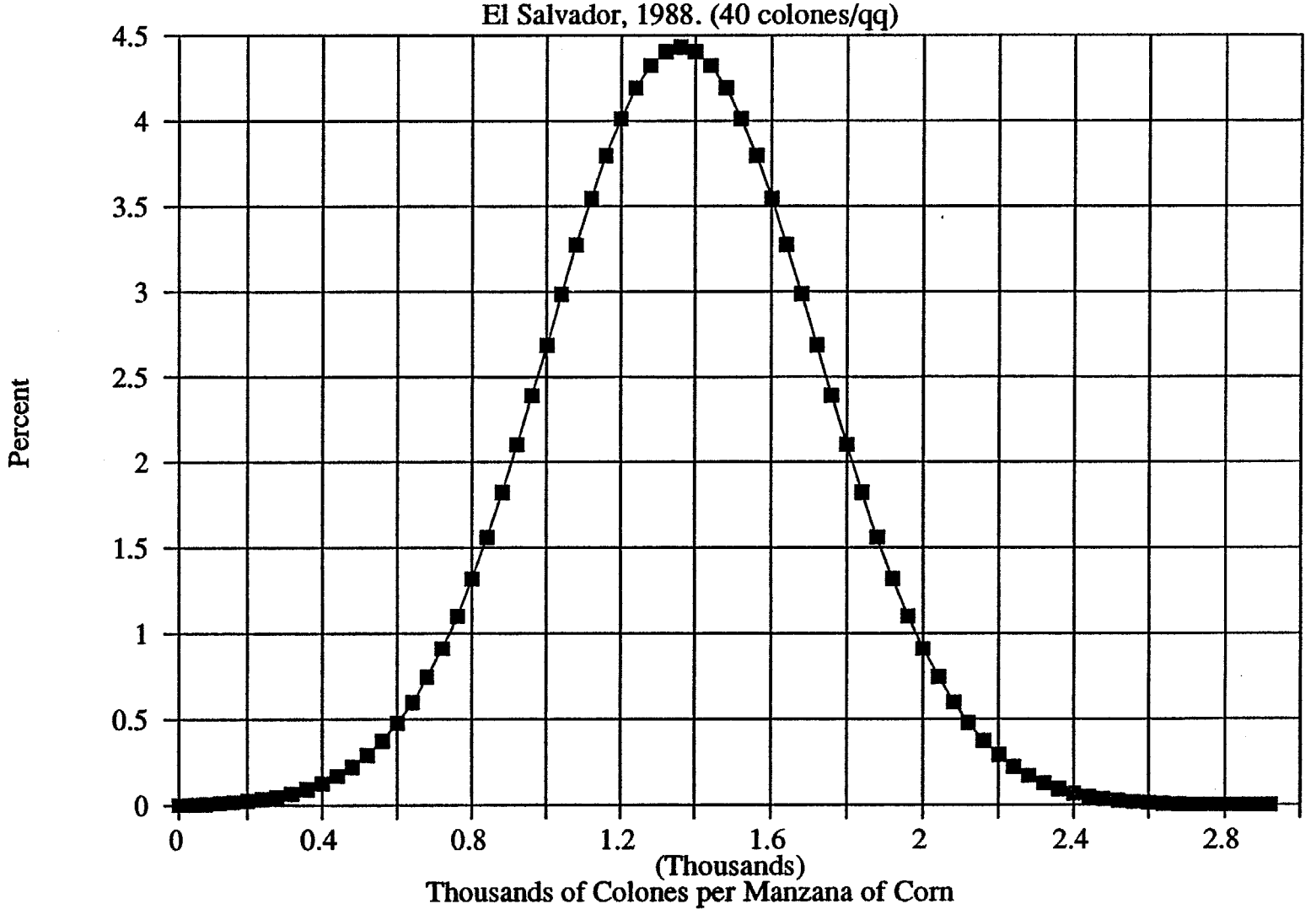
Despite the low profitability, small farmers continue to produce corn. It continues to be a viable crop for them, because they need to satisfy family requirements and because corn production allows small farmers to use their own resources of land and family labor that otherwise might remain idle. Therefore, poor farmers can find it advantageous to produce corn, while commercial farmers find it unprofitable. Cooperatives producing corn with high levels of mechanization, inputs, and hired labor are likely to be incurring losses. Their high delinquency rate in loan repayment suggests that this assessment is correct. The BFA should reexamine the commercial viability of corn production by cooperatives and its implications for loan recuperation.

Actual Yields and Project Design Estimates

It is also possible to contrast the current estimates of corn profitability with the projections of increased production and income for farmers benefiting from credit provided by Project 263 through the BFA, made at the time of the last redesign of the project.

The economic analysis of the Fourth Amendment to Project 263 makes use of crop yield and production cost estimates that differ from those

Figure C-4: Revenue per Manzana of Corn



currently found in the field. These data were used to arrive at overly optimistic estimates of project benefits. Table C-3 compares yields obtained with and without the use of agricultural inputs. It shows the high response of basic grains to the use of inputs: Yields more than double when agricultural inputs are used, and high yields can be obtained in the first year of use of inputs.

Table C-3. Basic Grain Yields

(Metric tons per hectare)

Crop	Yield without inputs	Yield with inputs	National average
Hybrid corn	1.6	4.61	2.23
Sorghum	1.15	2.02	1.18
Rice	1.6	4.80	3.24
Beans	0.77	1.30	0.81

Source: MAG/CENTA and MAG/DGEA.

The Project 263 design paper notes that "the correct application and timing [of inputs] is generally known by El Salvador's small farmers." Nevertheless,

> the basic assumption underlying the economic analysis is that if short term credit is not available, the farmers will not purchase any fertilizer, pesticides and herbicides, and the maize and rice farmers will spend less for seed. In other words, the 'without project' situation is one where modern inputs are not used, while in the 'with project' situation they are. (Project Paper, p. 59)

It should be noted that the national average yield for corn by MAG/DGEA at the time — 2.23 metric tons per hectare (32 quintals per manzana) — is nearly the same as that reported for 1988: 34 quintals per manzana. The Project Paper chose to take the without-input-yield as the basis for the "without project" situation and assumed that yields would be 1.6 metric tons per hectare or 22 quintals per manzana, without the project.

The Project Paper supposes that with the availability of credit and purchase of inputs, yields will increase to 4.6 metric tons per hectare or 64 quintals per manzana. We do not have data on the dispersion of yields at the time of the project design, but taking the national mean of 32 quintals per manzana and a standard deviation of 8 quintals (i.e., 25 percent of the mean), we can make some conjectures. Only 11 percent of farmers would be expected to have yields of 22 quintals per manzana or lower. At the other end, the proportion of farmers who had yields of 64 quintals per manzana or above is less than 1 in 1,000, since it lies at four standard deviations above the mean. The project design paper therefore assumes that as a result of the credit from Project 263, farmers at the bottom 11 percent of yields will be transformed in one year to have yields not achieved by 99.9 percent of all farmers.

Therefore, the expected production yields discussed above were unrealistic. Table C-4 presents the expected financial benefits from the project for the four basic crops, in U.S. dollars per hectare. In the case of corn, for example, a farmer without assistance from the project makes $2 per hectare in net benefit, while with the project his profit rises to $225. Rice is more remarkable: a loss of $126 is transformed into a profit of $317 per hectare as a result of the project.

For a farmer providing half of the necessary labor, the results in terms of cash flow are presented in Table C-5. For corn, the increase in cash outflows of $450 per hectare (1,440 colones per manzana) yields an increased revenue of $690, for a net return of $240 per hectare, or 53 percent return on the cash investment. According to these projections, with the use of agricultural inputs obtained with credit made available by the project, small farmers' incomes can be expected to increase substantially, permitting farmers to obtain a net profit per hectare of $225 for corn, $51 for sorghum, $317 for rice, and $445 for beans (page 60 of Project Paper). The calculated rates of return on credit funds were 53 percent for corn, and 31, 73, and 64 percent for sorghum, rice, and beans respectively, for a weighted average of 56 percent.

Other Benefits to Farmers

A BFA loan has a value to the farmer far beyond the additional production obtained through increased use of inputs. Among the additional benefits, we will consider the financial subsidy implicit in the low-interest rate, the lower cost of agricultural inputs, and the higher price received for output. Farmers can take advantage of different types of these benefits.

Table C-4. Production Costs and Benefits per Hectare

(U.S. dollars)

	Corn		Sorghum		Rice		Beans	
	without	with	without	with	without	with	without	with
Gross costs	364	831	261	385	622	1,171	482	725
Seeds	15	30	9	9	80	100	80	80
Fertilizer	—	150	—	65	—	250	—	150
Pesticides	—	27	—	16	—	42	—	40
Capital cost	20	50	10	10	108	108	—	—
Land	85	85	70	70	120	120	60	60
Internal transport	8	20	6	10	8	16	4	8
Contingency	16	37	11	18	26	48	22	34
Interest	—	45	—	11	—	78	—	35
(Credit)		(460)		(110)		(600)		(230)
Gross benefit	3466	1,056	248	436	496	1,488	693	1,170
Net benefits	2	225	-13	51	-126	317	211	445

Source: BFA and MAG/DGEA, in Project Paper.

Table C-5. Economic Cash Flow Costs and Benefits per Hectare

(U.S. dollars)

	Corn		Sorghum		Rice		Beans	
	without	with	without	with	without	with	without	with
Gross benefits	366	1056	248	436	496	1,488	693	1,170
Gross costs	254	704	171	315	482	1,056	306	596
Seed	15	30	9	9	80	100	80	80
Fertilizer	–	195	–	85	–	325	–	195
Pesticides	–	28	–	16	–	42	–	40
Herbicides	–	57	–	–	–	70	–	–
Capital cost	20	50	10	10	108	108	–	–
Land	85	85	70	70	120	120	60	60
Internal transport	8	20	6	10	8	16	4	8
Contingency	16	37	11	18	26	48	22	34
Credit delivery (8 percent of credit)	–	37	–	9	–	48	–	30
Net benefits	112	352	77	121	14	432	387	574
Increase benefits		690		188		992		477
Increased costs		450		144		574		290
Cash flows		240		44		418		187
Return percent		53		31		73		64

Source: BFA and MAG/DGEA, in Project Paper.

Table C-5. Economic Cash Flow Costs and Benefits per Hectare

(U.S. dollars)

	Corn		Sorghum		Rice		Beans	
	without	with	without	with	without	with	without	with
Gross benefits	366	1056	248	436	496	1,488	693	1,170
Gross costs	254	704	171	315	482	1,056	306	596
Seed	15	30	9	9	80	100	80	80
Fertilizer	–	195	–	85	–	325	–	195
Pesticides	–	28	–	16	–	42	–	40
Herbicides	–	57	–	–	–	70	–	–
Capital cost	20	50	10	10	108	108	–	–
Land	85	85	70	70	120	120	60	60
Internal transport	8	20	6	10	8	16	4	8
Contingency	16	37	11	18	26	48	22	34
Credit delivery (8 percent of credit)	–	37	–	9	–	48	–	30
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Cash flows		240		44		418		187
Return percent		53		31		73		64

Source: BFA and MAG/DGEA, in Project Paper.

Financial Subsidy

Farmers are charged a 13 percent rate of interest on short-term crop loans. This rate is established by the Monetary Board and the Central Bank and has remained the same for many years. There is an implicit subsidy, however, in lending at 13 percent when the rate of inflation is more than 20 percent per year. In such a case, the negative real interest rate constitutes a subsidy to the recipients of loans. If the rate of inflation were 5 percent, farmers would be paying a real rate of 8 percent. But, if inflation is 20 percent, a real rate of 8 percent requires charging a nominal rate of 28 percent on loans.

Fertilizer Discount

Access to BFA loans also entitles farmers to other discounts not regularly available to non-BFA beneficiaries. The BFA distributes fertilizers, herbicides, seeds, and pesticides to its clients at prices generally below those found among private distributors. If the BFA price is 10 percent below commercial prices and the cost of agricultural inputs is roughly 600 colones per manzana, the value of savings on the cost of agro-chemicals is about 60 colones.

Product Price Subsidy

For some borrowers, the BFA offers one additional advantage: it purchases the maize they produced directly from them at a guaranteed price, 45 colones per quintal. This is the support price established by the IRA (Supply Stabilization Board); but the IRA is broke and unable to purchase grain at the support price. The BFA accepts the grain from its clients as payment in kind for the value of the loan. Ordinary farmers who sell grain in the open market are getting less than 40 colones per quintal. BFA beneficiaries are getting 5 colones extra per quintal. Out of a manzana producing a yield of 32.7 quintals (see Table C-6), the benefit from the higher price is worth 163 colones.

Unfortunately, not many farmers are able to take advantage of the BFA direct purchase option. Cooperatives are the main beneficiaries, because they usually have large quantities to sell and can provide their own transport.

Table C-6. Cultivated Areas, Production and Productivity of Basic Grains
1987

PRODUCTS	CULTIVATED NATIONAL AREA (mz)	NATIONAL PRODUCTION ('000 qq)	NATIONAL YIELD (qq/MZ)	AREA FINANCED BY BFA (MZ)	PRODUCTION FIN. BY BFA ('000 qq)	YIELD BFA (QQ/MZ)	YIELD DIFFERENCE BFA/NAT		BFA IMPACT (b/a) %
BASIC GRAINS	683,200	14,607		78,840	4,255				29.1
Corn	398,500	12,593	31.6	11,919	3,660	32.7	(+)	1.1	29.1
Maicillo	178,700	572	3.2	28,454	205	7.2	(+)	4.0	36.0
Beans	89,300	527	5.9	29,970	51	1.7	(-)	4.2	10.0
Rice	16,700	915	54.9	8,497	339	39.9	(-)	14.9	37.1

Source: Direccion General de Economia Agropecuaria and Unidad de Estadistica, Gerencia de Informatica, BFA.

Small farmers find it harder to transport their small volumes to the IRA reception points.

BFA grain purchases are a recent introduction in response to the IRA's inability to make them. In the past, however, the IRA's purchases had also been concentrated on the reform sector and the BFA credit beneficiaries. At the moment, the BFA is purchasing the grain, but storing it in IRA silos. We do not know how the BFA is planning to dispose of the grain, or at what price.

Combined Benefits

To summarize, farmers derive at least four identifiable benefits from borrowing from the BFA to finance their corn and other basic grain production. First, of course, is the value of the additional production. The value of this benefit depends on how much additional production the farmer realizes. For instance, a 6 quintal jump in yield results in a gain of 160 colones per manzana. Second, the value of the interest subsidy runs to about 135 colones per manzana. From the input price differential, the lender gains some additional 60 colones per manzana. Finally, if the BFA buys their output, they could get an additional 132 colones per manzana. These benefits could result in a total of 487 colones per manzana, including 160 from additional production and 327 from the ancillary benefits.

Farmers are justifiably enthusiastic about the credit program for corn and other basic grains offered by the BFA. The following section looks at the same lending program, but from the perspective of the BFA's finances. Specifically, it reviews the operation of the credit program and the unfortunate experience in loan recuperation, to arrive at an estimate of BFA losses from its lending operation.

Estimate of BFA's Loss in Lending for Corn Production

We estimate that in 1987 the BFA lost about 15 colones or $3 per quintal of corn produced by its beneficiaries. In real terms, the BFA loses about 38 percent per year of its capital lent for corn production. We arrive at these estimates by examining the loan recovery performance on the A.I.D. Project credit program, and by assuming that corn lending follows a similar pattern.

Loan Recovery Performance on the Project Credit Program

In 1987, the BFA lent farmers in the traditional sector a total of 51.4 million colones from funds of the integrated line of credit. A substantial portion of that went to finance corn production, though we do not know the precise amount. Of the total lent, farmers borrowed only 38.2 million or 74 percent of the amount approved; the remaining 13.2 million were not disbursed (see Table C-7).

Table C-7 also shows that of the amount lent in 1987, a total of 19.45 million colones has been recovered, with interest, as of September 30, 1988. Of the balance, 7.37 million is still in the books (vigentes) and 11.39 million is in arrears, for a total of 18.76 million unpaid.

To facilitate the analysis, let us suppose that the 19.45 million colones was paid on January 1988, one year after lending, with interest accruing at 13 percent for a whole year, or 2.53 million. See Figure C-5 for a visual representation of the flow of funds. In January 1988, therefore, the BFA had at its disposal a total of 35.18 million colones (13.20 + 19.45 + 2.53) for new lending.

Table C-7. Status of BFA Lending to Traditional Farmers from Recovered Funds of the Integrated Credit Line in 1986 and 1987, as of September 30, 1988

(Thousands of colones unless indicated otherwise)

Item	1986	1987
Fully paid loans		
Number of loans	17,496	10,122
Authorized amount	59,442	25,107
Disbursed amount	41,772	15,571
Recovered amount	42,031	15,537
Outstanding loans		
Number of loans	4,872	5,838
Authorized amount	36,321	26,332
Disbursed amount	31,200	22,670
Recovered amount	7,793	3,909
Amount "vigente"	6,195	7,369
Amount in arrears	17,212	11,391
All loans		
Number of loans	23,368	15,960
Authorized amount	95,763	51,439
Disbursed amount	72,972	38,240
Recovered amount	49,824	19,446
Amount "vigente"	6,195	7,369
Amount in arrears	17,212	11,391
Ratios		
Average size fully paid loan	3,400	2,480
Average size outstanding loan	7,460	4,510
Average size all loans	4,820	3,220

(continued)

Table C-7 Continued:

Item	1986	1987
Percent disbursed fully paid loans	70	62
Percent disbursed outstanding loans	86	86
Percent disbursed all loans	76	74
Percent recovered - all loans	68	51
Percent outstanding - all loans	32	49
Percent amount in arrears - all loans	24	30

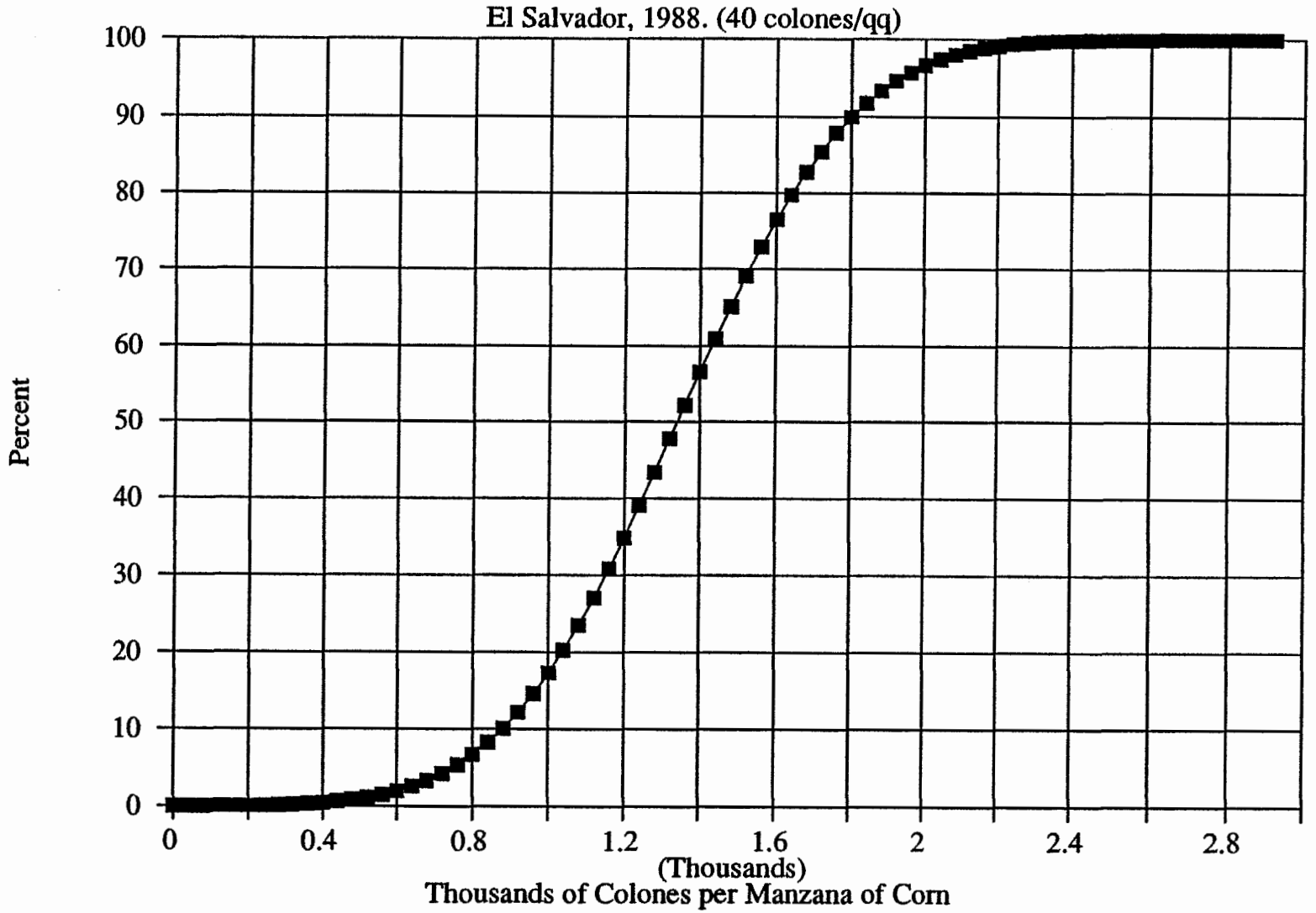
Source: BFA, Situation Report Project 263, as of September 30, 1988 (February 1989).

What are the chances of recovering the 18.76 million colones still pending in January 1989? It is a matter of conjecture. For simplicity, let us suppose that there is a 50 percent probability of recovering the balance, plus interest. The 18.76 million outstanding is worth 9.38 million in capital plus 2.44 million in interest at 13 percent for two years, which adds up to 11.82 million in January 1989.

We need now to convert all the values at different times to a common reference date, say January 1987, at the beginning of the process. First, the 35.18 million colones in January 1988 are worth 29.32 million colones of January 1987, after discounting for inflation at 20 percent during 1987. Second, the 11.82 million colones worth of outstanding loans in 1989 has to be discounted twice, at 22 percent in 1988 and at 20 percent in 1987. In colones of January 1987, outstanding loans are worth 8.07 million. Finally, the BFA spent an estimated 5.79 million colones in administrative costs on 51.4 million lent originally. The 11.26 percent estimate is the average administrative cost for BFA in 1987 (62.5 million) over the total volume of credit authorized that year, 555 million colones. Agricultural production loans to small farmers would likely have higher than average administrative costs, but we will disregard the difference.

Adding up all corresponding values in January 1987 colones, the BFA ends up with 31.74 million (29.32 + 8.21 - 5.79) million. It started with 51.4 million colones. The BFA lost 19.66 million colones out of the original 51.4 million, a loss of 38 percent in real value terms, since all figures are in colones of January 1987.

Figure C-5: Gross Revenue per Manzana of Corn



Each manzana of corn financed by the BFA among traditional farmers required an average loan of 876 colones in 1987. The 51.4 million colones would have financed 58,675 manzanas, if it had been used entirely for corn. If the 58,675 manzanas of corn financed with 51.4 million colones had produced the average yield of 32.7 quintals per manzana obtained by BFA beneficiaries, a total production of 1.92 million quintals would have been obtained in 1987 from that BFA credit.

The loss of 19.66 million colones divided by the 1.92 million quintals gives an average loss per quintal produced of 10.25 colones of January 1987. Converting this loss into current colones of January 1989 requires reflating them by 50 percent, that is, correcting for inflation of 25 percent in 1987 and 20 percent in 1988. Thus, we conclude that in financing corn production in 1987, the BFA incurred a loss of 15 colones for every quintal produced at 1989 prices. In dollars, the BFA's loss amounts to $3 per 100 pounds produced. In terms of area, the BFA lost 658 current colones or $132 dollars for each manzana of corn it financed.

This estimate covers only the crop credit operations of the BFA. It does not take into account profits or losses from its commercial operations, i.e., importing and selling agricultural inputs, or buying and selling corn and other basic grains. The BFA claims that its fertilizer operations generate substantial profits. However, the BFA, like the IRA, will likely find that buying grain at support prices to sell later at market prices is a money-losing affair.