5110055001801

1801

PD-AAH-195

UNITED STATES OF AMERICA

Auditor General

AUDIT REPORT

SMALL FARMER ORGANIZATIONS

AID LOAN 511-T-055 and GRANT 511-0452

USAID/BOLIVIA

Audit Report Number 1-511-79-22

Issue Date AUG 28 1979

Area Auditor General Latin America
Agency for International Development

TABLE OF CONTENTS

I BACKGROUND

Bolivia agriculture is dominated by the small farmer which has extremely limited resources and a primitive technology. Small farmers represent 95 percent of the estimated 600,000 farms in Bolivia, and they account for about 60 percent of the agriculture output.

From the mid-1960s to the mid-1970s, there was great interest and growth in the small farmer cooperative movement. During this period small farmer organizations (SFOs) increased from about 200 to 1100.

In spite of this growth, the cooperative movement has remained weak and diffused. To mainly strengthen this movement and, thus, help small farmers mobilize their resources more effectively, AID authorized a loan/grant project in FY 1976. The total estimated cost of the project during its 4 1/2-year implementation period ending in September 1980 was $17,267,000 as detailed below:

Course of Project Funding

	Amounts	Completion Dates
AID Loan 511-T-055 signed 3/24/76	$ 7,500,000	3/24/80
AID Grant 511-0452 dated 4/29/76	3,417,000	5/31/80
GOB Contribution	6,350,000	--
Total	$17,267,000	

The loan/grant project (as revised in August 1977) consisted of making funds available through the National Community Development Service (NCDS): (1) to develop four viable integral cooperatives (ICs) and other small farmer organizations (SFOs); (2) to strengthen the managerial and technical capabilities of NCDS and other cooperative development agencies; and (3) to assist cooperatives and "non-cooperative" rural community groups in developing small enterprises and economic infrastructure projects.

The project is to focus on any geographic area in Bolivia which can be demonstrated appropriate through social and economic feasibility studies.

The target group consists of those rural Bolivian farmers who are members of small, rural community SFOs and other rural community groups. About 15,500 small farm families are expected to benefit directly from the project. Most members of this target group farm approximately three hectares of land and earn less than $180 per year.

It is expected that the accomplishment of these objectives will contribute towards the achievement of the sector goal -- to increase per capita income and improve the standard of living of the rural poor. The logical framework for the project estimated that the average annual family income of the farmers in the ICs would increase by 75 percent as of the end of 1980 from an average annual income of $292. 1/

The project was redesigned in 1977 to eliminate the objective to develop 10 to 14 zonal cooperatives and 126 small SFOs so assistance could be focused on the development of four large integral cooperatives. It was felt that combining the SFOs into larger integral cooperatives would lead to greater economies of scale and sufficient income to support a professional management staff. The membership of each IC is anticipated to average 1,500 members by the end of project (September 1980). Each IC is to cover an ecological zone in which a given agricultural activity has been defined as a common denominator. The ICs are to provide agricultural credit and technical and marketing assistance to their members.

The National Community Development Service (NCDS) is the project's principal executing agency. It is to be responsible for selecting the integral cooperatives and other SFOs and for preparing pre-feasibility and feasibility studies for all projects to be financed with project funds. NCDS is also to be responsible for channeling technical assistance to integral cooperatives and other SFOs, training cooperative members and management personnel, and implementing and supervising the use of a Revolving Credit Fund (CROFOC) and a Community Assistance Fund.

The National Cooperative Institute (INALCO) was to participate in the project by registering organizations that meet legal requirements, auditing the books of participating integral cooperatives and SFOs, and presenting accounting and bookkeeping courses at the NCDS training centers.

The Bolivian Agricultural Technology Institute (IBTA) was to provide technical agricultural training to farmers receiving sub-loans under the project.

On May 13, 1976, NCDS contracted Robert R. Nathan Associates (RNA) to provide technical assistance to the project.

1/ We have adjusted the original income amount shown in the logical framework from $780 to $292 to include only net income estimates for the proposed ICs in Potosi and Cochabamba. The figure of $780 was inflated because it included a gross income estimate of $1,716 for the proposed IC in the Yungas.

Project funds have been allocated for the following purposes:

		Financial Plan ($000)			
		AID Loan	AID Grant	GOB Contribution	Total
1.	Revolving Credit Fund (CROFOC)	$5,603	$ -	$ -	$ 5,603
2.	Community Assistance Fund	600	-	300	900
3.	Technical Assistance	200	3,019	-	3,219
4.	Training Program	497	109	200	806
5.	Equipment and Materials	600	137	50	787
6.	Other Costs	-	152	-	152
7.	Personnel & Operating Costs	-	-	5,800	5,800
	Totals	$7,500	$3,417	$6,350	$17,267

NCDS was to establish the CROFOC fund ($5,603,000) at the Banco del Estado (Bank). The Bank is to disburse funds for approved projects and receive loan payments from ICs and SFOs. The CROFOC fund is to be used for: (a) capital to integral cooperatives and other SFOs in support of their development for financing sub-loans to cooperative member and for cooperative marketing activities, headquarters, machinery, storage and other support facilities; (b) capital for direct purchase by NCDS of agricultural inputs for in-kind loans to subborrowers; and (c) financial assistance to ICs and other rural community organizations to develop small rural enterprise projects and rural economic infrastructure projects.

CROFOC loan proposals submitted to NCDS by the cooperatives are to be approved by one of four Regional Credit Committees in amounts up to $60,000 and proposals in excess of that amount are to be approved by a National Credit Committee. Loans in excess of $500,000 also have to be approved by the USAID. According to revised CROFOC credit regulations effective March 20, 1979, the Regional Credit Committees were abolished and the National Credit Committee now approves all loans except those where USAID approval is also required.

The CROFOC fund was to charge 6 percent interest on loans made to the ICs and 9 percent on loans made to the other cooperatives. The Bank was to receive 2 percent of these amounts for commissions leaving 4 and 7 percent for the capitalization of the CROFOC fund. The ICs and other cooperatives were required to pay 13 percent to CROFOC with the understanding that 7 percent would be returned to the ICs and 4 percent to the other cooperatives when they had fully repaid their loans. Effective with the revision of the CROFOC credit regulations on March 20, 1979, the ICs are no longer required to pay 13 percent with the understanding that 7 percent will be returned; now they only pay 6 percent to CROFOC with no 7 percent return requirement.

The ICs and other cooperatives are required to charge 13 percent interest on loans to its members. This gives the ICs a margin of 7 percent after paying 6 percent interest to CROFOC, and the other cooperatives a margin of 4 percent after paying 9 percent interest to CROFOC.

The Community Assistance Fund ($900,000) is to be used to support on a grant basis the development of cooperative and, to a small degree, non-cooperative rural community groups' economic infrastructure and small enterprise projects. Proposed cooperative and non-cooeprative economic infrastructure projects include community roads, small irrigation projects, community bridges and river defenses.

The ICs are staffed with a manager, accountant, several extension agents and other supporting personnel.

According to the statutes of the ICs, they are organized around a number of smaller village-level groupings called "Associated Base Groups" (GABs). The GABs are organized at the community level to represent the interest of its members which includes the gathering of loan proposals from its members for submission to tne IC. The GABs are managed by an Auxiliary Administrative Committee of at least 4 persons elected by the members of the GAB.

The ultimate authority of the ICs is the General Assembly consisting of the members of the GABs' Auxiliary Administrative Committees. The General Assembly approves the statutes of the IC and elects the managing committees of the IC consisting of (1) a six person Administrative Council, (2) a 3 person Vigilance Council, and (3) a three person Credit Committee.

The Administrative Council has authority to (1) hire and fire the manager of the IC, (2) approve the admission and exclusion of members, (3) approve internal regulations for the IC, and (4) oversee compliance with the Statutes and internal regulations of the IC. The Administrative Council also appoints the members to 3-person committees for (1) Education and (2) Social Assistance.

The Vigilance Council is to oversee the internal controls of the IC and the Credit Committee is to approve loans made to members.

In order to capitalize the ICs, the Statutes provided that members are to make capital contributions when joining the IC and are also to be charged a fee of at least 5 percent of the value of loans granted which is also to be credited to their capital accounts. As provided in project plans, the ICs have also been retaining and capitalizing a small part of the sales proceeds earned by farmers from IC milk marketing operations.

The USAID plans to fund a second phase for this project after funds from the current loan and grant are expended. Under the second phase, the USAID hopes to establish 16 new ICs in the ensuing years and a Federation of ICs in 1980 to take over the functions now performed by NCDS. Present plans call for a new loan in FY 1982 of $8,500,000 to fund the credit requirements of the program, a new grant in FY 1980 of $3,800,000 to fund the technical assistance requirements, and a GOB local currency contribution (to be generated under a P.L. 480 Title III program) of $4,500,000 to fund the start-up costs of the

Federation and the new ICs. The P.L. 480 Title III agreement was signed on May 31, 1978 and some local currency has already been generated. NCDS plans to request some of these funds in the near future to cover the cost of subsidies to the ICs.

The project is managed by a U.S. direct-hire employee from the USAID's Office of Agricultural Production and Rural Development. The project manager is assisted full-time by a project-funded personal service contract employee.

The loan/grant project funding and expenditures as of March 31, 1979, were as follows:

	$000		
	Total	Loan	Grant
Obligations	$10,847	$7,500	$3,347
Expenditures	5,346	3,237	2,109
Unexpended Balance	$ 5,501	$4,263	$1,238

Unless otherwise noted in this report, Bolivian pesos have been converted to dollars at the rate of exchange of 20 pesos to one dollar.

II PURPOSE AND SCOPE

We have made an interim examination of the "Small Farmer Organizations" project financed under AID Loan 511-T-055 and Grant 511-0452. This was the second audit of the project and covered the period from January 1, 1977, through May 31, 1979.

The principal objectives of our examination were to determine (1) project accomplishments, (2) the adequacy of USAID and NCDS management of the project, (3) the effectiveness and efficiency of IC operations, (4) the performance of the contractor (RNA), (5) the adequacy of support provided to the project by IBTA and INALCO and, (6) the effectiveness of CROFOC and IC loan operations.

Our examination was made in accordance with generally accepted auditing standards and included (1) discussions with officials of the USAID, NCDS, the ICs, RNA, IBTA and INALCO, (2) the review of records of the USAID, NCDS, the ICs and RNA, (3) field trips to the ICs in Cochabamba, Potosi and Santa Cruz, (4) interviews with farmers receiving loans from the ICs, and (5) such other auditing procedures as we considered necessary in the circumstances.

III EXECUTIVE DIGEST

A. Project Accomplishments

The project appears to have a good chance of achieving its goal to increase small farmer income through the establishment of a viable system of ICs. However, the USAID has not determined what impact the large AID and GOB investment in the project to date has had on increasing incomes. This should be done so that if progress is not being made towards the goal, the causes can be identified and corrected (see page 10)

It will be difficult, however, to make reliable estimates of the impact of the project on incomes because baseline data is sketchy and a system for estimating annual production yields has not been established (see page 10).

A good start has been made to achieve the central purpose of the project -- to develop 4 viable integral cooperatives on a pilot basis and create conditions in the rest of the country to facilitate the future promotion of ICs. However, project implementation is behind schedule.

The project paper estimated that 4 ICs would be in operation by August 1978, but only three have been established as of May 31, 1979 -- one each in Potosi, Cochabamba and Santa Cruz. Another IC is in the process of being established in Tarija (see page 11).

As of March 31, 1979, loan/grant project expenditures were $2,350,000 behind projections ($7,693,000 estimated versus $5,346,000 actual) mainly because funds budgeted for loans to ICs for coffee processing and potato storage facilities have not been expended. The USAID estimates that the funds budgeted for the proposed coffee cooperative (which was not established) will instead be loaned for soybean and harvesting equipment for the IC to be established in Tarija. Because of these and other changes the loan/grant project budget is no longer realistic and should be revised to reflect current plans (see page 13).

B. NCDS Management

NCDS management of the project has to be improved in order to assure that small farmer incomes are increased and a viable system of ICs is established.

Weaknesses in NCDS management which should be corrected are (1) the lack of a program of technical collaboration with other institutions and technical assistance teams in Bolivia to ensure that existing technology is applied to increase the productivity and incomes of the small farmers. We have estimated (substantiated by technical experts) that the application of existing technology to 1,625 hectares of potato production financed by the IC in Potosi would increase production by 100 percent and small farmer income by $1,485,250 (see page 14). (2) An adequate planning and control system is needed to ensure that IC operations are effectively and efficiently managed (see page 18).

(3) The lack of control over CROFOC funds loaned to the cooperatives should be remedied to ensure they are used for the intended purposes (see page 22). (4) An adequate training program should be established for the cooperatives (see page 24). (5) Incomplete project records should be corrected, (see page 26) (6) and an external audit of the project should be made (see page 27).

C. IC Operations

The operations of the ICs have been hurt by (1) poor management (see page 27), (2) a high rate of loan delinquencies (see page 38), (3) weak internal controls (see page 28), (4) inaccurate financial statements (see page 41) , (5) the lack of effective controls to ensure that loan proceeds are used for intended purposes (see page 34), (6) the lack of a sufficient extension staff to provide technical training to farmers and help plan and control the loan program (see page 40), and (7) the lack of adequate credit regulations to govern IC loan operations (see page 40).

The financial results of the ICs indicates that the IC in Potosi is running a profitable operation but the ICs in Cochabamba and Santa Cruz may have problems in reaching financial self-sufficiency unless operational plans are changed (see page 29).

D. Support of GOB Participating Institutions

Two GOB institutions (IBTA and INALCO) have not supported the project as required by agreements signed with NCDS in 1976. The effectiveness of these institutions has been reduced by the lack of sufficient GOB budgetary support. As a result, NCDS, the USAID, and the ICs have had to bear the cost of providing some of the services not provided by IBTA and INALCO (see page 43).

E. Technical Assistance

We do not believe that the USAID investment in the technical services provided by Robert R. Nathan Associates (RNA) of $1,824,000 as of March 31, 1979 has been worth the cost. This, however, can not be attributed solely to the quality of services provided by RNA but also to a lack of GOB budgetary support; also, the efforts of the contractor were partly spent during the first 15 months of the contract on objectives not direcly related to the current project because the project was redesigned by the USAID in August 1977 (see page 46).

The Contractor has recently focused effort on the central purpose of the project -- to create a viable system of ICs. As a result of this improvement as well as others made in the Contractor's operations, we believe the Contractor is now in a position to contribute more effectively to the development of the project.

F. USAID Management

We believe the USAID has redesigned a project capable of achieving its objective after correcting deficiencies in the original design. There are, however, several aspects in the management of the project that should be improved. The USAID needs to (1) revise the project implementation plan which is no longer realistic (see page 49), (2) obtain more information on project operations in order to promptly identify and correct problems (see page 49), (3) improve its disbursements controls to reduce the cash balance of CROFOC funds to a reasonable level (see page 49), and (4) complete the procurement of accounting machines which has been delayed for 20 months (see page 49).

G. Follow-up on Prior Audit Report

This is the second audit of the project. The prior audit covered the period from April 30, 1975, through December 31, 1976. The report (No. 1-511-77-35) included two recommendations directed at this project. One of these recommendations (No. 4) covered the same subject matter (deficiencies in NCDS and Cooperative controls to ensure that CROFOC loans are used for the intended purposes) as covered by Recommendations 5 and 10 of this report.

H. Other Comments

We held an exit conference with the USAID on June 27, 1979, and their comments have been considered in the preparation of this report.

IV STATEMENT OF FINDINGS AND RECOMMENDATIONS

A. Project Accomplishments

The project appears to have a good chance of achieving its goal of increasing small farmer income through the establishment of a viable system of ICs. However, project implementation is behind schedule and there are numerous problems that have and continue to limit the chances of project success. Also, no evaluation has been made to determine what impact the AID and GOB investment in the project has had on increasing the incomes of the small farmers. This should be done so if progress is not being made towards the goal, the causes can be identified and corrected.

1. Achievement of Project Goal

The first evaluation of the project conducted by a contract team in August 1978 did not determine whether the goal of the project (to increase small farmer income) was being achieved because it was considered too early to expect significant income changes. Such an analysis was to form part of the next evaluation.

The goal of the project was to increase annual family income of members of the ICs by 75 percent as of December 1980 from the average of $292 in 1977. We believe that an evaluation of the project to determine goal achievement should now be made since ICs have been in operation for two crop years.

We believe it is very important that estimates be made to determine goal achievement because of the large investment ($17,267,000) that AID and the GOB plan to make in the project. If the AID and GOB investment to date has not had an impact on improving small farmer income, the causes should be identified and corrected in order to provide an economic justification to continue with the project.

It will be difficult to make reliable estimates on income changes because the baseline data given in the feasibility studies for the ICs is sketchy. Also, annual estimates of production yields have not been made by the IC in Cochabamba and we are not sure of the reliability of the estimates made by the IC in Potosi. To correct the former deficiency, we suggest that future feasibility or other studies include adequate baseline data to be determined from surveys or other sources so the effect of loans on income change can be measured. With regard to this latter deficiency, we have recommended that NCDS ensure that the ICs establish adequate yield estimating systems so more reliable estimates can be made of small farmer income in the future (see page 20).

Recommendation No. 1

> We recommend that the USAID ensure that (1) a project evaluation of goal achievement be performed and (2) NCDS establish procedures to ensure that reliable baseline data is included in future feasibility or other studies for ICs so the income effects of the AID and GOB investment in the project can be more accurately determined.

2. Achievement of Project Purpose

A good start has been made to achieve the central purpose of the project -- to develop four viable integral cooperatives on a pilot basis and create conditions in the rest of the country which will facilitate the future promotion of ICs. However, project implementation is behind schedule and there are numerous problems that have and could continue to limit the chances of project success.

The revised project paper estimated that four ICs would have been in operation by August 1978. As shown below, only two were established by that date. Three ICs were in operation and another was in the process of being created as of May 31, 1979.

Location Per Project Paper	Dates of Operation for ICs	
	Per Project Paper	Actual
Potosi	10/77	10/77
Cochabamba	10/77	10/77
Mungas	5/78	9/78 1/
Tarija	8/78	- 2/

1/ Established in Santa Cruz rather than the Yungas

2/ In the process of being created

A brief description of the three ICs already in operation follows:

Two ICs began operations outside of Potosi and Cochabamba in October 1977. The IC in Potosi focuses on potato production and the one in Cochabamba on milk production. The Cochabamba IC also provides some financing for corn and potato production.

The third IC was established close to Santa Cruz in September 1978 and focuses its activities on milk production. This IC was substituted for a coffee production and processing cooperative to have been established in

Coroico of the Yungas. NCDS decided not to establish the IC because of problems with local leadership.

As of December 31, 1978, the membership of the ICs were as follows which was considerably ahead of growth projections:

IC	Members Actual	Members Projected
Potosi	1,249	500
Cochabamba	1,340	800
Santa Cruz	560	260

This rapid growth in IC membership has provided the opportunity for the ICs to reach financial self-sufficiency sooner than projected provided the ICs are able to capitalize upon it.

The project paper estimated that the ICs would achieve financial self-sufficiency at the end of the third year of operations. Our financial analysis of the IC operations (see page 28) shows that the IC in Potosi has earned a substantial profit after only 15 months of operations. Also, the ICs in Cochabamba and Santa Cruz are ahead of projections, but because they are behind projected sales volume in some activities and have not started or planned to start other projected activities, they may have problems in reaching financial self-sufficiency within three years.

According to the project paper, the USAID was to use grant funds for the first few years of the operation of the ICs to subsidize some of their operating costs until they reached financial self-sufficiency. With the signing of the P.L. 480, Title III, agreement on May 31, 1978, $4,500,000 has been allocated to subsidize the new ICs and a Federation of ICs when grant funds are fully used for this purpose.

According to the project paper, 17 feasibility studies were to be done by September 1978, to support the establishment of new ICs in order to satisfy the other purpose of the project to create conditions in the rest of the country to facilitate the future promotion of ICs. As of May 31, 1979, NCDS has not yet completed these studies. They have, however, completed 16 prefeasibility studies from which they have selected 8 areas that show promise of being able to support the development of ICs where NCDS is conducting feasibility studies. NCDS has recently started work on these eight studies, and the USAID estimates that they should be completed in early July 1979.

Also, a short-term RNA advisor recently completed a feasibility study for the creation of a Federation of ICs to take over the functions performed by NCDS. The final report on this study has not yet been published but USAID officials stated that the advisor believes more time is needed to improve the operations of the ICs before a Federation should be established. The USAID believes it might be possible to establish the Federation in 1980.

3. Project Budget and Expenditures

As shown below, loan/grant expenditures were $2,350,000 less than those projected in the project paper as of March 31, 1979 (see Appendix F for details):

	Life of Project Budget	Expenditures as of 3/31/79 Projected	Actual
Loan	$ 7,500,000	$4,815,000	$3,237,000
Grant	3,417,000	2,878,000	2,109,000
Total	$10,917,000	$7,693,000	$5,346,000

The main cause for this slippage in loan expenditures was that none of the $1,803,000 budgeted under the CROFOC fund for loans to ICs for coffee processing facilities and potato storage facilities has been expended. A coffee cooperative proposed for Coroico in Yungas was never established and the construction of potato storage facilities for the IC in Potosi has been delayed (see page 30). The USAID estimates that more than the full amount budgeted will eventually be spent for the purchase of soybean and peanut harvesting equipment for the IC to be established in Tarija and potato facilities for the IC in Potosi with a grant from the Community Assistance Fund. These facilities are under construction, and if they prove acceptable, the balance of the facilities will be loan-financed with CROFOC funds.

Another cause for the slippage in loan expenditures was that none of the $300,000 budgeted under the CROFOC fund for loans to establish small rural enterprise projects (small industry, handicrafts, etc.) has been expended. The USAID does not plan to authorize the expenditure of any funds for this purpose because it is considered a low priority area not directly related to the central objective of the project. We agree with this decision and the USAID plans to reallocate these funds to other budget categories.

Grant expentitures are less than projected because funds expended on technical assistance costs were $615,000 less than anticipated as of March 31, 1979.

Another reason for the slippage in grant expenditures is that none of the $63,000 budgeted to cover the cost of feasibility studies for the establishment of new ICs has been expended. The cost of these studies is being financed with loan funds budgeted for short-term technical assistance. The studies are being done by eight Bolivian technicians contracted by NCDS and eight employees of NCDS.

As the USAID does not plan to spend loan/grant funds budgeted for some purposes, we believe the USAID should analyze and revise the loan/grant budget taking into consideration current project plans. This will assure that the budget is realistic and provide an adequate basis for controlling expenditures against project plans.

The USAID is now preparing an implementation letter for the revision of the grant and loan budget.

Recommendation No. 2

We recommend that the USAID analyze and revise the loan/grant budget to reflect current project plans.

B. NCDS Management

NCDS management of the project has to be improved in order to assure that small farmer incomes are increased and a viable system of ICs is established.

Weaknesses in NCDS management which should be corrected are (1) the lack of a program of technical collaboration with other institutions and technical assistance teams in Bolivia to ensure that existing technology is applied to increase the productivity and incomes of small farmers, (2) an inadequate planning and control system to ensure that IC operations are effectively and efficiently managed, (3) the lack of control over CROFOC funds loaned to the cooperatives to ensure they are used for the intended purposes, (4) an inadequate training program for the cooperatives, (5) incomplete project records, and (6) the lack of an external audit of the project.

1. Technical Collaboration with Consortium for International Development (CID), the Swiss Mission, and IBTA

We believe that increased technical collaboration between RNA, CID, and the Swiss Mission, and IBTA would result in greatly increased potato yields for small farmers receiving loans from the IC's in Cochabamba and Potosi. Increased yields would help to achieve the goal of the project, which is to increase the income of the small farmers.

The impact on incomes of small farmers would be the greatest by concentrating on increasing potato yields since most of the funds loaned to farmers are for potato production. During crop year 1977/78, about 81 percent of the production loans granted to the IC's in Potosi and Cochabamba were earmarked to finance potato production covering 2,005 hectares.

CID is employed by the GOB under an AID-financed host-country contract to work with the Ministry of Rural Affairs and Agriculture (Ministry) to improve agricultural research, extension and planning for the small farm sector.

The Swiss Mission is a recently arrived three-person team jointly financed by the Swiss Government and the International Potato Center in Peru. The purpose of the Mission is to assist the Ministry develop a program for the production of clean or certified potato seed.

IBTA is the agricultural research and extension arm of the Ministry.

CID, Swiss Mission and IBTA technicians have technical expertise in the production of potatoes which most of the RNA technicians lack. Thus, CID, Swiss Mission and IBTA technical advice to RNA and the ICs (working through the Ministry) could greatly improve the chances of project success.

Based on discussions with technicians of RNA and CID, we believe some promising areas for increased technical collaboration are as follows:

a. <u>Fertilizer Applications</u>

Small farmers at the direction of the ICs have applied loan-financed fertilizers to their potato fields in equal quantities without considering the fertilizer needs of the soil in order to optimize yields.

In 1978, RNA and CID started an informal program of technical collaboration. However, no benefits were obtained because RNA did not implement its part of the program. RNA obtained 175 soil samples from the fields of farmers belonging to the IC in Potosi. CID had the soil samples analyzed at the CIAT Soil Testing Laboratory in Santa Cruz. The test results showed 48 percent of the samples were extremely low in phosphorus, 41 percent were medium to low and 11 percent were high. CID concluded that based on IC's proposed fertilizer applications, 59 percent of the farms sampled would not receive the proper rate of fertilizer; some would receive too much (11 percent) and others (48 percent) would not receive enough to bring about the best production levels.

Based on these results, CID recommended to RNA the amount of phosphorus fertilizer to be applied to each field in order to maximize yields. However, the recommendations for crop year beginning September 1978 were not implemented because the list of recommendations was lost.

CID estimates that in those cases where the soil was very low in phosphorus (48 percent) the application of recommended levels of elemental phosphorus of about 100 to 120 kilos per hectare could have increased yields by 50 to 100 percent. This was based on the assumption that soil moisture, fertility and other factors were not limiting. Since yields averaged about 200 cwt. per hectare in crop year 1978-79, a doubling of yields would have increased production to 400 cwt. per hectare which would have had a significant impact on small farmer income.

b. Clean Seed

According to the RNA advisor assigned to the IC in Potosi, the presence of nematodes, bacteria, viruses, and fungus diseases in the seeds and soils have reduced potato yields by as much as 50 percent in a large part of the area served by the IC. CID confirmed these adverse yield estimates under these conditions.

According to CID, this problem can be corrected by planting clean seed in soils not severely infected by nematodes: The population of nematodes in the soils can be controlled by increasing the rotation cycle for planting potatoes from the current cycle of one in 2 or 3 years to one in 4 years. According to the RNA advisor assigned to the IC in Potosi, alternative crops nearly as profitable as potatoes would have to be identified to encourage farmers to increase their rotation cycle for potatoes.

Thus, according to the technical estimates of CID and RNA, the problem can be corrected by the use of clean seed and an increase in rotation cycles.

Two of IBTA's experiment stations in Bolivia produce about 6,600 cwt of clean foundation seed. In addition, small farmers supervised by IBTA's technical personnel produce about 20,000 cwt of seed. This seed, however, is not sold through the Ministry's certified program. Certified seed can also be imported from Argentina. If the ICs purchased some of this seed, they could use it to produce larger quantities of certified or clean seed, which could then be sold to the farmers. CID estimates that 1 hectare planted with foundation seed can produce enough seed to plant 10 hectares of potatoes.

The IC in Potosi currently has potato storage facilities under construction with a capacity of 10,000 cwt. We believe these facilities could be productively used to store clean seed produced by the IC for sale to small farmers. These facilities would hold enough seed to plant 312 hectares (10,000 cwt: 32 cwt per hectare) which would be a good start for increasing yields in the area. The IC plans to build more facilities in subsequent years so eventually the IC could produce and store enough seed to supply all members of the IC. Selling seed to members would also eliminate the control problem of making cash loans to farmers for the purchase of potato seed (see page 34).

c. Temik

The ICs in Potosi and Cochabamba are using large quantities of Temik (50 pounds per hectare) to try to control nematodes. According to 3 years of IBTA test results supervised by CID, the use of Temik has not yet been proven to be economically justified 1/. Based on test results to date, CID believes that Temik has the effect of reducing the nematode population and improving the quality of potatoes 1/, but it does not have a very

---

1/ The RNA advisor assigned to the IC in Potosi believes that in determining whether Temik is economically justified, the effect of increasing the quality of the potatoes has to be considered since it increases the value of the potato.

favorable effect on increasing yields. CID feels that it needs 1 more year of test results to reach a conclusive recommendation on the effects of Temik.

According to the USAID, there is a big demand for Temik from the farmers which implies that the farmers believe the use of Temik is profitable.

Temik is very expensive; also it is difficult to handle because it is toxic. Temik also assists in controlling insect problems, but insect control can be achieved by using only about 10 percent of the quantities now applied to control the nematode problem. If CID supervised research proves that Temik is not effective in increasing yields, then substantial money can be saved (about $76.50 per hectare) by reducing the quantities used or shifting to other insecticides.

d. Conclusion

Based on the opinions of CID, potato yields could be increased up to 200 percent (from 200 to 600 1/ cwt per hectare) through (1) the use of clean seed, (2) the increase in crop rotation cycles, (3) the application of proper quantities of fertilizers based on soil tests, and (4) the conservation of soil moisture. As estimated below, this would have a dramatic effect on small farmer income, thus helping to achieve the goal of the project.

Assuming that yields are only increased by 100 percent, we estimate 2/ that small farmer income could be increased by 332 percent as summarized below (see Appendixes A and B):

	Technology Used		
	Current Method	More Fertilizer	More Fertilizer Plus Clean Seed
Yield Per Hectare	200 cwt	260 cwt	400 cwt
Percent Increase in Yield Over Current Method	--	30%	100%
Profit Per Hectare	$275	$512	$1,189
Percent Increase in Profit Over Current Method	-	86%	332%

1/ The RNA advisor assigned to the IC in Potosi believes a more realistic yield would be a yield of 400 cwt. per hectare averaged over a period of several years.

2/ Estimates were substantiated by USAID technical personnel.

If profits could be increase by $914 per hectare ($1,189 less $275), the income of the small farmers served by the IC in Potosi could be increased by $1,485,250 ($914 profit per hectare times 1,625 hectares).

The USAID pointed out that according to the original project design IBTA was to provide technical assistance to the ICs in Agricultural production. This, however, has not happened because IBTA did not have sufficient field staff to provide this service. Each of the ICs have employed extension agents to provide technical assistance to the small farmers. In order to strengthen this capability, RNA has recently assigned one of its technicians (who is an agronomist) to guide and coordinate the activities of the IC extension agents.

Recommendation No. 3

We recommend that the USAID ensure that NCDS require RNA to explore areas of technical collaboration with CID, the Swiss Mission, and IBTA that would be useful to improve agricultural production and to develop joint implementation plans to achieve these objectives.

2. NCDS Planning and Control for IC Operations

NCDS has not established an adequate planning and control system for IC operations to ensure that activities are properly planned and unfavorable deviations from planned activities can promptly be identified and corrected. This has had an adverse impact on the growth and operations of the ICs because the personnel of NCDS, RNA and the ICs have had to devote too much time to correcting problems that could have otherwise been minimized if more time were available for the business of planning and running the operations of the ICs.

The USAID states that implementation of a more complete planning and control system was not pushed because they were waiting until accounting machines were purchased for the ICs which has been delayed (see page 54). We believe the purchase of such machines would help in the implementation of an improved system.

The planning and control system established by NCDS consists of (1) feasibility studies prepared for the establishment of the ICs which, among other things, provide financial and growth projections, (2) IC loan proposals which, among other things, estimate the impact of the credits on small farmer income, (3) three year budgetary projects which estimate the income and expenses for the ICs, and (4) monthly and annual financial statements prepared by the ICs.

We have reviewed the content and use of these planning and control documents and found the following areas where improvements can be made.

a. IC Financial Statements

The IC financial statements are not prepared on a basis which shows the gross profits or losses for its various operations (revenues less direct costs) because NCDS has not designed a standard format. This data is needed to determine the profitability of the ICs various operations and the contribution they make to cover general expenses. We believe the present accounting system with minor procedural changes can accumulate the sales and direct cost data needed to prepare this type of financial statement. Also, perpetual inventory records would have to be adequately maintained to give accurate cost of sales data by product line. Appendixes C, D and E give a suggested format for this type of report for the income statement which should assist in the analysis of IC operations.

b. Standardization of Formats for Financial Projects

We found that the formats for making financial projections in the feasibility studies, 3-year budgets and loan proposals are not standardized which makes it difficult to compare actual results with projections. We believe the format should be the same one used for financial statements so results can be compared to projections.

c. Annual Budget Projections

We believe that NCDS should formalize the requirement that the ICs prepare 3-year budget projections each year which would include a firm budget with quarterly projections for the ensuing year. This budget should be prepared a couple of months before the beginning of the operational year and be accompanied with detailed operational plans to support the expansion of existing activity and the adding of new ones. Also, the addition of new activities should be supported with feasibility studies. We also believe that the budget and accounting cycle for the ICs should be changed from a calendar year to a crop year basis (September through August). This would facilitate the dovetailing of the cycles for loan requests, budgeting and the reporting of financial results.

d. Yields Estimates for Small Farmer Production

Except for potato production for the IC in Potosi, the ICs are not obtaining yields estimates for small farmer production financed by the ICs. Such data is needed to estimate the impact IC loans are having on small farmer income which should be compared to income estimates included in the IC loan proposals submitted to CROFOC. Also it will provide a basis of determining whether the goal of the project (to increase small farmer income) is being achieved. If the desired results are not being achieved, the causes of the problems should be identified so corrective action can be taken. For this reason, we believe NCDS should establish yields estimating systems for the ICs that can give a reasonably accurate estimate of yields.

e. Quarterly Budgetary Control Reports

The ICs have not prepared reports comparing budgetary projections to actual financial results (Balance Sheet and Income Statement) because NCDS has not established a requirement for these reports. We believe such a report is needed on a quarterly basis so the ICs and NCDS can promptly identify unfavorable deviations from planned activities so corrective action can be taken. Financial results should be compared to the current year budgetary projections described under item (3) above which would provide the most realistic comparative analysis. A sample of the proposed format is shown in Appendixes C, D and E for the Income Statement. The quarterly reports should explain the reasons for deviations from financial projections and any actions planned to correct the problems. We also believe that the report should provide some basic statistical data on IC operations such as actual and planned gross profit percentages, membership, loan disbursements, units of products sold or produced, loan delinquency rates and production yields.

The financial statements should be accompanied with a specified number of supporting schedules such as listings of accounts receivable and payable, bank reconciliations, short term and long term loans outstanding by crop year, inventories, capital contributions, and loan delinquencies.

The supporting Schedule for loan delinquencies should show by crop year for long-term and short-term loans the value and number of (1) loans approved, (2) disbursements, (3) principal which has fallen due, (4) principal in arrears broken down by number of days overdue, and (5) percent of loans delinquent to principal fallen due and outstanding loans. The schedule should also indicate the action taken or planned to recover delinquent loans. This would give a much more accurate picture of the recovery rate than comparing outstanding loans to delinquent loans which is the only data now provided by the ICs. This would also be consistent with the reporting requirements established in the IC credit regulations recently drafted by RNA.

Recommendation No. 4

We recommend that the USAID ensure that NCDS establish an adequate planning and control system for IC operations which should include (1) standard formats for IC financial statements which would show the gross profit or loss for each activity, (2) the same standard format as used for the financial statements for budgetary projections included in feasibility studies, loan requests and 3-year budget submissions, (3) 3-year budget submissions prepared each year and supported as needed by detailed operational plans and feasibility studies, (4) a change in the accounting cycle from a calendar year to a crop year basis, (5) a system for estimating yields for small farmer production financed with IC loans, and (6) budgetary control reports prepared by the ICs on a quarterly basis.

3. CROFOC Fund

a. Loan Delinquencies

As of April 30, 1979, the cooperatives have not repaid 13.4 percent of the principal that has fallen due. As can be seen below the delinquency rate was about the same for the ICs and other cooperatives.

	Total	ICs	Other Cooperatives
Disbursements	$2,629,395	$1,818,255	$811,140
Payments Falling Due	1,089,449	446,035	643,414
Delinquent Payments			
- 90 days or less	$ 37,280	$ -	$ 37,280
- Over 90 days	109,152	62,217	46,935
Total Delinquent Payments	$ 146,432	$ 62,217	$ 84,215
Percent of Delinquent Payments to Payments Falling Due	13.4%	14.0%	13.1%

NCDS turns loans over to the State Bank for legal action when payments have been delinquent for more than 180 days.

The delinquent payments were caused in large part by crop failures, and poor management by cooperatives in the granting and collection of loans from its members.

For example, the $62,217 in delinquent payments due from the ICs is represented by a balance due from a loan made to the IC in Potosi in 1977. The IC in Potosi has not been able to fully repay this loan because they have been unable to collect $122,286 as of December 31, 1978 of short term loans granted its members in 1977.

With the centralization of the loan approval process with the National Credit Committee and the improvement in the CROFOC credit regulations in March, 1979, as discussed below, we believe that NCDS is in a position to make better loans in the future.

b. Credit Regulations

In our judgement, the program has been functioning for the most part since 1976 without adequate credit regulations. We believe this has contributed to many of the internal control, loan delinquency and accounting problems experienced by the ICs (see page 38).

At the time the first CROFOC loans were made in 1976, credit regulations were approved for the operation of the CROFOC fund. These regulations were revised effective March 20, 1979, and they represent a vast improvement over the first set of regulations. The Regional Credit Committees have been abolished and authority to approve loans has been centralized with the National Credit Committee in La Paz.

Also, requirements for receiving loans have been tightened-up which should ensure sounder loans and better operated cooperatives. In order to be eligible for CROFOC credits, the Cooperatives are required to (1) have annual external audits (2) be current with its loans to CROFOC (3) prepare three year annual budgets (4) prepare financial statements 15 days after the end of each month (5) maintain the managing committees required by their statutes (6) maintain good internal controls (7) comply with technical recommendations of NCDS (8) capitalize 10 percent of the value of loans made (9) keep delinquency rates below 10 percent (10) invest loan funds for intended purposes (11) not sell assets purchased with loan funds (12) submit delinquency loan reports to NCDS and (13) comply with other parts of the CROFOC credit regulations. Noncompliance with these requirements also gives NCDS the right to call outstanding loans or suspend disbursements on loans not yet fully disbursed.

4. NCDS Control Over the Use of Loan Funds Disbursed to Cooperatives

The ICs in Potosi and Cochabamba have not used all CROFOC loan funds received for the intended purposes because NCDS controls to verify proper fund use are not adequate. Misuse of funds by cooperatives could threaten project success.

The IC in Cochabamba diverted some CROFOC funds received for long-term loans for the purchase of diary cows into short-term loans for the purchase of potato seed during the last calendar quarter of 1978. The manager of the IC stated that he did this because of NCDS delays in granting a short-term loan which was urgently needed for the purchase of potato seed. We estimated that the IC had diverted at least $21,748 of the long-term loan as of December 31, 1979, calculated as follows:

Amount of Long-Term CROFOC Loan	$291,400	
Less: Long-Term IC loans to Members	(198,618)	1/
Cash in Bank	(71,034)	
Estimated Diversion	$ 21,748	

As of April 30, 1979, the long term loans made by the IC to its members have increased to $242,407 1/ which is still $48,993 short of the $291,400 received from CROFOC for this purpose. We believe that NCDS should monitor further IC disbursements to ensure that the full $291,400 loaned to the IC is invested as required in long-term loans or return the unused funds to NCDS.

We were unable to verify the amount of funds invested by the IC in Cochabamba in short-term loans compared to CROFOC loans granted for that purpose because the IC does not summarize the cumulative loan disbursements for all short-term loans.

We also found that the IC in Potosi had improperly used $102,146 received from CROFOC in 1978 for potato seed loans to refinance delinquent loans granted to members during the previous year. The IC advised us that rather than disburse the funds to the farmers, they were used to reduce delinquent loans granted in the previous year, and increase loans due from the current year. The IC, however, did disburse some of the funds to the farmers to the extent that their outstanding loans from the prior years were less than their seed loans approved for the current year. This transaction had the effect of greatly reducing the IC's delinquent loan portfolio and at the same time giving the IC cash with which to repay part of its loan to CROFOC granted in previous year. Supposedly, the cash that the farmers would have used to pay-off their delinquent loans could, thus, have been used to buy seed for the current crop year. To help NCDS verify that CROFOC funds are being used by the cooperatives for the intended purposes, we suggest that NCDS require each cooperative to submit a quarterly report which would compare the funds disbursed and the quantities of inputs financed to the uses authorized by CROFOC loan documentation. This will increase the administrative workload of the ICs because they are not yet keeping complete records on the use of CROFOC funds.

1/ This amount slightly overstated funds disbursed to farmers because it includes 10 percent added to some loans which were credited to the member's capital contribution account. The IC does not summarized loans made net of the 10 percent capitalization requirement.

Recommendation No. 5

We recommend that the USAID ensure that NCDS (1) require each cooperative to submit quarterly reports which compare CROFOC funds disbursed and the quantities of inputs financed to the uses authorized by CROFOC loan documentation and (2) verify that the IC in Cochabamba fully uses the long-term CROFOC loan of $291,400 for long-term loans as required or return the unused funds to NCDS.

5. NCDS Training Program

The IC training program has not been effective in increasing managerial and technical capabilities of IC management, IC committees, GAB committees, GAB members, and other cooperatives with the potential of becoming ICs.

Training in administration, principles of cooperativism, and improved agricultural methods is badly needed to improve (1) the administration of the ICs and GAB committees, (2) productivity of farmers, and (3) the recovery of loans.

IC management and the RNA advisors to the ICs told us that very little training has been given to the ICs, GABs and members.

According to the records of NCDS, they gave 405 courses to 23,336 participants during the three year period ending December 31, 1978. However, most of the courses covered matters related to community development and not to the project.

The revised project paper planned that 60 courses would be given over the life of the project. We were unable to determine exactly how many of the planned courses were carried out because NCDS did not keep separate records on courses given related to the project.

In 1979, the USAID financed a high-quality course on cooperative management of 12 weeks duration for 34 participants given by an Israeli team under a subcontract with RNA. The ICs have already hired some graduates of the course and may hire some more.

The project budget allocated $210,000 of AID loan funds and $200,000 of NCDS funds for an in-country training program. Of these funds the USAID has expended $53,000 as of March 31, 1979. We could not determine the cost of each course given and the related costs financed by the USAID and NCDS because NCDS do not maintain separate cost records on each course given.

For calendar 1979, NCDS prepared (with assistance from RNA) a new training plan which focused almost entirely on the project. This plan was a great improvement over plans prepared in prior years which focused mainly on the community developments activities of NCDS. We have analyzed the plan for 1979 and feel it will satisfy the training needs of the project.

However, as shown below, the implementation of the plan is far behind projections as of May 31, 1979:

Level of Courses	Number of Courses Projected	Number of Courses Given
National Level	8	5
IC Level	18	2
GAB Level	110	Not Known
Totals	136	7

According to the USAID, the training program is behind projections because NCDS has not given it a high priority.

NCDS does not know the status of the 110 courses to be given at the GAB level by the IC extension agents because NCDS has not obtained the data from the ICs.

NCDS plans for 1979 also provided that mobile teams of NCDS employees would develop a program to visit ICs and other cooperatives receiving CROFOC loans. The purpose of the visits was to follow up on delinquent loans and give some training. Although some training has been given by the mobile teams, NCDS has not yet developed a schedule of training courses to be given.

In summary, we believe that NCDS has not adequately managed the implementation of the training program. To correct the problem we make the following recommendation:

Recommendation No. 6

We recommend that the USAID ensure that NCDS (1) keep records to accumulate the cost of each course given showing the USAID and NCDS contributions, (2) obtain data on planned courses given at the GAB level, (3) establish a system to evaluate each course given, (4) prepare a schedule of courses to be given by the mobile training teams, and (5) submit to the USAID in its quarterly progress report

a) data which compares courses planned with courses given, b) the total cost of the courses along with the USAID and NCDS contributions, and c) an explanation for slippages in the implementation of the plan.

6. NCDS Project Records

The Borrower has not maintained or caused to be maintained project books and records in accordance with sound accounting principles as required by Section 4.09 of the Loan Agreement. As can be seen below, NCDS has not recorded $2,160,442 of loan/grant project disbursements on its books as of December 31, 1978:

	Disbursed by USAID	Recorded by NCDS	Unrecorded by NCDS
Loan 511-T-055			
Revolving Credit Fund	$2,262,297	$2,262,297	$ -
Community Assistance Fund	296,216	296,216	-
Campesino Training Program & Participant Training Program	222,378	192,524	29,854
Equipment and Materials	379,155	-	379,155
Short Term Consultant	55,012	-	55,012
Total Loan Financed	$3,215,058	$2,751,037	$ 464,021
Grant 511-0452			
Technical Assistance	$1,565,340	-	$1,565,340
Commodities	42,113	-	42,113
Other Costs	88,968	-	88,968
Total Grant Financed	$1,696,421	$ -	$1,696,421
Totals	$4,911,479	$2,751,037	$2,160,442

This condition was caused in part by inadequate control of documents within NCDS. The NCDS officials who approve project obligation and disbursement documents do not always transmit these documents to the accounting department.

As a result of incomplete project records, NCDS does not accurately know how much project funding has been spent and how much is available to carry out planned activities.

Recommendation No. 7

We recommend that the USAID ensure that NCDS update its project accounting records and establish adequate procedures to maintain its records on current basis in accordance with sound accounting principles.

7. Annual Audit of NCDS

NCDS has not complied with Implementation Letter No. 1 dated June 16, 1976, which asked NCDS to submit to the USAID an annual audit report on the project prepared by external auditors within 90 days after the end of the year as required by section 4.09 of the Loan Agreement. We found that only one report was submitted to the USAID on April 6, 1978 covering the period through July 31, 1977. This report was prepared by the Controller General of Bolivia. The scope of the audit only covered the activities of the NCDS Regional Office in La Paz rather than the whole project as required by Attachment C of Implementation Letter No. 1.

During our review, we found that NCDS was not maintaining adequate financial and training records on the project (see pages 24 and 26) and the NCDS did not prepare an accurate bank reconciliation of the CROFOC fund until January 31, 1979.

We believe an annual external audit of the project is needed to ensure that NCDS has (1) maintained adequate project records, (2) complied with the terms of the loan and grant agreements, and (3) established effective subloan procedures and internal controls.

Recommendation No. 8

We recommend that the USAID ensure that NCDS comply with the annual audit requirements established in Section 4.09 of the loan agreement and Implementation Letter No. 1.

C. IC Operations

The operations of the ICs have been hurt by (1) poor management (2) a high rate of loan delinquencies, (3) weak internal controls, (4) inaccurate financial statements, (5) the lack of effective controls to ensure that loan proceeds are used for intended purposes, (6) the lack of a sufficient extension staff to provide technical training to farmers and help plan and control the loan program, and (7) the lack of adequate credit regulations to govern IC loan operations.

The financial results of the ICs indicate that the IC in Potosi is running a profitable operation but the ICs in Cochabamba and Santa Cruz may have problems in reaching financial self-sufficiency unless operational plans are changed.

1. Management of ICs

A review of the management of the three ICs indicates that, except for the one in Santa Cruz, management has been weak.

The ICs have suffered from numerous internal control and other administrative deficiencies such as:

- Accounting records and financial statements have not been prepared on a current basis.

- Loan delinquencies have occurred partly because the IC in Cochabamba did not inform its borrowers of the repayment dates on long-term loans and the IC in Potosi did not establish an effective collection program.

- The IC in Potosi used cash receipts rather than checks to pay some expenses.

- The Credit Committee in Potosi did not meet to approve loans.

- The loan agreements (pagares) in Potosi and Cochabamba were signed in blank by the borrowers.

- The IC in Cochabamba did not require its members to capitalize at least 5 percent of the loans granted as required by the Statutes.

- The ICs in Potosi and Cochabamba have not established any credit regulations.

- The ICs have not established effective controls to ensure loan proceeds are used for the intended purposes.

- The financial statements prepared by the ICs in Cochabamba and Potosi as of December 31, 1978, are not accurate.

- The IC in Cochabamba did not take a physical inventory at the end of calendar 1978.

2. Financial Results of the ICs

We have analyzed the financial results of the ICs as compared to the original feasibility study projections. No analysis was made of the IC in Tarija as it is in the process of being organized. Financial results were based on the financial statements prepared by the ICs through December 31, 1978. These statements have not been audited and, thus, can not be considered 100 percent reliable. We found it necessary to adjust some of the data in the statements to improve reliability. Our review, however, did not constitute a full-scale financial audit.

In general, we found that the IC in Potosi was running a profitable operation but that the ICs in Cochabamba and Santa Cruz may have problems in reaching financial self-sufficiency unless operational plans are revised.

a. Potosi

The IC in Potosi has achieved financial self-sufficiency. After 15 months of operations for the period ending December 31, 1978, the IC shows a profit of $70,221 1/ (see Appendix C). The project paper had not anticipated a profit until the third year of operations. Financial self-sufficiency has been achieved because input sales (mostly fertilizer and insecticides) were more than double projections resulting in a gross profit of $134,900 versus $42,400 planned. Input sales were greater than planned because the IC membership grew much faster than projected (1,249 versus 500 planned). The gross profit margin on input sales was also higher than projected (11.7% versus 8.0% planned). Margins on fertilizer sales are very high because the IC imports its own fertilizer rather than buying through a local distributor. If this margin had been reduced to the projected margin of 8 percent, the IC would still have showed a profit of $27,137 for the 15-month period ending December 31, 1978.

There are two areas where the IC has fallen short of projections, which if corrected, would substantially improve its profitability. First, the growth loss for credit operations was much higher than estimated ($22,981 versus $1,919 planned). This was due to a very high rate of loan delinquencies which increased the estimate for bad debt expense from a projected percent of 49.5 of interest income to 93.4. Delinquent loans amounted to $122,286 or 34 percent of the 1977 loans ($365,033) which fell due in 1978. The main causes of these delinquencies were crop failures and deficiencies in IC management in the granting and collection of loans. An analysis of the delinquent loans prepared by the IC shows that $68,661 or 56.1 percent of these loans were delinquent as a result of crop failures. To correct this

---

1/ All profit or loss figures quoted in this report are before the USAID subsidy.

problem, the IC has taken two actions - the manager of the IC has been fired, and a plan has been formulated and is being implemented to recover the delinquent loans.

The second area where the IC has fallen short of projections is in the storage and marketing of potatoes for its members. The project paper had projected a gross profit from potato storage and marketing operations of $6,875. No profit has been realized, however, because the construction of potato storage facilities has been delayed. The main cause for this delay was that the technology for the design of the facilities was not readily available as envisioned in the project paper; also NCDS did not efficiently supervise the implementation of the project. The project paper estimated a profit of $1 per cwt for potatoes purchased and stored at harvest time in May, and then sold about 4 months later. This procedure was to have allowed the IC to profit from the normal price increase from $4 per cwt at harvest time in May to $8 per cwt in September/October.

At the present time, the IC has 10,000 cwt of pilot storage facilities under construction which should be finished later this year. The IC also has plans for the construction of additional facilities in subsequent years provided the pilot facilities prove to be satisfactory. The starting of potato marketing operation should help to reduce loan delinquencies because the IC can deduct loan payments which have fallen due from the proceeds to be paid to farmers for potatoes purchased.

b. <u>Cochabamba</u>

The IC in Cochabamba has done better than expected but has not yet achieved financial self-sufficiency which was projected for the third year of operations. For the 15-month period ending December 31, 1978, the IC had a loss of $11,977 which was $13,255 less than the projected loss of $25,322 (see Appendix E). Financial results were better than expected mainly because input sales (mostly fertilizers) were more than 23 times greater than those projected, resulting in a gross profit of $21,858 versus a projected profit of $915. Input sales were higher than planned because IC membership grew faster than projected (1,340 members to 800 planned) and production loans were made for corn and potatoes which was not envisioned in the project paper. Also, contributing to better financial results, was the IC's credit operation which earned a gross profit of $9,127 versus $729 planned. Credit operations were more profitable than projected because more loans were made ($559,849 versus $115,750 planned) and the rate of bad debts to interest income was lower than projected.

There are two major areas where the IC has fallen short of projections which, if corrected, would improve chances of reaching financial self-sufficiency. First, the IC milk-marketing operation has only done 30 percent of the volume anticipated, resulting in a gross loss of $792 versus a projected profit of $5,915. The main reasons for the lower volume is that many members did not sell their milk to the IC because it was more profitable to use it to make cheese; also the IC was unable to go to many of the farms to buy milk because of poor road conditions during the rainy season from November to March.

Another problem which has limited milk sales is that during the first 2 years of the project the IC planned to finance the purchase of 250 holstein cows which were estimated to produce 12 liters of milk per day instead of the 7 liters from local cows. During 1978, the IC imported 39 holsteins from Argentina but these cows have not produced as envisioned because of climatic conditions. According to the president of the IC, these cows are in poor health and three of them have died. Because of these poor results, the IC does not plan to import any more dairy cows. The project paper estimated that during 1978, 75 percent, or 600 of the 800 projected members would sell their milk to the IC. However, for the reasons stated in the preceding paragraph and because not all members have cows 1/ and the cows only produce milk approximately 260 days a year, only about 154 members or 11 percent of the actual membership sold milk to the IC in April of 1979. The IC has estimated that it has to sell 1,800 liters of milk per day to break even. During 1978, the IC sold an average of 1,560 liters per day, 240 liters below the break-even point. We believe the IC should initiate a program to promote the selling of milk to the IC in order to reach at least a break-even level of operations. If the IC cannot reach a break-even point within a reasonable period of time, sound business practices dictate that the milk marketing operation should be terminated.

Because of the desire of many members to make cheese with their milk rather than sell the milk to the IC, the IC is considering the establishment of a cheese production and marketing operation. We believe this would be a good idea if it could be turned into a profitable operation and not reduce milk sales. As presently conceived the IC would use some of the milk purchased to make cheese. According to the USAID, the conversion of milk to cheese appears to be more profitable at least during part of the year. One advantage of this operation is that the per unit transportation costs for picking-up milk from the farmers would be less, if the total milk purchased were to increase.

The other area where the IC has fallen short of projections is in the storage and marketing of corn. The project paper had projected a gross profit for the corn marketing operation of $8,184. No profit has been realized because the IC has not yet started this operation. The USAID has not pushed this activity yet because they wanted the IC to be able to effectively manage its existing operations before taking on new activities; also the USAID did not think the manager of the IC had the capability to run this operation. (This manager was recently fired and has been replaced with a new manager in whom the USAID has greater confidence.) The project paper projected that the corn would be purchased and stored in rented facilities at harvest time in May and then sold later in the year when prices were higher. It was assumed that corn would be purchased for $200 per ton and sold for $250 per ton. After deducting

---

1/ The total number of members with cows is not known.

estimated storage and marketing costs of $34.45 per ton, the IC was to have earned a gross profit of $15.55 per ton.

Without the anticipated gross profit of $24,552 to be generated from the corn marketing by the end of the third year, we believe it would be difficult for the IC to achieve financial self-sufficiency unless this short fall was offset by larger than anticipated profits in other areas such as fertilizer sales. For this reason, we believe it is important that the IC move ahead with the establishment of the corn marketing operation unless better alternatives can be identified.

c. Santa Cruz

The IC in Santa Cruz had done better than projected in the feasibility study. After 4 months of operation for the period ending December 31, 1978, the IC had a loss of $10,689 versus a projected loss of $16,528 (see Appendix D).

This loss was less than projected mainly because general expenses were $4,496 less than estimated ($12,764 actual versus $17,260 projected).

While the IC earned a gross profit of $3,649 from the sale of inputs, feed and milk cans, this profit was largely offset from a gross loss from its credit operations of $3,116.

Milk sales were close to projections ($30,292 versus $30,830 estimated) with the result the gross loss of $185 was close to the projected loss of $568. The milk marketing operation was almost at the break even point, averaging 1,771 liters per day. This operation, however, is plagued with the same sales-limiting problems experienced by the IC in Cochabamba.

The IC is considering (as in Cochabamba) a cheese production and marketing operation which could increase the volume of milk made available to the IC, reduce the unit transportation costs for picking-up milk, and, thus, reduce the break even point for the milk marketing operation.

The growth opportunities for the IC are more limited than the one in Cochabamba because of smaller membership. The IC in Santa Cruz plans to finance the purchase of more dairy cows for its members in the future which could increase the volume of milk made available to its marketing operations.

Even though the financial results for the first four months of its operations were ahead of projections, the future of the IC looks bleak unless other profit-producing activities can be started and membership increased. Milk marketing is a low margin operation and can not, by itself, ensure the financial viability of the IC. The feasibility study projected that the IC would start a corn marketing operation that would generate a gross profit of $12,788 in 1979. The USAID states that it was decided not to go ahead with this because the corn market in Santa Cruz is saturated and it would, thus, be difficult to make a profit. Also, input sales of $384,324 were projected for 1979 which were estimated to earn a gross profit of $43,564. We believe this estimate is too optimistic because it mainly includes, feed, seeds posts, and wire but no fertilizer.

As we saw from the financial results of the ICs in Potosi and Cochabamba, fertilizer sales are very profitable. It would, thus, make good sense for the IC to identify crops where use of fertilizer would be profitable for farmers and promote these crops with a program of production loans.

d. Conclusion

The IC in Potosi has achieved financial self-sufficiency on the basis of a large volume of highly-margined input sales (mainly fertilizer and insecticides). The IC has taken action to eliminate the loss from its credit operations and start a potato marketing program which should further strengthen the financial position of the IC.

The financial results of the ICs in Cochabamba and Santa Cruz are better than projected. Their future, however, does not look very bright because they are behind projected sales volume in some activities and have not started or planned to start other projected activities. The ICs have focused their activities mainly on marketing of milk which, by itself, can not ensure the financial viability of the ICs because gross profit margins are very low.

The ICs also need to identify and add new activities to supplement the expansion of existing operations in order to achieve financial self-sufficiency. Some activities which could be considered are: (1) cheese production and marketing for the ICs in Cochabamba and Santa Cruz; (2) corn storage and marketing for the IC in Cochabamba, and (3) fertilizer sales in Santa Cruz.

Since the ICs in Cochabamba and Santa Cruz have not implemented all activities as planned and are behind projections in some other activities, we believe that USAID should ensure that NCDS work with the ICs to develop detailed operational plans to expand existing activities and start new ones that will provide for the financial self-sufficiency of the ICs.

The ICs have recently prepared 3-year financial projections, but these are not supported with detailed operational plans and they focus on the expansion of existing activities.

According to the USAID, NCDS has requested funding approval (which the USAID expects to approve) to contract some Bolivian technicians to do feasibility studies on potential new activities for the ICs.

Recommendation No. 9

We recommend that the USAID ensure that NCDS work with the ICs in Cochabamba and Santa Cruz to develop detailed operational plans to expand existing activities and start new ones that will provide for the financial self-sufficiency of the ICs.

3. IC Control over the Use of Loans Proceeds Disbursed in Cash to Members

The ICs have not adequately controlled the use of loans disbursed to members in cash to verify that the proceeds were used for the intended purposes. CROFOC has disbursed $1,818,259 to the three ICs under six loans as of April 30, 1979. Of this amount $920,766 was for inputs (mainly fertilizer and insecticides) to be provided to IC members in kind and the balance of $897,493 or 49 percent was to be disbursed to the members in cash for the following purposes:

Purpose	Amount	ICs
Seed	$488,116	Cochabamba & Potosi
Cows and Oxen	294,325	Cochabamba & Potosi
Stables	31,032	Cochabamba
Rental of Tractors, Labor & Land Preparation	84,020	Cochabamba, Potosi & Santa Cruz
Total	$897,493	

Based on evidence developed during our review (as discussed below), we believe that a large part of the cash disbursed to the farmers may not have been used for the intended purposes. If such a diversion of resources into non-productive uses actually occurred, it will eventually threaten the ability of the farmers to repay their loans, and the financial viability of the ICs.

The $488,116 to be disbursed for seed by the ICs in Cochabamba and Potosi was mainly for potato seed. Many farmers may not have used the cash received to buy seed because the normal farming practice (except the Cochabamba valley) 1/ is to save some potatoes produced from the prior year's crop to use as seed in the next year's crop. The ICs have not established any controls

1/ The farmers in the valley of Cochabamba normally buy seed from the seed-producing farmers in the highlands because the potatoes produced in the lowlands are diseased and storage is difficult because of the warmer climate.

to verify that seed was actually purchased by the farmers. We do not believe receipts would be a very effective control procedure because the receipts of fictitious transactions between farmers could be easily forged with no means to physically verify the source of the seed. The most effective control would be for the IC to supply seed in kind to the farmers. As a result, we believe loans for seed should be suspended until the ICs are in a position to supply seed or other alternatives can be found to assure effective control. The IC in Santa Cruz does not have a control problem because the IC sells seed to its members.

The $294,325 disbursed for cows and oxen was to be used mostly for the purchase of dairy cows by the IC in Cochabamba. The IC in Potosi was also given funds to purchase some oxen. The IC in Cochabamba has required the farmers to submit receipts to verify the purchase of the diary cows. This control procedure, however, has not been effectively enforced. At the IC in Cochabamba, we found that for 304 loans granted for the purchase of cows, the IC had only received 120 receipts from the farmers as of June 8, 1979. We do not believe, however, that the receipts represent a very reliable form of evidence. The receipts are issued by the municipalities as evidence that the taxes were paid on the transaction. The receipts include the name of the buyer and seller and the price paid based on verbal statements from the buyer and seller who are not required to present identification.

We also found that only 138 or 45 percent of the farmers were delivering milk to the IC in Cochabamba out of the 304 who received loans to purchase cows. This has occurred even though the farmers signed statements giving the IC legal recourse at the time they got the loans in the event they did not deliver milk to the IC as required. The IC has not taken any action to enforce compliance with these agreements which is needed so the IC can increase the volume of milk sales in order to make a profit (see page 31). We believe that the nondelivery of milk to the ICs by 55 percent of the farmers receiving loans for cows is indirect but not conclusive evidence that some farmers may not have purchased their cows as required. Other factors that affect the nondelivery of milk are the conversion of milk to cheese because it is more profitable and the inability of the IC to pick up milk because of poor road conditions.

We also found in a review of purchase receipts submitted by the farmers to the IC in Cochabamba that some of the cows cost slightly less than the $690 given to farmers. The IC has not established any procedures to recover the funds disbursed in excess of actual needs. As the differences between the amounts loaned to the farmers for cows and the cost of the cows is not great, we do not believe that it would be worth the effort to require the IC to follow-up to determine the differences and whether sanctions should be taken against the farmers. We do believe, however, that controls should be established so this condition will not occur again in the future.

We also found evidence that some of the farmers may be selling cows purchased with loan funds from the IC in Cochabamba. A review of purchase receipts showed that one farmer purchased a cow on January 10, 1978, for $692.50 and 7 days later sold a cow to another farmer for $710. The IC is aware of this problem and is considering a procedure to mark cows with identification tags in order to control the problem.

In order to verify that the cows were purchased, we believe that the ICs with assistance from NCDS should take an inventory of the cows and oxen owned by the members and mark them with identification tags. In those cases where it is found that the farmer did not use the funds for the purchase of cows and oxen as required, the IC should determine what sanctions should be taken against the farmers.

Also no further disbursements should be made by the ICs in Cochabamba and Potosi for the purchase of cows and oxen until an effective control system is established to assure that funds are used for intended purposes and to control the resale of cows and oxen. 1/ Two proposals which the ICs have under consideration are (1) the buying and selling of cows directly by the ICs including the tagging of the cows with identification numbers and (2) the direct payment for cows by the IC at the time they are purchased by the farmers at the local markets including the tagging of the cows with identification numbers. The IC in Santa Cruz has not yet disbursed any funds for dairy cows from $56,419 received for that purpose. As the IC plans to follow option (1) above they hopefully will not have a control problem. However, once the sale of cows is started NCDS should verify that the control system is operating effectively.

The IC in Cochabamba received $31,032 to be disbursed for the construction of stables. The manager estimated that 60 to 70 percent of the stables to be built with 304 loans were not constructed. We visited five farmers who were to build stables and found that only one farmer had started construction; this stable was still lacking the concrete floor. The manager of the IC told us that the main reason for the non-construction of stables was the lack of cement. To help correct this problem, the IC is buying some bags of cement from the local factory and selling it to farmers. We believe the IC with the help of NCDS should determine through field inspections which farmers have not built stables and ensure that the stables are built. Also, the IC should suspend further disbursements for stables until adequate procedures are established to control stable construction. According to the USAID, the IC in Cochabamba recently decided not to make any future loans for stables.

The ICs do not have any controls to ensure that the $84,020 to be disbursed for rental of tractors, labor and land preparation costs will be

---

1/ On June 4, 1979, The Administrative Council of the IC in Cochabamba passed a resolution suspending new loans until credit regulations proposed by NCDS are adopted by IC.

used for the intended purposes. We believe that disbursements for these purposes would be difficult to control because physical verification is not possible. No further loans should be made for these purposes until controls are improved.

A review of the loan agreements (pagares) signed by the borrowers in Potosi and Cochabamba disclosed that the ICs do not have any legal recourse against the farmers in the event funds are not used for the authorized purposes or the assets purchased are sold by the farmers. No new loans should be made to farmers until the loan agreements are modified to give the ICs legal recourse against the farmers for the misue of funds received or the selling of assets purchased. This would be consistent with draft credit regulations recently prepared by NCDS for adoption by the ICs. These credit regulations allow the IC to deny new credits to members, suspend disbursements under existing loans or declare loans in default for members who have not used loan funds for intended purposes or have sold assets purchased with loan funds.

Also (except for the IC in Santa Cruz) the loan agreements are normally signed in blank by the farmer without showing the purposes for which the loan is to be used, the amount and dates of loan payments and the guarantees provided by the farmer to secure the loan. This practice could affect the use and repayment of the loans because the farmers do not have a written record of the loan repayment schedule and the purposes for which the loan proceeds are to be used. This could also lead to falsification of amounts due in loan agreements by IC employees to cover up misuse of IC funds.

We feel that the actions suggested above to tighten controls and to pressure some farmers into meeting their obligations might have an adverse impact on the project over the short-run, but such actions are needed to ensure the long-run financial viability of the project.

After our discussions with the USAID regarding some of the control deficiencies mentioned above, the USAID wrote a letter to NCDS on June 6, 1979. This letter requested that NCDS stop disbursements to the IC in Cochabamba for the purchase of dairy cows until effective controls are established by the IC and that NCDS initiate action to correct the problem regarding the construction of stables.

Recommendation No. 10

We recommend that the USAID ensure (1) that the ICs in Cochabamba, Potosi and Santa Cruz suspend cash disbursements to farmers until effective controls are established to ensure that loan proceeds are used for intended purpose and assets purchased with loan funds are not sold by the farmers (2) that the IC in Cochabamba undertake a program to encourage the farmers to sell milk to the IC as required.(3) that the ICs establish controls to recover or prevent future disbursement of loan funds in excess of actual needs (4) that the ICs in Cochabamba and Potosi take an inventory of dairy cows and oxen purchased with loan funds and mark them with identification tags (5) that the ICs in Cochabamba and Potosi determine what sanctions should be taken against farmers who did not purchase cows and oxen as required (6) that the system proposed by the IC in Santa Cruz to control the sale of dairy cows is adequate (7) that the IC in Cochabamba take an inventory of stables constructed and ensure that stables not yet built are constructed as required or declare in default that part of the loans given for stables (8) that the ICs in Cochabamba and Potosi make no further loans to farmers until the loan agreement formats are modified giving legal recourse to the ICs in the event funds are not used for authorized purposes or the assets purchased are sold by the farmers and (9) that the ICs in Cochabamba and Potosi completely fill out the loan agreements with all required data prior to the signing of the agreement by the borrower and that the borrower receives a copy of the agreement.

4. Loan Delinquencies

The ICs are experiencing higher delinquency rates than the CROFOC fund. If the delinquencies of the ICs are not brought under control, this will eventually affect their ability to repay their loans to CROFOC and cause the CROFOC loan delinquency rate to increase (see page 21).

As of December 31, 1978, members of the ICs in Cochabamba and Potosi had not repaid an estimated 1/ 34 percent of the principal payments that had fallen due as shown below:

1/ We have had to estimate these rates because the ICs have not kept records of the principal payments falling due (see page 20).

	Total	Potosi	Cochabamba	Santa Cruz
Payments Falling Due	$488,856	$365,033	$123,823	$ -
Delinquent Payments	164,625	122,286	42,339	-
Percent of Delinquent Payments to Payments Falling Due	33.7%	33.5%	34.2%	-%

While the delinquency rates for both ICs were about the same, the rate in Potosi was represented by short-term loans and the rate in Cochabamba was represented mainly by long-term loans. The IC in Cochabamba only had a 6 percent delinquency rate on its short-term loans compared to 33.5 percent in Potosi. However, the Cochabamba's IC had a delinquency rate of 100 percent on its long-term loans. 1/

The rate of delinquencies for long-term loans in Cochabamba was high mainly because the IC did not advise the farmers of the repayment schedules. It also could be due to the possible diversion of long-term loan proceeds into non-productive uses. (See page 34.)

We have made recommendations in other sections of this report to correct both of these problems (see page 37).

The rate of delinquency for short-term loans in Potosi was high mainly because of crop failures and poor management in the granting and collecting of the loans. We believe that with the recent change in the manager of the IC and the adoption of model credit regulations proposed by NCDS, the loan collection problem should improve (see pages 29 and 40).

The RNA advisor assigned to the IC in Potosi told us he thinks that some of the members may have gotten loans from the GOB Agricultural Development Bank and commercial sources to finance trucks and agricultural production prior to the establishment of the IC. Because these resources may not have been wisely invested, the incomes of the farmers may not be large enough to service their total debt burden. To avoid granting IC loans to farmers who can not liquidate their debt burden, we believe the IC should require the farmers to show all debts outstanding from the Agricultural Development Bank and other sources to verify the accuracy of the representations made on the loan applications. The IC has tried to get this information from the Agricultural Bank but the Bank has not cooperated. We believe the USAID has the leverage to help the ICs obtain this information.

1/ The delinquency rate on long-term loans was reduced to 59.6 percent as of April 30, 1979.

Recommendation No. 11

We recommend that the USAID ensure that NCDS (1) obtain information of loans that IC members might have with the GOB Agricultural Development Bank and other organizations, (2) require the ICs to obtain data on the loan applications from farmers of their outstanding debts.

5. Credit Regulations

While CROFOC has always had some credit regulations, the ICs have had virtually none to govern their loan operations. The ICs in Cochabamba and Potosi still do not have any credit regulations even though they started their operations in September 1977. The IC in Santa Cruz, which started operations in September 1979, has some regulations, but they are not very comprehensive. To correct this problem NCDS recently drafted some model credit regulations which are to be adopted by the ICs. These regulations (like the revised CROFOC Regulations) establish requirements for loan eligibility, internal controls, capitalization, loan delinquency reports, loan approval procedures and restrictions on the use of loan proceeds. The adoption of these regulations should improve the loan operations of the ICs and we strongly endose their approval.

Recommendation No. 12

We recommend that the USAID ensure that the model credit regulations recently drafted by NCDS are adopted by the ICs.

6. Staffing of ICs

We have reviewed the staffing of the ICs and believe that the number of extension agents employed by the ICs (three in Cochabamba, two in Potosi two in Santa Cruz) may not be sufficient to fulfill the needs of the program. The extension agents are to help with the planning and control of loans and to provide technical training to the farmers. These services are crucial to ensure that sound loans are made and that the income of the small farmers are increased. As a result, the ICs must be staffed with a sufficient number of qualified extension agents.

Until recently, the extension staffs of the ICs were supplemented with two to three agents from NCDS Regional and Zonal offices. However, because NCDS has recently stopped providing this assistance and the Bolivian Agricultural Technological Institute (IBTA) does not have sufficient staff to do it (see page 43), the full burden of providing extension services (except for some assistance provided by the GOB milk company) rests on the ICs. Considering (as shown below) that IC membership ranges from about 280 to 624 members per agent, the ICs may not have enough agents or para-technicians to service the extension needs of the program:

ICs	Members	Extension Agents	Members Per Agent
Cochabamba	1,340	3	446
Potosi	1,249	2	624
Santa Cruz	560	2	280

Under the circumstances, we suggest that NCDS identify the staffing needed by the ICs so they can provide adequate extension services to the program and ensure that these needs are satisfied.

Recommendation No. 13

We recommend that the USAID ensure that NCDS identify the staffing needed by the ICs to provide adequate extension services to the program and ensure that these needs are satisfied.

7. Independent Financial Audits of IC Operations

Independent financial audits have not been performed of IC operations. This function was to have been performed by The National Cooperative Institute (INALCO) but was not done due to insufficient GOB budgetary support (see page 45).

NCDS internal auditors, however, have performed three reviews -- one of the IC in Cochabamba in September 1978 and two of the IC in Potosi. The first audit of the IC in Potosi (which was conducted in November 1978) disclosed unreliable records and significant internal control deficiencies. As a result of these findings NCDS auditors did a second audit of the IC in early 1979 in order to reconstruct its records and prepare financial statements as of December 31, 1978.

Independent audits are an important managerial control tool. They are needed to assure that the ICs have: (1) prepared accurate financial statements (2) established sound internal control procedures and (3) complied with credit regulations and other program requirements. Without reliable financial statements, management does not know whether the project is achieving its financial objectives and if corrective action is needed.

During our analysis of the financial results of the operations of the ICs (which did not constitute full-scale financial audits) we identified several significant errors in IC financial statements prepared as of December 31, 1978. Our findings were as follows:

a. None of the three ICs had established reserves for delinquent interest although they did do this for delinquent loan principal. The IC in Potosi had delinquent interest of $12,025.

b. The IC in Potosi had overstated the cost of input sales by $5,197 because loan interest charged to finance the purchase of fertilizer was at the rate of 13 percent rather than at 6 percent which is the cost of money to the IC. This occurred because the IC did not give credit to the purchase account for the 7 percent interest which CROFOC has to return to the IC at the time the loan is repaid.

c. The IC in Cochabamba has understated its ending inventory by $42,021 resulting in an overstatement of the cost of input sales of $16,265 for the following reasons:

(1) The IC did not take a physical inventory at the end of the year, and as a result, the number of bags of fertilizer included in the ending inventory was understated by 191 bags.

(2) The IC did not use accurate unit cost data per bag of fertilizer to calculate the value of the ending inventory. The IC's unit cost figures were less than actual unit costs as shown below:

Type of Fertilizer	Unit Cost Per Bag: Cost Per IC	Unit Cost Per Bag: Costs Per AID Auditors
18-46-0	$14.20	$18.19
Urea	13.00	16.63
B-0-60	12.35	15.78

(3) The IC did not record on its books $26,458 of insecticides and fertilizers purchased from the IC in Potosi.

d. The IC in Cochabamba understated milk marketing costs in calendar 1978 by $4,780 because such costs were erroneously charged to general expenses.

We believe the USAID should ensure that independent financial audits are performed of IC operations as of December 31, 1978, and on an annual basis thereafter because the financial statements of the ICs are not reliable. The scope of such audits should also include a review of IC internal controls and compliance with credit regulations and other program requirements.

The USAID has agreed to subsidize, with project funds, part of the cost of annual audits during the first few years of the IC operations.

On March 20, 1979 CROFOC revised its credit regulations requiring annual external audits as a condition of eligibility to receive CROFOC loans.

Recommendation No. 14

We recommend that the USAID ensure that independent financial audits are performed of the IC operations as of December 31, 1978. The scope of such audits should include a review of IC internal controls and compliance with credit regulations and other program requirements.

D. Support of GOB Participating Institutions

Two GOB institutions (IBTA and INALCO) have not supported the project as required by agreements signed with NCDS in 1976. The effectiveness of these institutions has been reduced by the lack of sufficient GOB budgetary support. As a result, NCDS, the USAID, and the ICs have had to bear the cost of providing the services not provided by IBTA and INALCO.

1. Bolivian Agricultural Technological Institute (IBTA)

IBTA has only provided a small part of the services to the project as required by an NCDS/IBTA agreement signed on April 27, 1976, because the GOB has not provided IBTA with sufficient budgetary support to employ a sufficient number of personnel and provide other services. IBTA is the extension and research arm of the Ministry of Rural Affairs and Agricultural (Ministry).

The following is an analysis of the requirements of the IBTA/NCDS agreement and IBTA's compliance with this agreement:

a. IBTA and NCDS were to meet once a month in areas where both have offices to develop coordinated plans to achieve the objectives of the CROFOC credit program. These monthly meetings have not been held and joint plans have not been developed.

b. IBTA (as requested by NCDS) was to provide extension services to farmers in areas where CROFOC loans were given. IBTA did not provide extension services to the members of the ICs because IBTA did not have the necessary personnel due to a lack of sufficient GOB budgetary support. IBTA has, however, provided personnel to help teach some training courses given by NCDS. Partly as a result of this, NCDS Regional and Zonal offices have generally provided two to three extension agents to help the ICs plan and manage their loan and technical assistance programs. NCDS recently stopped providing extension services to the ICs which means that the ICs may have to hire additional extension agents to supplement their existing staffs of two to three agents.

c. Both IBTA and NCDS were to assist each other with regard to transportation, audio-visual equipment and other facilities to support the program. Such assistance has not occurred.

d. IBTA was to be a member of the Regional and National Credit Committees. IBTA personnel have participated in some of these meetings.

e. IBTA's Extension Service was to assist in the planning, supervision and control of the general activities of the project. IBTA has provided some planning assistance to the IC in Potosi with regard to potato seed, disease control and fertilizer applications but has not provided any supervision or control assistance to any of the ICs.

f. IBTA's experiment station was to provide written reports on agricultural research results to NCDS and to research farm production problems for NCDS. IBTA has not published results because of the lack of funds to cover printing costs. Also, IBTA has not researched any project problems for NCDS because NCDS has not asked for any help.

g. IBTA and NCDS were to evaluate the results of this agreement periodically but no evaluations have been made.

We believe the project could be benefited by more assistance from IBTA. Admittedly, the capability of IBTA to provide more help is limited by a lack of funds and personnel but it is possible that in certain areas it could be done. We, therefore, suggest that IBTA and NCDS try to identify areas where assistance could realistically be provided and revise the NCDS/IBTA agreement signed on April 27, 1976.

Recommendation No. 15

We recommend that the USAID ensure that NCDS and IBTA identify areas where IBTA could realistically provide assistance to the project and revise the NCDS/IBTA agreement signed on April 27, 1976.

2. National Cooperative Institute (INALCO)

INALCO has not performed any annual audits of cooperatives receiving subloans with project resources as required by Grant Agreement 511-0452 dated April 29, 1976, Loan Agreement 511-T-055 dated March 24, 1976, and a separate agreement between INALCO and NCDS dated July 9, 1976. About 70 cooperatives - including the three ICs - have received subloan disbursements totaling $2,629,400 as of April 30, 1979.

INALCO has not discharged its audit responsibilities because the GOB has not provided the funds required under grant agreement 511-0452 to enable INALCO to increase its auditing staff and cover related support costs of transportation, per diem, materials, and equipment.

Under Grant Agreement 511-0452 for FY 1976, 1977 and 1978, the GOB made the following financial commitments to support INALCO:

- FY 1976 - $78,000 for salaries and operating costs of fifteen INALCO technicians working in direct support of the project.

- FY 1977 - Salary and operating costs of INALCO at a level which enables INALCO to actively support the project.

- FY 1978 - An increase in the GOB budget for INALCO beginning with FY 1978, in amount sufficient to in increase its auditing staff and to cover related operating expenses so the staff can provide annual audits.

Our review of INALCO's records disclosed that the GOB fulfilled none of the above commitments. On the contrary, INALCO's budget for FY 1978 was decreased by $62,728. The Director of INALCO stated that unless his organization is furnished with adequate funding and facilities, it will not be possible to carry out their audit responsibilities under the project.

INALCO was to be provided with the following technical assistance according to the grant agreement and RNA contract:

- Developing a more efficient and prompt system for ensuring legal registration of cooperatives;

- Developing a statistical information system on the activities of registered cooperatives that will provide accurate information on their volume of operations, financial activity, and other basic management responsibilities;

- Developing social/economic information within the cooperative sector for utilization in the overall evaluation of cooperatives and for overall national planning purposes; and to develop a planning and program procedure for the Cooperative Sector;

- Implementing the activities described in the INALCO/NCDS agreement, which include the registration of SFOs, provision of accounting and auditing services, participation on regional credit committees, etc.

The RNA advisor to INALCO told us that his assistance was not very productive because of the lack of counterparts and funds to effectively support his efforts.

Partly as a result of a lack of an auditing service by INALCO, IC accounting records are not adequate and reliable information on the financial status of the cooperatives is not available to determine whether they are meeting project plans (see page 41).

In sum, INALCO will not be able to provide an effective audit service to the project until it receives sufficient financial support from the GOB combined with appropriate technical assistance from NCDS.

The USAID does not plan to provide any more technical assistance to INALCO because INALCO lacks sufficient GOB budgetary support and qualified personnel to permit it to become an effective institution. The USAID has allocated funds to the ICs to subsidize part of the cost of the external audits as a substitute for the auditing service which INALCO was to provide.

E. Technical Assistance

We do not believe that the USAID investment in the technical services provided by Robert R. Nathan Associates (RNA) of $1,824,000 as of March 31, 1979, has been worth the cost. This, however, cannot be attributed solely to the quality of services provided by RNA but also to a lack of GOB budgetary support; also the efforts of the contractor were partly spent on activities not directly related to the current project during the first 15 months of the contract because the project was redesigned by the USAID in August 1977.

RNA signed its contract with NCDS on May 13, 1976, for a four year period. The objective of the contract was to assist NCDS to carry out a project to strengthen about 200 small farmer organizations, NCDS, INALCO, and regional and local cooperatives to be created through the project. After the project was redesigned on August 31, 1977, the contract objectives were amended on May 16, 1978, to assist NCDS to carry out the project to give aid to about seven ICs, other small organizations with the potential of becoming ICs, NCDS, INALCO and a federation of ICs.

As of March 31, 1979, RNA has provided 274.5 work-months of long-term technical services at a cost of $1,824,000. 1/ The allocation of these work-months before and after the redesigning of the project were as follows:

	WORK-MONTHS		
	Total	Before Change in Project Design	After Change in Project Design
Chief of Party	34.9	15.5	19.4
Training Advisors	38.5	16.5	22.0
Rural Women Promotion Advisor	29.0	14.5	14.5
Regional Advisors	74.4	33.2	41.2
IC Advisors	29.1	-	29.1
INALCO Advisor	20.0	6.5	13.5
Planning, Administration and Credit Advisors	48.6	12.6	36.0
Totals	274.5	98.8	175.7

The cost effectiveness of the contractor's assistance has been reduced for the following reasons:

- The USAID improved the design of the project in August 1977 to change the project focus from many small cooperatives to large ICs. Thus, the 98.8 work-months of effort during the initial 15 months of the contract were partly spent on activities not directly related to the redesigned project.

- The GOB did not provide sufficient budgetary support to INALCO which greatly reduced the effectiveness of the 20 work-months of assistance provided to that institution (see page 45).

1/ This amount does not include $240,100 of GOB local currency counterpart funds given to the Contractor to finance some local costs.

- The training advisors (38.5 work-months) and the regional advisors (74.4 work-months) spent some of their time advising NCDS on operations not directly related to the project. As a result, the training program has suffered because effort was diffused into low priority areas (see page 24).

- The planning, administrative and credit advisors (48.6 work-months) have not yet designed an adequate planning and control system. For example, after almost 2 years of operations, the ICs in Cochabamba and Potosi still do not have any credit regulations (see page 41). Controls over the use of loan funds at both the CROFOC and IC levels are weak (see pages 34 and 22). Accounting records are not accurate (see page 19). Yield estimating systems have not been established to measure small farmer income (see page 19).

- The contractor did not promptly reallocate its resources after the change in project design to focus effort on the central purpose of the project -- to develop a viable system of ICs. After the project was redesigned 41.2 man-months of advise was provided to NCDS regional offices and only 29.1 man-months has been provided directly to the ICs which was a higher priority area. Because of this misallocation of resources, the ICs were without the full-time services of advisors for 13 work-months. The manager of the IC in Potosi said he was without an advisor during the months of August 1977 and 1978. August is a crucial month when the ICs plan their loan programs which start in September of each year. As a result of the centralization of authority to approve CROFOC loans with the National Credit Committee in March 1979, the last of the regional advisors was finally phased-out in September 1978.

Presently the contractor has nine advisors on board consisting of:

- A chief of party

- Four advisors assigned full-time to each of the ICs

- A credit advisor to work with NCDS and the ICs

- An administrative advisor to work with NCDS and the ICs

- A training advisor to work with NCDS

- An extension advisor to plan, coordinate and guide the extension programs of the ICs.

This alignment of personnel is now focused on the central purpose of the project - to establish a viable system of ICs. Other improvements recently made in the organization of the contractor's program were the revision of job descriptions for each advisor and the preparation of quarterly work plans. As a result of these improvements, we believe the Contractor is now in a position to contribute more effectively to the development of the project.

F. USAID Management

We believe the USAID has designed a project capable of achieving its objective after correcting deficiencies in the origianl design. There are however, several aspects in the management of the project that should be improved. The USAID needs to, (1) revise the project implementation plan which is no longer realistic, (2) obtain more information on project operations in order to promptly identify and correct problems, (3) improve its disbursements controls to reduce the cash balance of CROFOC fund to a reasonable level, and (4) complete the procurement of accounting machines which has been delayed for 20 months.

1. USAID Planning

We believe that the project is well-designed but that implementation planning has been weak. Effective implementation planning is needed to ensure (1) that efforts are well-coordinated and focused on priority areas so project objectives can be achieved in an effective and efficient manner and (2) that adequate standards have been established to serve as a basis for controlling project implementation. The lack of good implementation planning has contributed to (1) delays in the procurement of accounting machines (see page 54), (2) weaknesses in the performance of the contractor (see page 46), and (3) the lack of an effective training program (see page 24).

The USAID has recently improved its implementation planning but further improvements are still needed.

a. Project Design

We believe that the revised project design which concentrates on developing a few large cooperatives that are capable of supporting professional management staffs and realizing economies of scale is far superior to the original design that focused on developing many small cooperatives under a system of regional and national federations. The defective original design, however, reduced the cost-effectiveness of AID funds invested in the technical assistance contract with RNA because a lot of effort was wasted on less productive activities until the project was redesigned.

b. Implementation Planning

(i) Overall Project Plan

The Implementation Plan for the project submitted to the USAID on June 24, 1976, to satisfy condition precedent Section 3.01(c) of the Loan Agreement is no longer realistic because of the change in project design in August 1977. Moreover, the implementation plan included in the revised project paper is also unrealistic because of slippage in project implementation. To ensure that action required to complete the project is carried out in an effective and efficient manner, we suggest a new implementation plan be prepared. This plan should include adequate standards so that performance against the plan can be measured and controlled.

(ii) Contractor Work Plans

The USAID has not formally requested the Contractor (RNA) to submit to the USAID quarterly work plans as recommended in an evaluation report of the project issued in October 1978.

RNA submitted a work plan with its progress report for the quarter ending December 31, 1978, but no plan was submitted with the report for the quarter ending March 31, 1979. The first plan submitted is an excellent document because it focuses on correcting the priority problems of the project, identifies the persons responsible for correcting the problems, and establishes dates when the corrective action is to be completed.

To ensure that the work plans are revised quarterly as recommended by the evaluation report, we suggest the USAID formally ask NCDS to ensure that the contractor complies with this requirement.

Recommendation No. 16

We recommend that the USAID ensure that NCDS (1) revise the overall implementation plan for the project and (2) formally ask the contractor to submit a revised quarterly work plan with each progress report.

2. USAID Control

The USAID needs to improve its control over project operations. Effective control can not be established unless the USAID obtains reliable, timely, and sufficient information on operations so problems can be promptly identified and corrected.

The USAID presently obtains information from project operations from the following sources:

Type of Information	Provided By
Quarterly Progress Report	NCDS
Monthly Report on CROFOC loan operations	NCDS
Quarterly Progress Report	RNA
Audit Reports	NCDS
Project Evaluation Report	USAID
Correspondence	NCDS
Field Trips	USAID
Meetings	NCDS and RNA
IC Financial Statements	NCDS
Quarterly Shipping Reports	NCDS

We have reviewed the control information received by the USAID and believe improvements can be made in the following areas:

a. NCDS Quarterly Progress Report

This report is very brief and does not compare progress to the implementation plan. Also NCDS has not submitted any reports since the quarter ending September 30, 1978.

We believe this report should be expanded to include other supporting reports as recommended in this report.

Type of Report	Page No.
IC quarterly budgetary control reports	20
Report on implementation of training program	25
Report on implementation of program of technical collaboration	18
Control report on the use of CROFOC loan funds by cooperatives	24

b. NCDS Monthly Report on CROFOC Loan Operations

This report is an excellent report as far as it goes. We believe, however, it should be expanded to (1) show a comparison between interest falling due and delinquent interest, (2) an explanation of the causes for the loan delinquencies and (3) a summary of the total funds received from the USAID, principal and interest payments received from the cooperatives, disbursements to the cooperatives, expenses charged to the CROFOC fund, and the cash balance of the CROFOC fund.

c. NCDS External Audit Reports

The USAID has not obtained any external audit reports covering the whole project from NCDS. We have recommended in another section of this report that NCDS provide these reports to the USAID annually (see page 27).

Recommendation No. 17

We recommend that the USAID ensure that NCDS (1) submit its quarterly progress report on a timely basis, (2) expand its quarterly progress report to include, (a) a comparative evaluation between project progress and the implementation plan, (b) reports on the implementation of the programs of training and technical collaboration, (c) IC budgetary control reports, and (d) control reports on the use of CROFOC loan funds by cooperatives, and (3) expand its monthly report on CROFOC loan operations to include (a) a comparison between interest falling due and delinquent interest, (b) an explanation of the causes of loan delinquencies and (c) a summary of the cash receipts and disbursement of the CROFOC fund.

3. Cash Management of the CROFOC Fund

a. NCDS Estimates for Cash Requirements

The average monthly cash balances of the CROFOC fund were substantially in excess of actual needs because NCDS overestimated its cash requirements in requesting funds from the USAID. Disbursing funds in excess of needs has the effect of increasing the interest costs to the U.S. Government (USG).

From October 1976 through August 1977, the monthly cash balances of the CROFOC fund were maintained at a somewhat reasonable level, averaging $151,454. However, since September 1977 through April 1979, the average monthly balances increased substantially to $683,280. During this latter period, USAID made two cash disbursements to the CROFOC fund - one in September 1977 for $880,829 and another in September 1978 for $480,372. In both cases, NCDS greatly overestimated in its disbursement requests to the USAID the subloans to be disbursed to cooperatives in subsequent periods (see Appendix G). This mainly resulted in the excessive cash balances of the CROFOC fund. Clearly, the USAID has to establish some criteria and procedures to verify the accuracy of NCDS estimates for disbursements and receipts if they are to bring the cash balance of the CROFOC fund down to a reasonable level.

Had the USAID confirmed NCDS estimates for cash requirements for the 20-month period ended April 30, 1979, in order to reduce the monthly cash balances of the CROFOC fund to a more reasonable level, we estimate the USG could have saved $42,664 in interest costs as shown in Appendix H.

As the disbursement of the AID loan is likely to continue for another 18 months (July 1979 through December 1980), the USG could save about

$38,397 at $2,133 per month (see Appendix H) if the USAID improves its disbursement controls in order to reduce the monthly cash balances of the CROFOC fund to a more reasonable level.

b. Request for USAID Disbursements Form

On September 27, 1978, the USAID revised the form to be used by NCDS to request USAID disbursements for the CROFOC fund which needs to be revised again because of a subsequent change in CROFOC disbursement procedures. This form has not been used yet because CROFOC has not needed any more funds.

According to the form, the estimated cash needs of the CROFOC fund for the subsequent quarter are to be calculated as follows:

Funds Received from the USAID

Plus: Payments of Principal and Interest Received by CROFOC from Cooperatives

Less: Funds Disbursed by CROFOC to Cooperatives

Cash Balance of Funds

Less: Estimated Funds to be Disbursed by CROFOC to Cooperatives in the next Quarter

Plus: Estimated Payments of Principal and Interest to be received by CROFOC from Cooperatives during the next Quarter

Estimated Cash Requirements of Fund for the Next Quarter

The form also provided that the "Estimated Cash Requirements of Fund for the Next Quarter" were to be increased by 50 percent. The USAID Controller's Office said this was done to compensate the CROFOC fund for the understatement of disbursement figures recorded on the form by NCDS. NCDS disbursement figures were to be based on liquidated payment orders issued to the State Bank. The State Bank makes the disbursement of funds to the cooperatives based on NCDS payment orders. As there was always a time lag between the date that NCDS issues the payment orders and the date that the State Bank submitted the disbursement documentation to NCDS, the liquidated payment orders on the books of NCDS were always less than actual disbursements of CROFOC funds.

We do not believe that the "Estimated Cash Requirements of the Fund for the Next Quarter" have to increase by 50 percent because in March 1979 NCDS changed its disbursement procedures. NCDS now makes all disbursements by check from its central office in La Paz and, thus, has an accurate record of actual disbursements.

Recommendation No. 18

> We recommend that the USAID (1) establish procedures tc ensure that NCDS estimates of CROFOC funds to be disbursed and received are accurate in order to reduce the average monthly cash balance of the CROFOC fund to a reasonable level and (2) revise the form to be used by NCDS to request USAID disbursements for the CROFOC fund to eliminate the procedure that increases estimated requirements by 50 percent.

4. Accounting Machines

Accounting machines have not yet been purchased for the ICs even though the procurement of such machines was planned for in the revised project paper of August 1977.

In November 1977, the USAID started negotiations with local NCR representations because NCDS wanted to buy two NCR-299 machines locally. It took the NCR representative several months to determine the total package needed and they questioned whether it could be purchased through the General Service Administration (GSA).

The USAID delayed further actions to purchase the machines until May 1978 when it was found that (1) the NCR-299 was no longer manufactured in the U.S. but instead in Germany and (2) it could no longer be purchased through the GSA.

In September 1978, action was taken to prepare a source and origin waiver to purchase the machines in Germany. After subsequent investigation by the USAID Controller's Office to determine if the machine was needed and if it could be serviced in Bolivia, a waiver was prepared in December 1978. The Mission Director refused to sign the waiver because he questioned whether the type of machine proposed was needed and whether it was the only machine available in Bolivia that could meet the needs of the ICs.

The USAID then contracted a consultant in April 1979 to determine the most appropriate machine for the ICs. The consultant recommended a mini-computer that the USAID felt was too sophisticated and costly for the ICs.

Recent investigations by the USAID disclosed that there are two machines less costly and less sophisticated than the mini-computer available in Bolivia of U.S. source.

We believe that the USAID should procure one of these machines (which are suitable for the needs of the ICs) on a priority basis. These machines are needed to help the ICs prepare accurate accounting records on a current basis and provide financial and operational data needed by NCDS and the ICs to overcome planning and control deficiencies identified during this audit (see pages 17 and 22).

Recommendation No. 19

We recommend that the USAID procure on a priority basis accounting machines suitable for the present and future needs of the ICs.

ESTIMATED COST OF POTATO PRODUCTION PER HECTARE IN THE POTOSI AREA

	Yield of 200 Cwt per Hectare Based on NCDS Projections for Crop Years 78/79			Yield of 260 Cwt Per Hectare 1/ Based on Increased Use of Fertilizer			Yield of 400 Cwt per Hectare Based on Use of Clean Seed and Increase in Use of Fertilizer		
	Inputs	Unit Cost	Total Cost	Inputs	Unit Cost	Total Cost	Inputs	Unit Cost	Total Cost
A. **Land Preparation & Planning**	5 Hours	$ 7.50	$ 37.50	5 hours	$ 7.50	$ 37.50	5 hours	$ 7.50	$ 37.50
	2 Oxen	$ 2.50	$ 5.00	2 oxen	$ 2.50	$ 5.00	2 oxen	$ 2.50	$ 5.00
	10 work days	$ 1.50	$ 15.00	10 work days	$ 1.50	$ 15.00	10 work days	$ 1.50	$ 15.00
B. **Inputs**									
Seed	32 cwt	$11.00	$352.00	32 cwt	$11.00	$352.00	32 cwt	$13.00 7/	$416.00 8/
Fertilizer (18-46-00)	3.5 bags 2/	$23.35 3/	$ 81.73 4/	10 bags 5/	$23.35	$233.50 6/	10 bags	$23.35	$233.50 8/
(46-00-00)	2.5 bags 2/	$22.55 3/	$ 56.38 4/	2.5 bags	$22.55	$ 56.38 6/	2.5 bags	$22.55	$ 56.38 8/
(00-00-60)	0.5 bags 2/	$18.40 3/	$ 9.20 4/	0.5 bags	$18.40	$ 9.20 6/	0.5 bags	$18.40	$ 9.20 8/
Pesticides (Temik 106)	50.0 pounds	$ 1.70 3/	$ 85.00 4/	50 pounds	$ 1.70	$ 85.00 6/	50 pounds	$ 1.70	$ 85.00 8/
(Lannate)	120.0 grams	$ 0.06	$ 7.20 4/	120 grams	$ 0.06	$ 7.20 6/	120 grams	$ 0.06	$ 7.20 8/
(Busan 30)	400 c.c.	$ 0.016	$ 6.40 4/	400 c.c.	$ 0.016	$ 6.40 6/	400 c.c.	$ 0.016	$ 6.40 8/
C. **Labor for Cultivation**	11 work days	$ 1.50	$ 16.50	11 work days	$ 1.50	$ 16.50	11 work days	$ 1.50	$ 16.50
	4 oxen	$ 2.50	$ 10.00	4 oxen	$ 2.50	$ 10.00	4 oxen	$ 2.50	$ 10.00
D. **Harvesting**	63 work days	$ 1.50	$ 94.50	82 work days 9/	1.50	$123.00	126 work days	$ 1.50 10/	$189.00
E. **Transportation to Market**	200 cwt	$ 0.30	$ 60.00	260 cwt	0.30	78.00	400 cwt	$ 0.30	$120.00
F. **Interest** (13% for 9 months of loan)			23.97			38.79			79.38
G. **Contingencies** (10% of Loan)			24.58			39.77			81.37
Less: The Amortization of the fertilizer cost over two years ($233.50 x 50%)						(116.75)			(116.75)
Total Cost per Hectare			$884.96			$996.49			$1,250.68

1/ Assumed that yields will increase 30 percent from 200 to 260 cwt per hectare for fields low in phosphorus

2/ 50 kilo bags

3/ Actual price for crop year 1978/79

4/ Loan financed costs of $245.89

5/ Per recommendation of CID for fields low in phosphorus

6/ Loan financed costs of $397.67

7/ Estimated price for clean seed

8/ Loan financed costs of $813.67

9/ Assumed that harvesting cost will increase by 30 percent because of 30 percent increase in production

10/ Assumed that harvesting cost will increase by 100 percent because of 100 percent increase in production

PROFIT ESTIMATES PER HECTARE FOR POTATOES IN THE POTOSI AREA

	Technology Used		
	Current Method	More Fertilizer	More Fertilizer Plus Clean Seed
I. Yield Per Hectare	200 cwt	260 cwt	400 cwt
II. Profit Estimates Per Hectare			
Revenues per Hectare	$1,160.00 1/	$1,508.00 2/	$2,440.00 3/
Less: Cost of Production	884.96		
(Appendix A)	884.96	996.49	1,250.63
Total Profit	$ 275.04	$ 511.51	$1,189.37

1/ Per NCDS estimates as follows:

Production Used As Follows	Percentage Uses of Production	Production Allocated by Use	Price	Total Revenues
Seed	15%	30 cwt	$10.00	$ 300.00
1st quality potatoes	30%	60 cwt	5.50	330.00
2nd quality potatoes	35%	70 cwt	4.00	280.00
Small Potatoes	10%	20 cwt	2.50	50.00
Dried Potatoes	10%	20 cwt	10.00	200.00
Totals	100%	200 cwt		$1,160.00

2/ Per NCDS revenue estimates of $5.80 per cwt ($1,160 ÷ 200 cwt) times production of 260 cwt.

3/ Per NCDS revenue estimates of $5.80 per cwt ($1,160 ÷ 200 cwt) times production of 400 cwt equals $2,320 plus additional value of clean seed produced of $120 4/ equals $2,440.00.

4/ $13.00 (value of clean seed) less $11.00 (value regular seed) equals $2.00 times seed produced of 60 cwt equals $120.

INTEGRAL COOPERATIVE - POTOSI
RESULTS OF OPERATIONS COMPARED TO PROJECT PAPER PROJECTIONS
FOR 15-MONTH PERIOD ENDING 12/31/78

	Actual Results (Unaudited)		Projections	
INCOME				
Sale of Inputs	$1,147,701		$530,000 1/	
Cost of Sales	(1,012,801) 2/		(487,6?0)	
Gross Profit - Inputs		$134,900		$ 42,400
Interest Income	$ 63,689		$ 28,256	
Interest Expense	(27,148) 2/		(16,175)	
Bad Debts	(59,522)		(14,000)	
Gross Profit-Credit Operations		($ 22,981)		($ 1,919)
Gross Profit on Potato Storage		$ -		$ 6,875 4/
Other Income		$ 3,830		$ -
Total Income		$115,749		$ 47,356
LESS: GENERAL EXPENSES		$ 45,528		$ 45,625
Profit Before USAID Subsidy		$ 70,221		$ 1,731
Plus: USAID Subsidy		25,495		19,751
Profit After USAID Subsidy		$ 95,716		$ 21,482 3/
STATISTICAL DATA				
Percent of Gross Profit on Input Sales		11.7%		8.0 %
Loan Granted		$938,723		$520,000
Members		1,249		500

FOOTNOTES:

1/ Includes 100 percent of input sales projected for second year because these sales are made in first 3 months of the year (October - December).

2/ We reduced cost of sales and increased interest expense by $5,197 because the financial statements prepared by NCDS auditors did not give credit for interest expenses charged to cost of sales for the 7 percent interest to be returned to the IC by CROFOC.

3/ Projections show a loss of $30,000 for first two years of operations. A projected profit of $21,482 as shown here because 100 percent of input sales was included (See footnoote 1/).

4/ Sales and cost of sales not estimated in feasibility study. Profit estimated on the basis of $1.00 per cwt (100 pounds).

INTEGRAL COOPERATIVE - SANTA CRUZ
RESULTS OF OPERATIONS COMPARED TO FEASIBILITY STUDY PROJECTIONS
FOR 4-MONTH PERIOD ENDING 12/31/78

	Actual Results (Unaudited)		Projections	
INCOME				
Sale of Inputs	$ 38,163		$ -	
Cost of Sales	(35,925)		-	
Gross Profit - Inputs		$ 2,238		$ -
Sale of Milk	$ 30,292		30,830 1/	
Cost of Milk Purchased	(27,596)		(29,913) 1/	
Marketing Costs	(2,881)		(1,485) 1/	
Gross Profit - Milk		$ (185)		$ (568)
Sale of Feed	$ 1,776		$ -	
Cost of Sales	(1,535)		-	
Gross Profit - Feed		$ 241		$ -
Sale of Milk Cans	$ 2,015		$ -	
Cost of Sales	(845)		-	
Gross Profit - Milk Cans		$ 1,170		$ -
Interest Income	$ 7,070		$ -	
Interest Expense	(4,963)		-	
Bad Debts	(5,223)		-	
Gross Profit - Credit Operations		$(3,116)		$ -
Other Income		$ 1,727		1,300
Total Income		$ 2,075		$ 732
LESS: GENERAL EXPENSES		12,764		17,260 2/
Loss Before USAID Subsidy		($10,689)		($ 16,528)
Less: USAID Subsidy		10,116		-
Loss After USAID Subsidy		$(573)		($ 16,528)
STATISTICAL DATA				
Percent of Gross Profit on Sales of				
- Inputs		5.8%		15.0% 3/
- Milk After Marketing Costs		(.6%)		1.8% 3/
- Feed		13.5%		-
- Milk Cans		58.0%		-
- Milk before Marketing Costs		8.9%		2.97%
Loans Granted		$104,472		-
Members		560		260
Liters of Milk Sold		159,431 4/		166,649 5/
Liters of Milk Sold Per Day		1,771 6/		1,851 6/

1/ Estimate was reduced to cover actual period of operations of 3 months rather than 7 months projected for 1978 in feasibility study.
2/ Estimate was reduced to cover 4 months of operations rather than 6 months projected in feasibility study.
3/ Projected for years after 1978

4/ Determined by dividing sales of milk ($30,292) by sales price per liter of $.19.
5/ Determine by dividing projected sales of milk ($30,830) by projected sales price per liter of $.185.
6/ Liters of milk sold divided by 90 days.

INTEGRAL COOPERATIVE - COCHABAMBA
RESULTS OF OPERATIONS COMPARED TO PROJECT PAPER PROJECTIONS
FOR 15-MONTH PERIOD ENDING 12/31/78

INCOME				
Sale of Milk	$116,823		$391,721	
Cost of Milk Purchased	(100,302) 1/		(385,806)	
Marketing Costs	(17,313) 1/		-	
Gross Profit - Milk		($ 792)		$ 5,915
Sale of Fertilizer & Other Inputs	$106,924		$ 4,575	
Cost of Sales	(85,066) 2/		3,660	
Gross Profit - Fertilizer & Inputs		$		$ 915
Sales of Dairy Cows	$ 22,368		$ -	
Cost of Sales	(21,224)		-	
Gross Profit - Cows		$ 1,144		$ -
Interest Income	$ 40,914		$ 13,462	
Interest Expense	(17,269) 3/		(6,945)	
Bad Debts	(14,522) 3/		(5,788)	
Gross Profit - Credit Operations		$ 9,123		$ 729
Sales of Corn	$ -		$132,000	
Cost of Corn Sold	-		(122,816)	
Gross Profit - Corn Sales		$ -		$ 9,184
Seed Sales	$ -		$ 5,500	
Cost of Seed Sold	-		4,400	
Gross Profit - Seed Sales		$ -		$ 1,100
Other Income		$ 7,923		$ -
Total Income		$ 39,256		$ 17,843
LESS: GENERAL EXPENSES		$ 51,233 1/		$ 42,075
Loss Before USAID Subsidy		($ 11,977)		($ 24,232)
Less: USAID Subsidy		$ 12,573		$ 25,300
Profit After USAID Subsidy		$ 596		$ 1,068
STATISTICAL DATA				
Percent of Gross Profit on Sales of				
- Milk		(.6%)		1.5%
- Fertilizer & Other Inputs		20.4%		20.0%
- Corn Sales		-		6.2%
- Seed Sales		-		20.0%
Loans Granted		$559,849		$115,750
Members		1,340		800
Liters of Milk Sold		631,475 4/		2,374,066 5/
Liters of Milk Sold per Day		1,403 6/		5,275 6/

FOOTNOTES

1/ Milk marketing costs for CY 1978 of $4,780 erroneously charged to General Expenses were transferred to Marketing Costs.

2/ Cost of sales for Calendar 1978 reduced by $16,265 to correct for understatement of the value of the ending inventory.

3/ We increased the bad debt expense by $11,041 for 1978 so the total expense equaled 34.3% of delinquent loans as of December 31, 1978. This was the same percent used to establish an estimate for bad debts for the IC in Potosi.

4/ Determined by dividing sales of milk $116,823 by $.185 (sales price per liter).

5/ Determined by dividing projected sales of milk $391,721 by $.165 (estimated sales price per liter).

6/ Determined by dividing total liters sold by 450 days equivalent to 15 months.

COMPARISON OF PROJECTED AND ACTUAL
PROJECT EXPENDITURES
AS OF 3/31/79
($000)

	Life of Project Budget	Expenditures as of 3/31/78	
		Projected[1/]	Actual
I. Loan Funds			
Revolving Credit Fund			
- Cooperative Dev. Credit	3,500	2,060	2,262
- Econ. & Coop. Infrastructure & Equip.	1,803	1,325	-
- Rural Enterprises	300	150	-
	5,603	3,535	2,262
Community Assistance Fund	600	275	296
Equipment & Materials	600	690	384
Training	497	184	240
Short-term Tech. Assistance	200	131	55
Total Loan	7,500	4,815	3,237
II. Grant Funds			
Technical Assistance			
Long-term Tech. Assistance	2,728	2,439	1,824
Personal Service Contracts	131	-	78
Subsidies to Cooperatives	160	121	61
	3,019	2,560	1,963
Equipment & Materials	137	122	83
Training (International Travel)	109	87	63
Feasibility Studies	63	109	-
Other Costs	89	-	-
Total Grant	3,417	2,878	2,109
TOTAL PROJECT	10,917	7,693	5,346

1/ Based on projected expenditures included in the revised project paper approved on 8/31/77.

COMPARISON OF ESTIMATES MADE BY NCDS 1/ IN DISBURSEMENT REQUESTS TO ACTUAL

	NCDS Disbursement Request		
	Estimated by NCDS	Actual	Difference
I. For Period from 10/1/77 to 12/31/77			
Funds to be Disbursed by CROFOC to Cooperatives from 10/1/77 to 12/31/77	$1,275,760	$529,937	$745,823
Less: Payments of Principal and Interest to be Received by CROFOC from Inception through 12/31/77	245,338	311,460	(66,122)
Less: USAID Funds Received but not yet Disbursed to Cooperatives	146,648	146,648	-
Cash Requirements for 10/1/77 to 12/31/77	$ 883,774	$ 71,829	$811,945
Disbursed by USAID on 9/28/77	$ 880,829		
II. For Period from 10/1/78 to 12/31/78			
Funds to be disbursed by CROFOC to Cooperatives from 10/1/78 to 12/31/78	$1,501,199 2/	$564,633 2/	$936,566
Less: Payments of Principal and Interest to be Received by CROFOC from 8/1/78 to 12/31/78	294,406	341,016	46,610
Less: Cash Balance of CROFOC Fund as of 7/31/78	726,464	726,464	-
Cash Requirements for 10/1/78 to 12/31/78	$ 480,329	($502,847)	$983,176
Disbursed by USAID 9/28/78	$ 480,372		

1/ The rate of exchange used was $b20.38 to $1.00

2/ Excludes estimate of $419,050 for purchase of fertilizer which was to be paid directly by USAID to supplier. Actual USAID disbursement was $397,194.

ESTIMATED ADDITIONAL INTEREST 1/ COST TO USG CAUSED BY USAID DISBURSEMENTS TO CROFOC FUND IN EXCESS OF NEEDS

Month/Year	Ending Monthly Balance of CROFOC Account (1)	Estimated Balances Needed to Cover Program Requirements (2)	Cash in Excess of Needs (Col. 1-2) (3)	Additional Interest Cost to U.S.G. 2/ (Col. 3 x .5333) (4)
9/77	$1,043,357	$ 643,357	$ 400,000	$ 2,133.20
10/77	833,377	433,377	400,000	2,133.20
11/77	841,121	441,121	400,000	2,133.20
12/77	697,986	297,986	400,000	2,133.20
1/78	628,672	228,672	400,000	2,133.20
2/78	619,885	219,885	400,000	2,133.20
3/78	531,455	131,455	400,000	2,133.20
4/78	560,030	160,030	400,000	2,133.20
5/78	521,770	121,770	400,000	2,133.20
6/78	623,769	223,769	400,000	2,133.20
7/78	686,886	286,886	400,000	2,133.20
8/78	575,835	175,835	400,000	2,133.20
9/78	636,507	236,507	400,000	2,133.20
10/78	652,567	252,567	400,000	2,133.20
11/78	721,281	321,281	400,000	2,133.20
12/78	706,076	306,076	400,000	2,133.20
1/79	707,346	307,346	400,000	2,133.20
2/79	705,980	305,980	400,000	2,133.20
3/79	685,591	285,591	400,000	2,133.20
4/79	686,107	286,107	400,000	2,133.20
			Total Additional Interest Cost to U.S.G.	$42,664.00

1/ The rate of exchange used was $b20.38 to $1.00

2/ Average rate of interest paid per annum on 2-year Treasury Notes between 9/77 and 1/79 — 8.4%

Less: 2 percent interest received per annum on AID Loan Disbursements — 2.0%

Net Rate of Interest paid by USG per annum — 6.4%

Monthly Net Rate of Interest paid by USG is 6.4 percent ÷ 12 months or — .5333%

LISTING OF RECOMMENDATIONS

Recommendation No. 1

We recommend that the USAID ensure that (1) a project evaluation of goal achievement be performed and (2) NCDS establish procedures to ensure that reliable baseline data is included in future feasibility or other studies for ICs so the income effects of the AID and GOB investment in the project can be more accurately determined.

Recommendation No. 2

We recommend that the USAID analyze and revise the loan/grant budget to reflect current project plans.

Recommendation No. 3

We recommend that the USAID ensure that NCDS require RN to explore areas of technical collaboration with CID, the Swiss Mission, and IBTA that would be useful to improve agricultural production and to develop joint implementation plans to achieve these objectives.

Recommendation No. 4

We recommend that the USAID ensure that NCDS establish an adequate planning and control system for IC operations which should include (1) standard formats for IC financial statements which would show the gross profit or loss for each activity, (2) the same standard format as used for the financial statements for budgetary projections included in feasibility studies, loan requests and 3-year budget submissions, (3) 3-year budget submissions prepared each year and supported as needed by detailed operational plans and feasibility studies, (4) a change in the accounting cycle from a calendar year to a crop year basis, (5) a system for estimating yields for small farmer production financed with IC loans, and (6) budgetary control reports prepared by the ICs on a quarterly basis.

Recommendation No. 5

We recommend that the USAID ensure that NCDS (1) require each cooperative to submit quarterly reports which compare CROFOC funds disbursed and the quantities of inputs financed to the uses authorized by CROFOC in loan documentation and (2) verify that the IC in Cochabamba fully uses the long-term CROFOC loan of $291,400 for long-term loans as required or return the unused funds to NCDS.

Recommendation No. 6

We recommend that the USAID ensure that NCDS (1) keep records to accumulate the cost of each course given showing the USAID and NCDS contributions, (2) obtain data on planned courses given at the GAB level, (3) establish a system to evaluate each course given (4) prepare a schedule of courses to be given by the mobile training teams, and (5) submit to the USAID in its quarterly progress report a) data which compares courses

Recommendation No. 6 (Cont'd.)

planned with courses given, b) the total cost of the courses along with the USAID and NCDS contributions, and c) an explanation for slippages in the implementation of the plan.

Recommendation No. 7

We recommend that the USAID ensure that NCDS update its project accounting records and establish adequate procedures to maintain its records on current basis in accordance with sound accounting principles.

Recommendation No. 8

We recommend that the USAID ensure that NCDS comply with the annual audit requirements established in Section 4.09 of the loan agreement and Implementation Letter No. 1.

Recommendation No. 9

We recommend that the USAID ensure that NCDS work with the ICs in Cochabamba and Santa Cruz to develop detailed operational plans to expand existing activities and start new ones that will provide for the financial self-sufficiency of the ICs.

Recommendation No. 10

We recommend that the USAID ensure (1) that the ICs in Cochabamba, Potosi and Santa Cruz suspend cash disbursements to farmers until effective controls are established to ensure that loan proceeds are used for intended purpose and assets purchased with loan funds are not sold by the farmers (2) that the IC in Cochabamba undertake a program to encourage the farmers to sell milk to the IC as required (3) that the ICs establish controls to recover or prevent future disbursements of loan funds in excess of actual needs (4) that the ICs in Cochabamba and Potosi take an inventory of dairy cows and oxen purchased with loan funds and mark them with identification tags (5) that the ICs in Cochabamba and Potosi determine what sanctions should be taken against farmers who did not purchase cows and oxen as required (6) that the system proposed by the IC in Santa Cruz to control the sale of dairy cows is adequate (7) that the IC in Cochabamba take an inventory of stables constructed and ensure that stables not yet built are constructed as required or declare in default that part of the loans given for stables (8) that the ICs in Cochabamba and Potosi make no further loans to farmers until the loan agreement formats are modified giving legal recourse to the ICs in the event funds are not used for authorized purposes or the assets purchased are sold by the farmers and (9) that the ICs in Cochabamba and Potosi completely fill out the loan agreements with all required data prior to the signing of the agreement by the borrower and that the borrower receives a copy of the agreement.

Recommendation No. 11

We recommend that the USAID ensure that NCDS (1) obtain information of loans that IC members might have with the GOB Agricultural Bank and other organizations, (2) require the ICs to obtain data on the loan applications from farmers of their outstanding debts.

Recommendation No. 12

We recommend that the USAID ensure that the model credit regulations recently drafted by NCDS are adopted by the ICs.

Recommendation No. 13

We recommend that the USAID ensure that NCDS identify the staffing needed by the ICs to provide adequate extension services to the program and ensure that these needs are satisfied.

Recommendation No. 14

We recommend that the USAID ensure that independent financial audits are performed of the IC operations as of December 31, 1978. The scope of such audits should include a review of IC internal controls and compliance with credit regulations and other program requirements.

Recommendation No. 15

We recommend that the USAID ensure that NCDS and IBTA identify areas where IBTA could realistically provide assistance to the project and revise the NCDS/IBTA agreement signed on April 27, 1976.

Recommendation No. 16

We recommend that the USAID ensure that NCDS (1) revise the overall implementation plan for the project and (2) formally ask the contractor to submit a revised quarterly work plan with each progress report.

Recommendation No. 17

We recommend that the USAID ensure that NCDS (1) submit its quarterly progress report on a timely basis, (2) expand its quarterly progress report to include, (a) a comparative evaluation between project progress and the implementation plan, (b) reports on the implementation of the programs of training and technical collaboration, (c) IC budgetary control reports, and (d) control reports on the use of CROFOC loan funds by cooperatives, and (3) expand its monthly report on CROFOC loan operations to include (a) a comparison between interest falling due and delinquent interest, (b) an explanation of the causes of loan delinquencies and (c) a summary of the cash receipts and disbursement of the CROFOC fund.

Recommendation No. 18

We recommend that the USAID (1) establish procedures to ensure that NCDS estimates of CROFOC funds to be disbursed and received are accurate in order to reduce the average monthly cash balance of the CROFOC fund to a reasonable level and (2) revise the form to be used by NCDS to request USAID disbursements for the CROFOC fund to eliminate the procedure that increases estimated requirements by 50 percent.

Recommendation No. 19

We recommend that the USAID procure on a priority basis accounting machines suitable for the present and future needs of the ICs.

REPORT RECIPIENTS

	Copies
Deputy Administrator, AID/W	1
Assistant Administrator, Bureau for Latin America and the Caribbean (LAC), AID/W	1
Mission Director, USAID/Bolivia	5
Country Officer, ARA/AND/B, AID/W	1
Director, LAC/DP/PO, AID/W	3
Director, OPA, AID/W	1
DS/DIU, Room 105, SA-18, AID/W	4
AG, AID/W	1
AAG/Africa (West), AID/W	1
AAG/Africa (East), Nairobi	1
AAG/Egypt, Cairo	1
AAG/EA, Manila	1
AAG/NE, Karachi	1
AAG/W, AID/W	1
AG/EMS/C&R, AID/W	12
AG/PPP, AID/W	1
AAO, La Paz	5
Mission Controller, USAID/Bolivia	1
Inspector-In-Charge, IIS/Panama	1