5260101... 31 part II

526-101
PES-78-6
5260101-(12)

209p.

PD-AAB-326-A1

ASSESSMENT
PARAGUAY CREDIT UNION PROJECT
AID PROJECT NUMBER 526-0101
VOLUME II: COMPREHENSIVE REPORT

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August, 1978

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# I. INTRODUCTION

This report presents the findings, conclusions and recommendations of an assessment carried out in October 1977 of the USAID funded Credit Union project in Paraguay (AID Project Number 526-0101). The project is designed to establish a viable central cooperative institution (CREDICOOP) and a number of viable member credit unions.[1] These institutions are to provide savings and credit facilities to the project target group, small farmers, to enable them to raise their net family income by 50 percent over a five-year period.

## A. ASSESSMENT PURPOSES

Two principal purposes were intended to be realized by this assessment. The first focused on the assessment of project progress, using the existing design indicators as the objective criteria. The second purpose was to analyze the institutional capabilities at both the national and primary levels to identify potential areas for improvement in project design and/or implementation.

The first purpose relates to the AID logical framework, using the indicators of inputs, outputs, purpose, and goal contained in the existing project documentation to assess progress. Direct comparisons between actual and projected figures were possible for input and output indicators; for purpose and goal statements, an estimation of the progress achieved towards attaining these end-of-project objectives was made. This part of the assessment constitutes the formal assessment of progress report as required for AID evaluation purposes (See Chapter II).

[1] Two affiliates of CREDICOOP are agricultural cooperatives.

It was deemed worthwhile to go beyond the logical framework approach, however, to develop additional information on existing institutional capabilities. The project purposes call for financial and technical viability at both levels; using an analytical methodology developed by CUNA Global Projects, more precise estimates can be prepared related to eventual attainment of these purposes. This analysis is presented in Chapters III, IV, and V.

## B. PROJECT BACKGROUND

Initial activity for this project began with a feasibility study conducted by CUNA in late 1968. The study results indicated the potential of developing a small farmer production credit program through the use of credit unions as had been done elsewhere in Latin America by CUNA. A CUNA advisor was placed in Paraguay in March 1970. At that time credit union activity was quite limited. Some credit unions had been organized, but with no national association to assist, progress had been slow and uncertain.

The development plan worked out by CUNA and AID called for a three-phase program. The initial phase focused on the formation of a specified number of credit unions principally in the rural areas, encouraging small farmers to become members. After reaching a minimum level of membership and savings, the credit union would be eligible for loans from the National Development Bank.

The second phase called for the formation of a national association of credit unions. With 16 credit unions as charter members, CREDICOOP was formed in October 1973, and received its charter in May 1974.

The third and current phase of the project is designed to enable the credit union system to become financially and technically self-sufficient, obviating the need for additional external assistance. This phase is scheduled to be completed by June 1980. One of the principal mechanisms used to attain this objective was a soft loan of $3 million from AID to CREDICOOP to be used for agricultural credit. It is assumed that the income generated from the loan will enable CREDICOOP to reach financial self-sufficiency within five years. A loan agreement was signed in June 1975. This agreement included funding for UNIPACO, a separate complementary marketing institution, as well as for CREDICOOP. Shortly after the signing of the loan agreement, UNIPACO was found to have serious financial problems. As a result, the original loan agreement was withdrawn by AID in November 1975. Subsequently, CREDICOOP reorganized itself as a multipurpose cooperative central with its own marketing department. In December 1976, an amendment to the loan agreement was signed recognizing CREDICOOP as the implementing institution for both credit and marketing services, but without providing the $1.7 million that had been previously designated for the marketing cooperative.

## C. ASSESSMENT METHODOLOGY

### 1. Design

Although this project was initiated in 1970, only the third or current phase of the project has been assessed by this study.

That phase approximately coincides with the preparation of the first CAP paper in June 1974. The approach taken was intended to make the study more manageable, and since a number of previous evaluations had already assessed earlier performance, it was not deemed necessary to assess project performance prior to 1974.

To measure project progress, two principal documents were used as basic sources, i.e., the revised CAP paper of November 1974 for the years ending June 1975 and 1976, and the Allen projections as contained in the amendment to the Loan Agreement of December 1976, for subsequent years. The latter resulted from the UNIPACO situation and the subsequent withdrawal of the AID loan, necessitating new projections which in general revised the original CAP projections downwards.

To assess institutional capabilities, a process analysis approach developed and utilized by CUNA Global Projects in previous studies, was used. All activities performed by most national associations have been identified and defined as processes. A group of processes constitutes a function, which generally corresponds to major services or activities, e.g. accounting, marketing. For each process, a statement of minimal performance has been prepared against which actual performance may be measured. Using this approach, processes requiring improvement can be systematically identified as well as the factor(s) causing the deficiency. This approach is also applicable at the primary level. Technical viability at both levels was examined using these criteria.

The approach originally intended to be used to analyze financial viability proved to be unworkable in the Paraguayan context. This methodology, again developed and utilized by CUNA Global Projects for similar studies, applies regression analysis to previous years financial data to derive algebraic expressions that can be projected, using a programmable calculator, to estimate the break-even point of the institution. However, the existing model does not allow for the inclusion of some variables pertinent to CREDICOOP. Therefore, an alternative approach was devised, i.e. a re-examination of assumptions and data used to prepare the operational financial projections as contained in the Allen report. Where conditions warranted, new assumptions or estimating techniques were used, resulting in a revised set of projections, as presented in III.A. These projections update the Allen projections, and presumably, more accurately project CREDICOOP's future financial status.

Since it was impossible to visit all affiliated credit unions, information at the primary level was obtained primarily through visits to a sample of 12 credit unions, nine rural and three urban. To obtain a fairly good cross-section of the different levels of development, all affiliated credit unions were classified as either well developed, medium, or poorly developed. Three from each classification were chosen at random for rural credit unions, one from each for urban credit unions.

2. Implementation

A key feature of this assessment has been the heavy involvement of nearly all project participants in all aspects of the study. The results, therefore, are those of a joint evaluation and do not reflect the views of just one organization. From assessment design to final report preparation, all major project participants have had an opportunity to make their input. Playing major roles in the study have been the staff and leadership of CREDICOOP, USAID/Paraguay, CUNA/Paraguay, and CUNA Global Projects/Washington. Also involved were representatives of the Ministry of Agriculture's Department of Cooperatives and Agricultural Extension Service, the National Development Bank, and COLAC.

The evaluation design and methodology was prepared in July 1977 by CUNA Global Projects/Washington for review and comment by the three other key participants. This design was then used as the framework for conducting the evaluation, although modifications, agreed to by all participants, were introduced as the fieldwork proceeded. Fieldwork was conducted during the weeks of October 17 to November 9, 1977. During the first week information and statistics were gathered at CREDICOOP from documents and records as well as interviews with key staff and Board members. The assessment team focused on the data required by the existing project design indicators, the process/function analysis, and the financial analysis.

Field visits to the credit unions were conducted during the second week of the study. Interviews were conducted with credit union staff, board and committee members, and with a sample of farmer members. The latter provided some information on the effect of the program upon their productivity and income, and what services the credit unions were providing that had proved useful. Additional information on farmer productivity and income was obtained from AID surveys of small farmers carried out in 1972 and 1977.

The third week consisted of completion of the information collection activities at CREDICOOP as well as discussions of preliminary findings and issues. All project participants were represented in the discussions. Where differences existed, an attempt to clarify the differences and reach a consensus was made; for some areas, however, legitimate differences of opinion remained. The report format allows for these differences to be noted.

A draft report was prepared by CUNA Global Projects in February 1978 for review by CREDICOOP and USAID/Paraguay. This final report incorporates the comments and clarifications of that review.

## D. REPORT FORMAT

In Chapter II, project performance is discussed vis-a-vis the current project design. In Chapters III, IV, and V the financial and technical viability of CREDICOOP and the primary level institutions, respectively, are discussed using the CUNA Global Projects analytical methodology described above. These chapters provide additional information related to the eventual attainment of the project purpose. In Chapter VI additional analysis and some tentative conclusions are presented concerning the project impact on small farmers. This area also requires special attention, since, as the project goal, it is the ultimate measure of project performance.

The report focus reflects that of the entire study, i.e., oriented towards the future rather than the past. Problems and shortcomings are identified and discussed so they may be resolved, not to find fault. Hopefully, similar problems can be avoided in the future or in other projects, if they are adequately defined and analyzed. If successful, the assessment should constitute a learning experience for all participants, enabling each to more effectively discharge his responsibilities.

## II. PROGRESS BASED ON PROJECT DESIGN

The following describes the progress made by the project in terms of the existing design indicators. The AID logical framework used to design and evaluate projects consists of four principal components: inputs, outputs, purpose, and goal. If properly designed, there should exist definitive linkages among these components, such that if the inputs are provided as indicated, the outputs should be realized, which in turn should lead to achievement of the project purpose, which likewise should result in attainment of the project goal. Problems may arise, however, either because the design logic is inadequate, e.g., the linkages are tenuous, or the design implementation is faulty, e.g., the inputs are provided too late. Through discussion of each of the project components one can accordingly assess the effectiveness of implementation and the adequacy of the design.

### A. INPUTS

As shown in the following listing, a total of 16 inputs are included in this project. They include AID grant funding for U.S. technicians, training, equipment and supplies, administrative costs, in addition to the $3 million loan. The Ministry of Agriculture and the National Development Bank provide personnel and other services to CREDICOOP and the project. Tax exemptions are provided by the Government of Paraguay. U.S. Peace Corps provides a number of volunteers.

Nearly all inputs have been provided as originally scheduled. The key exception, of course, was the delay in receiving the AID loan which resulted in an extension of the project for an additional year, including AID grant support. The accelerated disbursement of the loan, resulting from its use to finance marketing, may signify that the loan will be completely disbursed long before the end of the project. CREDICOOP staff estimates that additional capital will be required in approximately two years to finance the expanded marketing activity.

AID budget support has been provided as costs are incurred. All allocations have been completely used except for those few exceptions noted in the listing. Two inputs resulted from efforts to improve the delinquency situation, i.e., the management upgrading program and the positive incentive program. Both have apparently produced satisfactory results, although the delinquency problem is by no means resolved. AID's willingness to resolve a difficult situation is illustrated by the grants made to CREDICOOP's reserve fund to provide some working capital while the AID loan negotiations were being worked out.

The Department of Cooperatives has recently reduced the processing time required to grant legal status to pre-cooperatives, in part, a reflection of the increased coordination between it and CREDICOOP. It is currently providing assistance with resolution of the situation in a number of seriously delinquent credit cooperatives.

The technical assistance provided by the Agricultural Extension Service has not been consistent, some of the indicated activities have not been accomplished, and the overall effectiveness has been questioned (see IV.B.). It has, however, provided effective assistance to CREDICOOP via seconded personnel.

The loans provided by the National Development Bank will in the future be directed towards cotton and tobacco production only. The Bank provides both cash and supplies in its loan package; however, there has been some contention by small farmers that the supplies provided are obsolete, such that farmers are reluctant to use them and/or the results obtained are less than satisfactory.

Peace Corps Volunteers have been used primarily as auditors and promotors.

One input mentioned during the field study that could prove useful was a short-term consultant on marketing. Technical assistance to CREDICOOP has been unavailable in this area, and given the increasing significance and the inherent complexities in this area, such assistance seems entirely appropriate. In addition, the new project paper mentions consultant services to conduct at least one feasibility study re: agro-industrial investments.

The new project paper estimates the continuance of the same types of inputs. Except for the marketing consultant noted above, we see no need to recommend any additional inputs.

TABLE 1

LISTING OF PROJECT INPUTS

1. AID Grant/Technical Assistance:
The current Program Director/Finance Advisor, George Wohanka, was installed in June 1974, and has provided assistance to CREDICOOP in all areas. The Credit Advisor, Richard Leigh, was installed in August 1976, and has provided assistance at both the cooperative and CREDICOOP level, particularly in accounting. A previous Credit Advisor, Pedro Perez, provided assistance from August 1975 to June 1976.

2. AID Grant/Participant Training:
(Included in Input No.4)

3. AID Grant/Commodities:
From FY 75 to FY 77 a total of $66,000 had been scheduled and received for office supplies and equipment for new credit unions, vehicles for advisors and counterpart staff, agricultural implements and equipment, etc. However, only $2,500 of the FY 77 amount of $35,000 has been disbursed; a dispute over import duties is holding up disbursement of the remainder. In addition, about $20,000 in equipment and materials have been donated to CREDICOOP from the now defunct PACTA program.

4. AID Grant/Other Costs:
From FY 75 to FY 77 a total of $332,000 had been scheduled and received towards a Revolving Fund for: a) salaries of CREDICOOP staff, b) local training, c) printing, d) office rent and utilities, e) vehicle maintenance, f) local transportation and per diem, and g) a revolving fund for loans to credit unions for covering administrative costs.

5. AID Grant/Other Costs:
For FY 76 and FY 77 a total of $30,000 had been scheduled and received for education and training as part of a two-year management upgrading program.

6. AID Grant/Other Costs:
For FY 76 and FY 77 a total $7,000 had been scheduled and received for a positive incentive program to improve the loan recuperation rate. Last year's allocation was due to be disbursed to the credit unions in December.

7. AID Grant/Other Costs:
For FY 76 and FY 77 a total of $140,000 had been scheduled and received for additions to CREDICOOP reserves to be used for crop lien advances and crop production loans by member credit unions.

8. AID Loan:
A total of $459,902 was scheduled to be disbursed by June 1977. However, CREDICOOP had received $1,469,969 by September 1977. The accelerated disbursement resulted from the need for additional funds to finance the marketing activity during the past agricultural year. Two-thirds of the loan disbursed was for marketing, only one-third for production.

9. Department of Cooperatives was to provide: a) expeditious processing of applications of pre-cooperatives for legal status (average processing time, 5 1/4 months), b) monitoring of legal compliance (performance unknown).

10. Ministry of Agriculture/Agricultural Extension Service was to provide local technicians to: a) assist credit unions prepare and implement annual agricultural credit plans (not done), b) assist CREDICOOP organize training courses for farmers (done), and d) assist with demonstration plots (not done).

11. Ministry of Agriculture was to provide to CREDICOOP:

| Scheduled | Actual |
|---|---|
| FY 75 - 2 extension specialists | 1 extension specialist |
| 1 cooperative specialist | 1 cooperative specialist |
| FY 76 - 2 extension specialists | 1 extension specialist |
| FY 77 - 1 extension specialist | 1 extension specialist |

12. National Development Bank was to provide credit to rural cooperatives to meet loan demand not financed by CREDICOOP:

FY 75 - $1,190,000
FY 76 - $1,190,000
FY 77 - $ 790,000 (cotton and tobacco only)

Exact figures unavailable. It is believed that the Bank has provided loans approximately equal to these figures.

13. National Development Bank was to provide full-time financial/agricultural credit advisor to CREDICOOP and its member cooperatives (done).

14. National Development Bank was to provide services to administer AID loan (performance unknown).

15. The Government of Paraguay was to provide exemptions from import and export taxes (done).

16. Peace Corps was to provide Volunteers to assist in: a) administration, b) development of educational programs, c) auditing, and d) promotion of new cooperatives.

| Scheduled | Actual |
|---|---|
| FY 75 - 9 | 7 |
| FY 76 - 8 | 7 |
| FY 77 - 9 | 9 |

## B. OUTPUTS

The project outputs as compiled for this assessment are shown in the following table, indicating both projected and actual figures. Note that a number of sources have been used to compile this listing; the main sources are the CAP paper of November 1974, which is used as the source for the first two years of the project, and the Allen projections used for subsequent years. As noted in Chapter I, because of the UNIPACO problem and the AID loan delay, the CAP projections had to be modified to reflect the changed conditions. For the most part the Allen projections are a bit more conservative than the CAP projections, reflecting the serious delinquency situation in several credit unions indicating that the original projections on farmer members, borrowers, savings and loan demand could not be realized.

Our analysis of the output indicators shows that the project is just about on target for most indicators. For example as of June 1977, the projected number of affiliated credit unions was 38, actual was 39. By the end of the project, there are 56 credit unions scheduled to be affiliated, a growth of about 4 per year. This reflects CREDICOOP's policy of slow deliberate growth, forming only those credit unions that are ready to be formed, keeping the number within the capabilities, and the staff size of CREDICOOP to handle. Most of the projected growth in membership and savings is expected to come from the existing credit unions.

TABLE 2

PROJECT OUTPUTS

| | 6/75 | 6/76 | 6/77 | 6/78 | 6/81 |
|---|---|---|---|---|---|
| **A. RURAL CREDIT UNION** | | | | | |
| 1. Number | | | | | |
| Projected | 15 | 21 | 24 | 27 | 38 |
| Actual | 21 | 23 | 26 | | |
| 2. Membership | | | | | |
| Projected | 5,543 | 6,725 | 8,250 | 10,500 | 19,060 |
| Actual | 6,369 | 6,577 | 8,016 | | |
| 3. Share Capital ($ 000) | | | | | |
| Projected | [7] | [7] | 591 | 900[5] | 1,619 |
| Actual | 433 | 508 | 810 | | |
| 4. Loan Volume ($ 000) | | | | | |
| Projected | 1,045 | 1,624 | 1,268 | 2,041 | 7,526 |
| Actual | 1,550 | 1,094 | 2,063 | | |
| 5. Agricultural Loan Volume ($ 000) | | | | | |
| Projected | 995 | 1,540 | 1,000 | 2,000[5] | 7,060 |
| Actual | 1,377 | 1,000 | 1,600[5] | | |
| 6. Number Farm Borrowers | | | | | |
| Projected | 3,033 | 4,125 | 2,000 | 3,050 | 9,000 |
| Actual | 3,150 | 2,000 | 2,000[5] | | |
| 7. Number Hectares Financed | | | | | |
| Projected | 7,963 | 11,757 | 7,600 | 12,505 | 44,125 |
| Actual | 11,016 | 7,600 | 8,245[5] | | |
| **B. URBAN CREDIT UNION** | | | | | |
| 1. Number | | | | | |
| Projected | 12 | 15 | 14 | 15 | 18 |
| Actual | 11 | 10 | 13 | | |
| 2. Membership | | | | | |
| Projected | 6,800 | 8,300 | 5,600 | 6,680 | 10,340 |
| Actual | 4,878 | 4,687[8] | 5,536 | | |
| 3. Share Capital ($ 000) | | | | | |
| Projected | 505 | 597 | 571 | 980[6] | 1,303[6] |
| Actual | 448 | 541[8] | 816 | | |
| 4. Loan Volume ($ 000) | | | | | |
| Projected | 758 | 895 | 857 | 981 | 1,471 |
| Actual | 644 | 768 | 937 | | |

| | 6/75 | 6/76 | 6/77 | 6/78 | 6/81 |
|---|---|---|---|---|---|
| **C. CREDICOOP** | | | | | |
| 1. Affiliated Credit Union | | | | | |
| Projected | 27 | 36 | 38 | 42 | 56 |
| Actual | 32 | 33 | 39 | | |
| 2. Percentage of Bad Debt | | | | | |
| Projected | 0 | .5 | 1.0 | 1.0 | 1.0 |
| Actual | 0 | 0 | 0 | | |
| 3. Net Income ($ 000) | | | | | |
| Projected | (97) | (124) | (111) 6) | (83) | 26 |
| Actual (December) | (94) | (128) | (104) 6) | | |
| 4. Volume Crops Marketed Tons | | | | | |
| Projected | | 7,000 4) | | | |
| Actual | | 4,034 | | | |
| Value ($ 000) | | | | | |
| Projected | | | 1,211 4) | 1,400 5) | 7,000 5) |
| Actual | | | 1,759 | | |
| 5. Number Trained Administrators (Cooperatives and CREDICOOP) | | | | | |
| Projected | | | | 200 4) | |
| Actual | 262 | 330 | 281 | | |
| 6. Affiliate Savings in CREDICOOP ($ 000) | | | | | |
| Projected | | | 75 | 106 | 500 |
| Actual | | | 87 | | |

1) Projected figures for 1975 and 1976 are from the November 1974 CAP except where indicated.

2) Projected figures for 1977, 1978, and 1981 are from the Allen projections except where indicated.

3) Pro-Ag 2/24/76

4) Pro-Ag 12/30/76

5) Project Paper 10/20/77

6) Draft Project Paper 6/30/77

7) CAP Projections invalid

8) Includes only members of CREDICOOP. Previous years included non-members.

As shown, membership in both rural and urban credit unions is just about equal to the projected figures. The projected growth in membership of rural credit unions is about twice that of urban credit unions, in part a result of CREDICOOP's emphasis on this sector and also the increased availability of credit to rural credit union members from the AID loan. We note that the projected growth for each rural credit union is about 85 members per year, a fairly substantial growth rate. This growth of course is essential, since a large increase in the number of farmer borrowers is required if the projected total loan demand is to be realized. Some other movements in Latin America have stagnated in terms of membership and savings growth; the strategies employed by CREDICOOP to achieve the desired growth will be useful to observe.

One significant indicator of project performance relates to the amount of share capital invested in both rural and urban credit union. For both, the actual amount received is about 40 percent greater than projected as of June 19-7. Part of this growth results from the forced capitalization requirement, i.e., members must save a specified amount of the loan received. For example, a member receiving a loan for $1,000 will repay $1,100 plus interest, with $100 added to his share capital account. In addition, the amount available for lending is related to the amount a member has in his share capital account. For farmer loans, borrowing of up to 5 times the amount in share capital is permitted. Thus members are provided with an additional incentive to add to their share capital account.

We assume that nearly all increases in share capital result from these two factors. Assuming current trends continue, share capital in both rural and urban credit unions will far surpass the current end-of-project estimates (See III. A).

It is important to emphasize however that 10 rural credit unions have high delinquency rates, four of which are at risk of being liquidated such that the share capital represented by those credit unions may be virtually non-existent. An effort is underway to keep those credit unions afloat, yet if those efforts fail, and the cooperatives are liquidated, the movement share capital will obviously be reduced by that amount. Thus, the actual share capital may be somewhat less than that represented by these figures. Currently, the amount delinquent in these 10 credit unions is $313,000 (and in the 4 critical credit unions $212,000). If the reported share capital is reduced by the amount delinquent in the 4 critical credit unions share capital equals $598,000, $7,000 above the projected figure.

The volume of all loans made by rural credit unions, plus the volume of agricultural loans exceeded projections in the most recent year. However, in the year ending June 1976, loan volume decreased from the prior year, reflecting the cut-off from external credits for 13 credit unions due to the delinquency situation, plus the delay in obtaining and disbursing the AID loan. Since it now appears that the AID loan will be disbursed at a greatly accelerated rate, annual loan volume may be substantially higher than that originally projected.

Actual data for the number of farmers recieving loans, and the number of hectares financed was unavailable for the most recent year. The new AID project paper contained these figures, however, we are uncertain as to whether they are actual or estimated figures. Note the large increases in farmer borrowers, from 2,000 to 9,000 and in hectares financed, from 7,600 to 44,125, by the end of the project, again illustrating the necessity of an effective member promotion strategy.

Urban credit unions also have exceeded the projected loan volume and it is expected that these will easily surpass the projected end-of-project figures. Since the majority of the membership of urban credit unions are non-farmers and therefore not eligible for financing through the AID loan their loan demand msut be met from internally generated capital or from CREDICOOP's own share capital. Some urban credit union members have received CREDICOOP sub-loans; for example, 85 farmer members of the credit union Neembucu received sub-loans for agricultural production.

One important project indicator is the level of losses incurred by CREDICOOP. The projected amount for the remaining period of the project is 1 percent of loan volume. To date CREDICOOP has not incurred any losses. Of course, it is important to remember that it only began extensive lending operations upon receiving the AID loan in December 1976. Thus, there has not been an adequate period for a significant bad debt problem to surface. Over a longer period of time, and with larger amounts of money being loaned, a more accurate picture of the loss situation will be obtained. We should note that the management and staff at CREDICOOP, having witnessed the problems that developed with ENF loans to member credit unions, are fully cognizant of the critical problems that may arise if inadequate laon analysis, monitoring,and collection processes are utilized.

The actual net income or deficit is reported here for the close of CREDICOOP's fiscal year, December 31. Those figures roughly correspond to the projected June figures for the same years. Data prepared for the new project paper also indicate that for the period through June 1977, the actual deficit approximately equals the projected figure. It should be noted that those projections, and the actual figure reported, do not include the net income or loss from the marketing operation. Any income obtained from marketing is to be re-invested to develop the marketing infrastructure, and thus does not enter into the break-even projections. (See Chapter III, Section A for revised projections).

CREDICOOP initially used a weight indicator to measure its marketing operations, but has since switched to a value indicator. It was substantially below the former indicator in 1976, but far surpassed the latter in 1977. Since the commission earned by CREDICOOP relates to weight, we would reccomend that both indicators, be monitored in the future.

An indicator included for the year ending June 1978 is the number of administrators and managers trained through CREDICOOP educational programs. The figures shown for the previous years are the number of course participants, not all of whom were administrators and managers. The extensive educational program of CREDICOOP will presumably allow this output to be realized.

Finally, an indicator of the affiliate's share capital deposited in CREDICOOP is presented. Much of the projected increase is based upon the forced capitalization requirement, i.e. loans made by CREDICOOP includes a 5 percent capitalization feature.

Since this represents CREDICOOP's permanent capital base, which can be used to leverage additional funds, realization of this output is particularly significant for post-project operations.

In summary, CREDICOOP has generally met or surpassed most of the ouput indicators, which would lead to the conclusion that the project is essentially on-target. However, we find that the linkages between the stated outputs and the project purposes are fairly ambiguous. Even if all the projected end-of-project output indicators were achieved, the project purposes may not be realized. Technical or structural weaknesses may exist at either CREDICOOP or at the cooperative level that would not be revealed by focusing solely on these outputs. The analysis contained in Chapter III, IV, and V attempts to address these factors.

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Note: For the purposes of this assessment the term "savings" is a broad concept which means funds that are accumulated rather than spent. There are two types of savings - deposits and shares. Deposits are liabilities and as such are basically member loans to the credit union or league. Deposits earn a stated rate of interest. Shares, on the other hand, are equity and as such designate ownership in the credit union league. Shares earn dividends, the rate of which may vary from period to period (or not be declared at all). Therefore, the terms deposit savings or share savings will be used frequently in this paper to distinguish the two. When "savings" is used alone it refers to both deposits and shares.

## C. PURPOSE

Two purposes are identified in the project documentation:

1. The establishment of an independent, economically viable, central cooperative organization able to provide member credit unions with effective technical, financial, and marketing services.

2. The organization of independent, economically viable, and broad-based credit unions and agricultural cooperatives, primarily in the rural areas, able to meet the savings, credit, and marketing needs of its members.

Some 11 indicators of project purpose have been prepared describing the end-of-project status, that presumably would indicate achievement of project purposes, as follows:

1. 38 rural credit unions 19,000 members/15,000 farmers/9,000 farmer borrowers.
2. 18 urban credit unions/10,300 members.
3. Number of farmer borrowers with:
   Less than 5 hectares - 1,080
   5 to 20 hectares - 6,120
   more than 20 hectares -1,800
4. 44,000 hectares financed.
5. Rural credit unions share capital $1,619,000
6. Urban credit unions share capital $1,303,000.
7. Annual agricultural loan volume $7.0 million.
8. Member credit unions savings in CREDICOOP $500,000.
9. Volume of crops marketed through CREDICOOP $7.0 million.

10. CREDICOOP charge-off rate - 1 percent of loans made 1976 - 1980.

11. CREDICOOP net income $26,000 (need for USAID subsidy eliminated).

One difficulty with these measures is that, except for number 3, (for which information was unavailable) they duplicate the indicators used for outputs, contrary to one of the fundamental principles of the logical framework methodology. Separate and distinct indicators must be used for each level, or else the design logic breaks down. An indicator of output achievement cannot at the same time serve as an indicator of purpose achievement.[1]

We can state, as noted in the previous section on outputs, that progress is being made as projected for nearly all indicators, and that if current trends continue, most end-of-project conditions would be attained. Since we believe that these indicators do not provide sufficient information to conclude that the purposes have been achieved, a more in-depth analysis is presented in subsequent chapters.

[1]The October 1977 Project Paper does include separate indicators for outputs and purposes. Project documents for the period being assessed did not make this distinction.

## D. GOAL

The goal, as stated in the December 1974 project paper, calls for a 50 percent increase in net farm family incomes of project participants over an initial estimated income base of $800 by the end of the project -- the initial base having been determinted by an AID-sponsored survey of more than 1,000 small farmers during the period 1973-1974. Progress towards achieving that goal was to be measured by means of two instruments: first, through an AID-funded series of annual follow-up sample surveys or a system of farm journals kept by farmers, and second, through CREDICOOP's own reporting system.

Since it was thought that a series of sample surveys would provide more accurate long-term data on farm operations than would a system of farm journals kept by farmers, the survey method was utilized to obtain the necessary information on farm incomes. The CREDICOOP reporting system, on the other hand, was used to collect statistics on other activities related to the project goal such as the growth in farmer savings, loans, marketed production, etc.

The first attempt to numerically measure goal progress did not occur until June of 1976 when AID conducted a sub-sample survey of the original survey population. The purpose fo this followup survey of 297 credit union member and non-member families was to measure the progress that project participants had achieved during the 1972-1976 period. Unfortunately, the survey results have been of only limited usefulness to the assessment team in evaluating the success of the project in achieving its stated goal due to two technical problems, the first related to AID;s inability to gain compyter access to the original 1972-1973 data base, and the second related to certain methodological problems encountered in the sampling procedure used in the 1976 survey.

These problems are regrettable since they limit the type of inferences that can be made with respect to the project's impact on farm family income, agricultural productivity, the distribution of rural income, etc. Consequently, until these problems are solved, there is little that we can say in quantitative terms. Our only recommendation is that AID move as quickly as possible to correct these deficiencies and that the analysis of the Survey results be prepared as a separate report and distributed to all project participants.

A measurement of the change in farmer family incomes, however, provides only a partial view of the impact of the project on small farmer well-being. In order to gain a more complete picture of project's influence, other indicators must also be used. Some of these are of a subjective nature such as the improvement in the performance of certain organizational tasks at different functional levels necessary for the project's implementation; others are more quantifiable like the impact of the project on member savings and crop yields. These and additional measures of project success will be discussed in the following chapters, especially in Chapter VI where we focus on a more useful grouping of indicators of project achievement.

## III. ANALYSIS OF CREDICOOP

In the following sections we expand upon the analysis presented above to more precisely assess CREDICOOP's current level of development and the likelihood that one of the project purposes, i.e., the establishment of a financially and technically viable central cooperative, will be attained.

### A. FINANCIAL ANALYSIS

The financial viability of CREDICOOP is a most essential element of the project, for if this is not achieved, attainment of the remaining project objectives becomes difficult. A number of previous project design documents have estimated revenues and expenses for CREDICOOP over the life of the project; the projections currently in use were developed by AID Financial Analyst, B. W. Allen, in January 1976. It was decided, in consultation with CREDICOOP management, that the most useful financial analysis would be to examine these projections to determine if the underlying assumptions still hold and to change the projections accordingly. Using data where available for the most recent year and re-examining each assumption with CREDICOOP management, we were able to revise the projections as shown in Appendix A. (In order to fully understand the projections, the reader should also carefully examine the assumptions following the table.)

The focus of this analysis is on the projected breakeven data for CREDICOOP. Allen projected a number of related variables, i.e., membership, savings, loan demand, revenues, expenses, etc., to derive an estimated net profit and loss figure for each year. His projections showed losses for the four fiscal years from FY 76 through FY 79 amounting to $272,000. In FY 80 a net profit of $26,000 was projected.

Using the same analytical approach, with some modifications that seemed appropriate, the team derived revised net profit and loss figures. Actually two projections have been prepared using differing assumptions regarding the annual increase in personnel and operating costs. Using a 10 percent annual increment in these costs (which is roughly what Allen assumed), we show breakeven also occuring in FY 80 with a net profit of $54,000. Losses for the four prior years are estimated at $314,000.

However, it is likely, based on past experience, that the 10 percent annual increment for personnel and operating costs may be too low and that they may actually increase considerably faster. As the second alternative shows, these costs can increase no more than 16 percent annually for CREDICOOP to exactly breakeven by the end of the project. This projection shows losses totaling $366,000. The annual increase for the past two years for personnel and operating costs averages 18.9 percent. Management has indicated that this increase is higher than normal due to substantial salary increases in an effort to "catch up" to the prevailing market rates. Presumably then, the annual increases in these costs will be lower in future years.

We would expect that the actual increase in personnel and operating costs would fall somewhere within this range, i.e. between 10 percent and 18.9 percent. These points, essentially the most optimistic and

and most pessimistic alternatives, assuming all other variables in these projections are accurate, may be useful to CREDICOOP management as a guide to future budget projections and as cost control criteria.

It is important to note that the losses indicated under either assumption are substantially higher than the Allen projections, implying that AID budget support may need to be increased.

In order to comprehend the "bottom line," it is important to review the variables that led to these figures. Our projections show increased revenues for CREDICOOP, primarily as a result of the increase in the interest rate from 9 percent to 10 percent. Thus, for example, interest on loans is shown as $343,000 for the year ending June 1981, while Allen projected $309,000. We also show slightly higher revenue projections from dues and program revenues, based upon the revised assumptions of CREDICOOP management.

Farmer loan demand, the principal income base for CREDICOOP, has been revised reflecting actual data contained in the current year's global investment plan (see assumptions). Although the current year is lower than originally projected, succeeding years are somewhat higher. We project loan demand at $8.3 million for the year ending June 1981, compared with Allen's projection of $7.1 million. However, for this projection we have kept the figures developed by Allen to estimate the amount of this demand met by CREDICOOP. For the year ending June 1981, CREDICOOP's loan volume with rural credit unions is projected at just $3.5 million; the remaining $4.8 million presumably is to be met by the BNF or other sources. Quite obviously, there is considerable potential for CREDICOOP to increase its share of the total amount of loans going to farmers (particularly if the restriction on cotton and tobacco is lifted), which would naturally mean even greater revenues from interest income than those projected here.

It is conceivable that farmer loan demand could be lower than projected however. A critical calculation is the projection of the number of farmer borrowers. From the current global investment plan, we find that there are more than 1,000 fewer borrowers than the originally projected figure of 3,050. Taking this into account, we have projected the end-of-project number of farmer borrowers at 7,921 instead of 9,000 as estimated by Allen. Although this figure is reduced, it still represents a substantial growth rate, i.e., an average annual increase of nearly 52 percent. The average number of farmer borrowers per credit cooperative will need to increase from the current 104 to 233, an average yearly increase of 43 farmer borrowers. (Assuming 34 cooperatives are receiving external credit in 1981.) It seems imperative that the scheduled membership promotional campaign be effective. If this target is not achieved, total farmer loan demand, and as a result, CREDICOOP interest income, may be decreased, possibly affecting the objective of financial self-sufficiency by the end of the project.

Note that, unlike Allen, we have included interest income resulting from loans to urban credit unions, using CREDICOOP's own capital.

Although this amount is relatively insignificant, it does reflect CREDICOOP's policy of attempting to provide financial assistance to all affiliates, not only rural cooperatives.

Finally, we wish to point out the significant increase in the savings rate for urban and non-farmer members contained in these projections. The Allen projections were apparently too conservative, evidenced by the fact that the share capital estimates for both rural and urban credit unions were far surpassed. Thus, these revised estimates based on actual data show end-of-project savings for urban and rural credit unions at \$3.3 million and \$3.4 million respectively, compared to Allen's estimates of \$1.0 million and \$1.6 million. Since total loan demand is, in part, a function of available savings, this projected savings increase implies a corresponding increase in total loans. We assume that most of these loans would be made to urban and non-farmer members and thus, would not markedly affect CREDICOOP's projected revenues. However, some credit unions may find that an increasing portion of the farmer loan demand can be met from their own funds, thus, reducing the need for external funds, which obviously would have an effect upon CREDICOOP. It may be useful to study this pattern in the future.

Based on the information that can be derived from these revised projections, however, CREDICOOP's financial condition appears quite strong. The revisions, for the most part, present an optimistic picture, indicating that financial break-even by the end-of-project is very attainable.

The only significant factor producing some uncertainty is the estimation calling for a substantial increase in the number of farmer borrowers. It is possible this may not be realized, which could adversely affect CREDICOOP break-even.

We must stress that these projections are based upon the best information available to us, which may not have been complete or accurate in all cases. We urge CREDICOOP and other project participants to carefully review these projections. Once a formal set of projections has been prepared and agreed to by all parties, we would recommend its adoption as the operational financial projections for the project.

## B. TECHNICAL ANALYSIS

The following results from the process analysis approach described above in the methodology section, in an attempt to assess the capabilities of CREDICOOP more precisely and identify specific areas requiring improvement. During the field study the participants agreed to assess only those functions and processes of critical importance to CREDICOOP. Thus, this does not represent a complete analysis of how CREDICOOP is performing; however, all key processes related to institutional viability are included.

We have divided the material according to the: 1) functions and processes related to the internal administration of CREDICOOP, and 2) the services provided to affiliated credit cooperatives.

### 1. Organizational Functions

#### a. Organizational Goals and Policies

The organizational goal should define the basic objectives of the organization, the groups it intends to serve, and the product or services it hopes to provide. It serves as the ultimate criteria against which to measure the validity of organizational policies, objectives, and specific programs.

The goals of CREDICOOP can be found in the organizational bye-laws or "estatutos." In Chapter II, nine principal organizational objectives are listed:

1) Promote the creation and organization of cooperatives, and in general assist the development of cooperativism in the country.

2) Develop norms and uniform procedures of administration, accounting, and supervision for its associated cooperatives.

3) Provide information, advice, and all types of assistance to the directors and staff of associated cooperatives in order to allow them to provide improved services to their members.

4) Provide services of training, finance, insurance, bonding, materials supply, office equipment, publications, agricultural supplies, marketing including warehouses, stores, drying and processing of agricultural production, importing and exporting, market administration, and other services required by member cooperatives.

5) Establish bonds of coordination among the cooperatives, and with other national and international cooperative organizations.

6) Maintain the authentic cooperative character among its affiliated institutions.

7) Represent and defend the economic and financial interests of its member cooperatives as necessary.

8) Promote good working relations with the Government and with its cooperative development and regulatory organizations.

9) Undertake other activities as required for the development and/or strengthening of its member cooperatives and of CREDICOOP proper, in accordance with the Bye-Laws and laws of the Republic.

These statements seem to contain both organizational goals, i.e., the ultimate reason for being of the organization, and organizational policies, i.e., how the goals will be attained. It appears that statements No. 1, 5, 6, and 7 constitute the essence of the organizational goal, while the remaining statements provide some clarification as the means. It may be useful to extract from those statements a definitive goal statement that would serve to define CREDICOOP to the public. This statement should be prepared and approved by the Board of Directors, and subsequently approved by the General Assembly.

It should not be implied, however, that CREDICOOP has not adequately defined its goal. The previous listing does in fact serve that purpose. All staff and persons closely connnected with CREDICOOP would have no difficulty in identifying its basic goal. Except for the greater recognition that might be attained with the public if the goal statement were formally codified, there is no shortcoming in this area.

Organizational policies serve as clarifying statements of the organizational goal, describing the specific areas of operation and types of services and activities. As noted, some of the statements listed above may be viewed as broad policy statements. They specify the types of services to be provided, e.g., uniform guides for accounting, technical assistance, training, supplies, marketing, and various activities to be carried out, e.g., representation, coordination, and promotion. In addition, the bye-laws elaborate a listing of 19 "activities" which further serve to define services to be rendered and activities to be undertaken in support of the organizational goal. Included are statements related to technical assistance, capitalization, insurance, auditing, marketing, supplies, and numerous other areas.

In addition, organizational policies have to some extent been defined in the project documents prepared for AID grant assistance and for the AID loan. To obtain funding, CREDICOOP's objectives and policies must presumably be consistent with AID's funding objectives. Therefore, policies defining the target group, i.e., small farmers, and service strategies, i.e., production credit, technical assistance, and marketing, have been set to meet AID requirements. There may be some question over the validity of externally derived policies, since there is always the danger that the basic goals and objectives of the organization may be distorted in order to obtain the desired funding. Any organization receiving outside funding must be aware of this potential pitfall. At this point though, we can see no distortion resulting from the AID funding. AID and CREDICOOP are in fact pursuing mutually compatible objectives; the organizational policies derived from the AID project would most likely have been developed by CREDICOOP on its own without AID influence.

Again, as with the goal statement, we believe the policies should be formally codified. The Board and senior management should review the policies periodically, e.g., every two or three years, to reassess their validity. The current policies though, adequately define CREDICOOP and serve as useful operational guides.

b. Institutional Development

This functional area relates to the activities the organization pursues in order to develop its capabilities to fully meet its goals and objectives. To do so, an institution must analyze both the environment in which it is operating to identify member needs, and its own institutional strengths and weaknesses. It then develops a set of objectives reflecting the priorities identified, and defines a means for ongoing monitoring and assessment of progress. The objectives identified are usually long-term, i.e., development of existing or new capabilities usually requires more than one year.

The objectives set forth are internal, as contrasted with the program planning objectives which are usually external. For example, as a result, in part, of environmental analyses, CREDICOOP concluded that it needed to develop a marketing capability. The institutional development objective concerns the development of that capability, which will continue until an adequate level is reached. The program planning objective identifies the specific marketing services to be provided each year.

Like many institutions, CREDICOOP has not developed a definitive institutional development program. To some extent the various project documents prepared over the years for AID funding elaborate how CREDICOOP will be developed. Yet these are only partial development strategies, i.e., aimed at developing an institution that can serve as a catalyst for AID objectives. To be fully adequate, the institutional development plan should be elaborated by CREDICOOP itself, based upon its assessment of member needs and internal capabilities. There may be a number of needs, e.g., urban housing, that are not a part of the AID project, yet which CREDICOOP may determine are appropriate areas in which to become involved. Development of new institutional capabilities would be required as a result. Instead of the current, externally derived and partial development approach, a complete picture of needs and capabilities would be elaborated.

CREDICOOP: CREDICOOP does not believe that its development strategy has been determined by AID priorities and objectives. Candor, intelligence and flexibility on both sides have resulted in CREDICOOP determining its own objectives to the maximum possible extent.

In essence, a comprehensive long-term planning process is required. Such a process may involve the following activities:

- Identification of all member needs to which the institution could respond.
- Formulation of needs into measurable objective statements.
- Prioritizing of needs objectives according to specified criteria, including organizational goal and policy statements.
- Analysis of institutional capabilities, identification of functions and processes requiring further development, vis-a-vis prioritized objectives.
- Development of institutional development objective statements to enable institution to respond to needs objectives.
- Selection of strategy for implementation, plus procedures for monitoring and assessing progress.

CREDICOOP does perform some long-term planning but apparently on an informal, non-rigorous basis. Instead of establishing a process that would define what CREDICOOP should be in say five years, CREDICOOP management tries to anticipate problems and take adequate preparatory measures. Although this is noteworthy and fairly well performed, it cannot adequately substitute for a formalized long-term planning process. We would recommend that this process be instituted, taking a comprehensive view of both member needs and institutional capabilities, beyond the partial view derived from the AID program.

c. Program Planning and Evaluation

This functional area relates to the management's ability to utilize its resources to maximum effectiveness. Program objectives are set for a specified period (often one year), stating in quantative or qualitative terms, the outcomes desired in each area. The objectives should be consistent with the organizational goal statement, the needs determined by environmental and institutional analyses, and the existing organizational capabilities.

For this functional area we find that CREDICOOP does a fairly good job. Prior to developing its annual plan, CREDICOOP field staff, in consultation with the coop's leadership, complete a form identifying the strengths and weaknesses of each cooperative and the areas where CREDICOOP could potentially provide assistance. This information, when compiled, summarizes the current level of development and potential needs for all credit cooperatives affiliated with CREDICOOP. The information is quite extensive, covering all areas in which cooperatives are involved.

With this as a base, CREDICOOP prepares an annual plan to be analyzed by a review group composed of delegates from member cooperatives. Breaking up into small groups and analyzing specific sections, each group offers recommendations on the plan. The plan is revised accordingly and subsequently submitted to the General Assembly.

The annual plan itself is a profile of the activities and targets of CREDICOOP. More detailed plans are also prepared by functional area, specifying the objectives in measurable terms, describing the activities to be carried out, identifying the resources required, indicating initiation and completion dates, and assigning responsibility. Each Department prepares its specific plans; the results are useful guides for staff activities and valid measures of performance.

Each staff member prepares a monthly work plan submitted to the Department head. At the end of the month this staff member reports on progress made in meeting the proposed activities.

The Department head prepares a summary for review by the manager. Although this appears to be an adequate system, there are some shortcomings. First, most work plans do not relate activities to planned objectives. There is little consistency in the quality of plans submitted. Unfortunately many work plans resemble travel itineraries. Thus, it is difficult to ascertain how the proposed activities relate to the Departmental objectives. Reports of Department heads to the manager are similarly imprecise with little relation of activities to planned objectives. The manager reviews those reports monthly and makes appropriate comments, but the quality of the information being presented precludes a fully effective monitoring system. Thus, the action planning and program monitoring processes could be improved.

The plan is reviewed at mid-year and at the end of the year. Information relating accomplishments to planned targets is prepared for all areas of the plan. Shortfalls are identified and appropriate action is recommended. The results of the review are compiled and reviewed by the entire staff. At the end of the year the unfinished objectives are recycled into the subsequent year's plan. This rather detailed process results in a most effective program evaluation process.

Overall, the senior management staff at CREDICOOP have considerable skills and experience in program planning and

and evaluation. Although some weaknesses exist in the system, the quality of the plans prepared as well as the means used to evaluate these plans far exceeds the norm. This naturally has a positive impact upon the performance of all other functions and processes.

d. Accounting

An adequate accounting system should:

1) Produce reports at the time and in the formats specified by various parties concerned

2) Include a chart of accounts compatible with the system documentation

3) Include a flexible numbering system

4) Require periodic accrual, reevaluation, and bad debt adjusting entries

5) Require monthly balancing of subsidiary ledgers with general ledger control accounts

6) Require daily cash reconciliations

7) Require monthly bank account reconciliations

8) Produce an allocation of revenues and expenses by organizational unit

9) Produce financial data and reports required by existing budgeting system documentation

CREDICOOP's accounting system meets most of these minimal outcomes, but some deficiencies were noted. Since the system was approved by the government Cooperative Department in 1973, it does comply with statutory requirements. The system complies with lending institution requirements since it has been approved by the National Development Bank and COALC. Although AID has never formally approved the accounting system, it has never indicated any dissatisfaction. Unfortunately, because of lending and donor agency reporting requirements, certain asset and expense accounts have been grouped by source. This has created a rather large number of accounts.

Prior to recent computerization of CREDICOOP's accounting system, the monthly financial statement prepared by CREDICOOP was not very useful. A listing of all debit and credit balances was prepared for all accounts. No grouping of accounts was presented, i.e. liabilities, net worth, etc., and obviously no sub-totals were included. Since separate accounts by source of funds was maintained for many items, the statement was extremely lengthy, inhibiting its use for analysis or as a management tool.

The computerized system introduced in January 1978 has resolved these problems however. Complete balance sheets and income/expense statements are prepared monthly, with appropriate grouping of similar accounts. These statements provide readily accessible information for financial analysis and management purposes.

Monetary readjustment of loans and savings was initiated recently (3/77) to keep pace with inflation. An additional percentage (1 percent or more depending upon changes in the inflation index) is added to the required capitalization rate on loans to member credit unions. Savings are increased by the same percentage as loans and the balance is added to reserves. An arbitrary percentage (1 percent of outstanding loans) to cover bad debts has been established, but due to a lack of experience on recovery of loans, it is not known whether this is adequate. The law does not require a revaluation of fixed assets and in any case they account for only about 5 percent of total assets on an historical cost basis. However, the adjustments mentioned provide at least a partial protection against inflation -- induced decapitalization.

Subsidiary ledgers are reconciled at least monthly with general ledger control accounts. Both daily cash reconciliations and monthly bank account reconciliations are performed. However, at the time of the assessment the General Ledger and the Daily Journal were both one month behind, but all expenditures were supported by vouchers. The large number of accounts and sub-accounts has made hand posting progressively more cumbersome and often prevents the timely presentation of monthly reports to management. It is expected that this problem will be solved in 1978 when the accounting system will be computerized.

The system is designed to allocate expenses by department and income by source. For example, each major expense account has sub-accounts for the various departments. The following financial reports are prepared monthly which assist in the preparation of the budget:

- Detailed itemization of all major accounts
- General and detailed listing of expenses by departments
- General and detailed listing of income by source

However, these are often delayed 15 tr 30 days following the end of the month. Only a projected annual source and uses of funds for loans and a monthly control is prepared. CREDICOOP plans to prepare a global cash flow statement next year.

e. Budgeting

An adequate operating budget is compatible with the accounting system, permits precise estimation of all revenues and preparation of periodic income and expense statements by organizational units. An adequate budget includes a statement of all assumptions, specifies control dates and periodically relates actual operating data to projections in order to identify any significant budget variances.

The budgeting function is performed satisfactorily, although some weaknesses were found for specific processes.

All overhead and administrative expenses are allocated by department, based on allocation formulas that appear to be fairly reasonable. This includes allocation of salaries according to the estimated amount of time expended by each person for each departmental area. With this system in place, CREDICOOP could easily move to a complete program budget approach if it so desired.

A control and evaluation of budgeted income and expenses is prepared each month. This presents actual expenses to date both globally and by departments as well as the percentage these represent of each budget item and the difference, if any, with the amount budgeted.

f. Capital Funds Mobilization

This function deals with the mobilization of both debt and equity capital. The function is considered adequate if:

1) All sources of permanent equity capital have been identified
2) An optimal capitalization method has been selected to develop a permanent equity base
3) Debt instruments have been used to mobilize surplus funds from affiliates
4) External loans have been received if requested
5) Conditions of external loans have been met
6) Grants of capital have been received if requested
7) Conditions (including reporting and utilization of funds) of the grants have been met
8) Cost of capital is consistent with federation self-sufficiency strategy

Most of the processes related to this function are being performed satisfactorily.

Sources of permanent equity capital that have been identified to date include affiliated credit unions, Desarrollo y Paz, AID, the Ministry of Agriculture and others. As of June 1977, shares purchased by member credit unions represent 41 percent of permanent capital.

An important process related to capital funds mobilization is the selection of an optimal capitalization method. With CREDICOOP's capitalization method, the shares purchased by the credit unions represent true ownership in CREDICOOP, since they are non-withdrawable during membership and they define the members' limit of liability. Shares may be withdrawn only upon disaffiliation and only after the close of the fiscal year except in case of liquidation. Thus, these shares are equity rather than liabilities and as such represent a permanent capital base for CREDICOOP. The capital base also includes reserves and donated capital. However, this base does not represent the primary collateral for the bulk of external borrowing. Although the AID loan is guaranteed by the Government of Paraguay and the COLAC loan by CREDICOOP shares in COLAC, the share capital has provided collateral for some commercial loans.

The ratio of external debt to net worth (owners' equity) as of 6/77 was 3.89:1. This may appear to be somewhat high, however 53 percent of the debt is accounted for by AID loan disbursed to date. All of these funds will be lent to member credit unions. Five percent will be capitalized, which in turn will continue to increase the capital base.

The total share capital of CREDICOOP is partially a function of the growth of member credit union savings. Members are required to maintain as shares in CREDICOOP an amount equivalent to 2.5 percent of their own shares and deposits. The contributions due are calculated twice a year and members are permitted six months to comply. Also, new members are required to invest a minimum of 10 shares* with 20 percent being paid immediately upon acceptance as a member and the balance within eight months. In addition, as mentioned, 5 percent of loans to credit unions must be capitalized.

CREDICOOP has established a program for the mobilization of deposits from credit unions (2.5 percent of credit unions' deposits must be maintained as deposits in CREDICOOP), but it has not actually been implemented. This will be done within the next six months by establishing various types of debt instruments such as demand deposits, term deposits, etc. As of 9/77, the amount of credit union deposits which could have been mobilized in CREDICOOP was $5,322. However, at present there are only limited surplus funds at the credit union level, since most funds have been lent to members.

To date CREDICOOP has emphasized the building of permanent capital base (shares, donations and reserves) as opposed to deposits (liabilities) in order to create stability and to develop collateral for external loans. The current external loans should be adequate to meet projected demand for produc-

*par value $8

tion credit at least until the end of the project period. However, with the anticipated increase in marketing activities, CREDICOOP will probably need additional funds to finance marketing advances. This reflects the need to mobilize additional internal capital (both shares and deposits) as an alternative or at least a substantial supplement to the external loans. The planned expansion of deposit programs may help meet this objective.

To date CREDICOOP has received grants from AID, Ministry of Agriculture, and Desarrollo y Paz to increase their working capital base. Reporting to these donors is semi-annual and includes an itemization of the use of funds.

For external loans, each year CREDICOOP develops a cash flow projection for sources and uses of loan funds. CREDICOOP also plans to develop a global cash flow which would include all inflows and outflows of cash. Financial reports are sent to both AID and COLAC twice a year. So far no repayments have been made on the AID loan, since the grace period is still in effect. COLAC made one loan to CREDICOOP which was repaid within thirty days and repayments on the current loan are on schedule.

Finally, as shown in the section on CREDICOOP's financial viability the cost of capital is consistent with the projected break-even date of 1981.

g. Loan/Investment Portfolio Management

This functional area has two subdivisions: credit management and investment management. Credit management involves processes dealing with the loan portfolio planning system formulation (capital budgeting), loan policies and procedures formulation, and loan analysis. These have all been rated as adequate. Investment management involves investment policy formulation and review (non-existent) and cash budgeting (adequate).

An essential part of adequate credit management is the process of loan portfolio planning. For agricultural loans to rural cooperatives, CREDICOOP annually prepares a global investment plan for production credit loans, both crop production and implements as well as for marketing advances to credit unions. This conforms to the reporting requirements under the AID loan agreement. The global investment plan is prepared by consolidating the individual investment plans for each credit union. These individual plans estimate the credit union's external loan needs for the following year by crop or item. The assumptions used in these projections are well-documented. This plan includes a monthly cash flow projection showing repayments from prior loans from AID, COLAC, and CREDICOOP's own capital (small amount) as sources of funds. No deposits are assumed, since, as noted above, this program has not yet been implemented. Loan demand (uses of funds) is projected on a month-by-month basis taking into account the seasonal variations of the various crops. No liquidity reserves are projected, since there are no deposits involved, only equity and donated capital. Any monthly projected cash deficits (loan demand exceeding available funds) defines the amount of additional disbursements required from the AID loan.

- Loan policies and procedures of CREDICCOP fulfill all the minimal outcome requirements of this process. A "Reglamento de Credito" has been written and made available to all member credit unions. This has been implemented in that it serves as the basic guide for all loan application processing. This loan policy contains the following elements:

1) Eligibility requirements (VI)*
2) Application formats (VIII.A.) and procedures (VIII.B.)
3) Permissible use of loans (III)
4) Financial counselling guidelines (production planning) - CREDICCOP provides courses in how to prepare the investment plan, general financial planning, how to prepare loan application to CREDICCOP, and assists with conducting a feasibility study for credit union projects.
5) Required records (VIII.A.) - Checklist used as back-up.
6) Loan application analysis procedure (VIII.B.)
7) Approval procedures (IV)
8) Permissible loan amounts (X), terms (XI), interest rates (XII), and guarantees (XIII)
9) Contents of loan agreement (including disbursement conditions) (XIV, VIII.B.3.12)
10) Collection (V), and write-off procedures - Law requires write-off after three years
11) Other follow-up (post-disbursement) procedures - Refinancing and other adjustments (XV)
12) Capitalization requirements (VII)
13) Supervision (XVI)

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*Roman numerals refer to sections in the 'Reglamento de Credito."

The loan application analysis done by CREDICOOP appears to be more than adequate. The analysis and approval procedure involves three stages: 1) Technical staff, 2) Manager, 3) Credit Committee.

The technical staff analyzes the following:

1) Background of credit union - organization, members, services, etc.

2) Administrative capacity - qualifications of employees, facilities, accounting, internal control, delinquency control, functioning of committees, etc.

3) Proposed use of funds

4) Proposed repayment plan and capacity for repayment

5) Capitalization requirements

6) Operational and financial analysis-profit and loss and balance sheet status for last three years and projected during term of loan

7) Evaluation of guarantees offered

8) Verification of authority to submit application and sign loan agreement

9) Recommendations and conditions for loan

To determine the degree of risk, the technical staff analyzes the credit union's delinquency report (allowable delinquency limited to 10 percent of outstanding loans), assesses the feasibility of the project, and performs ratio analysis (loan amount is limited to three times credit union's own paid-in capital;and total debt, including new loan, cannot exceed five times credit union paid-in capital).

The analysis and recommendations are then passed on to the manager for his perusal and discussion. If there are changes in the amount (manager authorization to increase or decrease up to 20 percent), term, or other conditions sought by the credit union, the manager will discuss and work out an agreement with the credit union before passing on his recommendations to the Credit Committee.

The Credit Committee reviews the analysis prepared by the technical staff and the recommendations before final approval. A loan contract is then prepared including all pertinent conditions agreed upon by both the credit union and CREDICOOP.

The investment management sub-functional area includes the process of investment policy formulation and review. Currently about 80 percent of member shares are invested in loans to credit unions, mostly urban. Funds available in excess of loan requirements are productively invested in credit unions, banks, and savings and loans, earning interest, on at least one account, two percent higher than the standard rate because of the account's importance. Once CREDICOOP begins mobilizing deposits as a result of the intended promotional program, a specified percentage will be required in a liquidity reserve to cover withdrawals.

Investment management also includes the cash budgeting process which, if adequate, results in documentation of all estimated cash receipts and payments during future time periods as well as opening and closing cash balances. At the present time, as noted above, CREDICOOP prepares only a global plan for sources and uses of loan funds. Next year, however, CREDICOOP plans to prepare an overall annual projection for all anticipated receipts and payments.

h. <u>Communications System</u>

An effective communications system should permit identification of all required information and the efficient routing, storing, and retrieval of such information. A good system allows an organization to be able to promptly respond to client needs, and to keep personnel informed of actions and decisions taken. It allows the information to be channeled to avoid bottlenecks, and reduces the information burden on top management staff. Finally, it maintains records for all essential communications that can be easily accessed when required.

The system of external communications used by CREDICOOP relies heavily on the field promotors and other persons in regular direct contact with the credit unions. Through these visits, the problems and needs of the credit unions are identified and reported to CREDICOOP management. The financial statements prepared and forwarded to CREDICOOP each month also serve as a key source of information. In addition, the cred unions are encouraged to contact CREDICOOP directly when assistance is required. It was stated that telephone service is available to some of the credit unions which represents a more certain means of communication than the sometimes uncertain mail service. A large number of the credit unions are located in or fairly close to Asunción such that managers or other credit union representatives are readily able to come directly to CREDICOOP's offices.

CREDICOOP communicates with the credit unions largely through the use of circulars and newsletters. About 60 circulars are prepared annually notifying credit unions of forthcoming education courses and other CREDICOOP activities in which they may wish to participate. The newsletter "CREDICOOP" is prepared periodically and contains features on credit union activities, movement growth, and technical articles usually related to agricultural production. Although the quality of the newsletter is high, the impact may not be as great as anticipated. During the credit union visits, most members could only vaguely recall seeing copies of the newsletter, and they could not recall any of the contents. CREDICOOP may wish to review this communications approach to determine if any alternative strategy would produce more lasting impact. Again, the field promoters are the principal means to followup on the written communications, and to provide any other additional information. In summary, the view stated by CREDICOOP management appears to be quite accurate, i.e., there is no lack of information about each credit union's activities and problems.

The system for receiving and routing communications within CREDICOOP is fairly adequate. All incoming communications are dated by the receptionist and most are usually forwarded to the manager for review. The manager in turn will forward the communication to the Department head handling that matter. One apparent flaw in this system is that the manager may spend time reviewing communications that he does not need to receive. A system that would route all communications directly to the Department head responsible for the matter would free up time for the manager for other activities.

This relates to another area that could be improved, i.e., identifying the information required by management for decision-making purposes. As a new, fairly small organization, information exchange occurs largely on an informal basis. Each Department head does submit a monthly report of activities to the manager, but since they usually do not closely relate to work plans and defined objectives, it is difficult for the manager to fully utilize this information. Thus, at the point of reaching a decision the manager may not have all the required information available to him. As noted, the size of the organization is such that it probably does not constitute a serious problem currently. However, as the organization grows and becomes involved in increasingly more complex activities, an informal system of communications may not be adequate. A systematic identification of management information needs and the implementation of a process to ensure that the required information is made available would be necessary.

The current system for storing and retrieving information appears to be quite adequate. All personnel with whom the evaluation team worked were able to easily obtain requested information from the records and files. There appeared to be no instance where essential information was lacking. One rather minor change that could be instituted is a control card that each staff member would fill in upon removing a folder from the file in order to be able to easily locate the folder at any time.

In summary, the communications system is essentially adequate for current conditions. As specified, a number of internal changes could be made that would improve the system efficiency.

2. Services to Affiliates

The following functions relate to services provided to the affiliated credit unions by CREDICOOP.

a. Accounting

An adequate accounting system for affiliates is consistent with the following:

1) Written easily updatable operating manual of various elements of an accounting system

2) General ledger, balance sheet and profit and loss accounts that provide all financial data at the time and in the format required for management control and decision-making

3) General ledger flexibly-organized to allow for the insertion of new accounts in the appropriate places

4) Operates within constraints of available personnel abilities and time

5) Is adaptable to all existing/projected variations in operaing conditions (e.g., hand posting, machine accounting, EDP, etc.)

6) Meets all financial reporting requirements

7) Requires at least monthly balancing of subsidiary ledgers with general ledger control accounts

8) Incorporates daily reconciliation of physical cash with cash control

Although this service is generally adequate, the financial reports prepared based on this system are less than satisfactory.

An accounting manual for credit unions has been prepared in draft form, but there is some disagreement among CREDICOOP personnel as to whether such a detailed manual would indeed be useful to credit unions. A committee has been formed to study this question and present recommendations to the Board of Directors.

The current method for training credit union personnel is through a series of courses which deal with various aspects of the accounting system rather than attempting to cover the whole system in one course. These courses are as follows:

1) Basic - use of vouchers through preparation of monthly trial balance and other financial statistics
2) Intermediate - from monthly statement through year-end statements (balance sheet and income/expenses)
3) Accounting for marketing function
4) Private course (for one credit union) on various aspects; taught if credit union personnel have been changed when no courses are available

Written instructions are handed out in these courses on the various aspects of the credit union accounting system. To date this approach has been preferred to distributing a complete manual. The theory is that it allows course participants to absorb the information in a more systematic manner and assure their understanding before proceeding to another topical area. At the completion of these courses, these written instructions can be assembled into a type of working "manual."

CREDICOOP estimates that someone with a high school education can learn the system in about four months. For someone with less education, that time is increased to one year. The fact that most credit unions use hand posting makes the system somewhat time-consuming and sometimes results in books not being current. This problem should be partially solved, however, once a centralized accounting system is established by CREDICOOP using a mini-computer. The system seems adaptable to this projected change in operating conditions due to its present standardization. The credit unions will still have to fill out details of every transaction on computer input forms and may not substantially lessen the amount of time involved in bookkeeping. However, accuracy should improve at the least, and financial statements can be prepared more quickly and in a more readily understandable format. Implementation of this system will be phased in over the next two years.

The accounting system meets all the financial reporting requirements. It provides information (though the financial statement format can be improved as noted below) for financial analysis, for monitoring the projected growth of savings, for controlling the budget, and for audits. The account classification was approved with some minor exceptions by the Department of Cooperatives. The monthly reports are submitted to CREDICOOP, usually within a reasonable period. In fact, if these are submitted within 15 days of the end of the month, the manager receives a bonus from CREDICOOP.

However, the monthly financial statement does not provide information in a readily accessible form. It is recommended that this form be modified as follows:

1) In order to give a truer picture of total assets and net worth (i.e., prevent overstatement):

   a) Accumulated depreciation should be shown as an offsetting contra-account and subtracted from total fixed assets to obtain net fixed assets.

   b) The amount of loans estimated as unrecoverable should be subtracted from member loans outstanding (to obtain net loans).

   c) The amount of accounts receivable estimated as unrecoverable should be subtracted from total accounts receivable (to obtain net accounts receivable)

2) Lines should be added for total assets and total liabilities and "net income year-to-date."

3) Lines should be added for total income (credit balance) and total expenses (debit balance). Both of these totals should include marketing income and expenses so lines should also be added for these.

4) Sales, cost of goods sold and gross margin on sales should be indicated; this would require periodic stock-taking or estimation.

5) Line should be added for net profit/loss for the month and for year to date.

6) Marketing costs should be itemized on the reverse along with administrative and financial costs.

7) Leave more blank spaces for credit unions with special types of operations.

These changes should give a clearer picture of the credit union's financial position and operating results as of the end of each month to members, management, and CREDICOOP. The financial statements resulting from the computerized accounting system will likely resolve most of these problems. Until this changeover occurs, however, credit union level financial statements will remain cumbersome for analytical purposes.

The accounting system does require a monthly balancing of subsidiary ledgers with general ledger control accounts. It also incorporates daily reconciliation of physical cash with the cash control account using the "hoja de colecta." CREDI-COOP does a surprise cash reconciliation of credit unions about four times per year.

b. Financial Planning

The financial planning guidelines for affiliates are adequate if they:

1) Include short-term planning guidelines for credit unions which involve "model" operating and cash budgeting systems.

2) Are completely documented and easily updatable.

3) Include all procedures, working papers and forms necessary.

4) Are consistent with the following criteria:

   a) Compatible with Accounting System

   b) Compatible with available personnel skills

   c) Permit precise estimation of all financial resources required to support existing and projected programs including specific mention of how operating deficits are to be financed

   d) Permit periodic control and evaluation of organizational units' income and costs

   e) Require inclusion of all assumptions used in preparation of annual budget

5) Include a self-sufficiency strategy (long-term financial planning) for credit unions.

Overall, this service provided by CREDICOOP is satisfactory, except for one important deficiency, i.e., lack of compatibility between the accounting system and the budget format.

CREDICOOP has designed a short-term (12 months) financial planning form which allows a credit union to prepare a complete operating budget, but only a partial cash budget (loan/investment volume projections), since it does not separate and sum sources and uses of funds, nor does it include loan repayments as a source of funds. The team recommends that a separate form be developed for preparing a complete cash flow.

This form is supplemented with "guidelines" presented in two courses presented by CREDICOOP - "Preparation of Budget and Growth Projections," and "Developing an Action Plan." These courses are taught both for managers and directors. They deal with how to plan financially and how to monitor the achievement of these plans. In each course for managers, the participants bring data from their credit union and prepare their own plans.

The budget form is not exactly compatible with the accounting system. That is, the items on the budget form do not correspond with general ledger income and expense accounts nor with the monthly financial statement form. Therefore, it seems difficult both to project from past results without substantial recalculations and to compare monthly results with those projected. It is recommended that this form be made compatible with the credit union general ledger accounts (or vice versa) and that the accounts on the form be placed in the same order as on the monthly statement.

CREDICOOP estimates that managers with two years of experience can prepare their own budget, but those with less experience will probably need help from CREDICOOP and should attend the courses mentioned and perhaps any follow-up courses offered. It would appear that in a number of cases the financial planning guidelines that do exist are not compatible with available personnel skills at the credit union level.

The operating budget form permits rather precise estimation of operating revenues needed to cover operating expenses, since they are projected on a monthly basis. Initial operating deficits, if they are classified as "start-up costs" are amortized over a minimum period of five years as required by the credit union model bye-laws (Article 32).

In addition, as noted above the form does not allow for effective estimation of the total resource needs and projected sources of funds to support existing and projected loans. CREDICOOP stated that preparation of global cash flow projections is taught in the courses mentioned. However, in the visits to credit unions by the three teams, no such projections were available.

The fact that income and expense projections are done on a monthly basis allows for regular control and evaluation of the credit union's actual income and expenses. These are prepared for the credit union as a whole, even though many credit unions include a number of distinct service areas (marketing, input supplies, etc.). On the reverse of the budget form is a monthly control form for entering actual income and expenses. If these indicate a need to revise the projections for the remainder of the year, a new set of projections can be prepared on the front side of the form. Otherwise, the front is left blank each month and the original budget is used. As mentioned, the entire monitoring and revision process could be facilitated by making this form compatible with general ledger accounts.

Theoretically, as a requirement of registration, all potential credit unions must prepare a plan which includes annual budget projections up to and including the year self-sufficiency is projected. CREDICOOP helps these groups without charge to prepare such a plan if they agree to join CREDICOOP within

60 days of receiving registration. This allows CREDICOOP to implement its model plan which has been approved by the Department of Cooperatives. This plan results in a series of proforma annual financial statements up to the year in which self-sufficiency is projected.

However, in at least some of the sample credit unions visited, it appears that even though these plans were prepared, they were not often followed. Some managers could not locate the plan in their files. Most are likely to be outdated and of little practical use. Although the concept of self-sufficiency is strengthened by this exercise, more immediate benefits for the credit union could be realized by focusing on short-term financial planning.

c. Credit Administration

Two distinct processes are related to this service function, both of which were being provided satisfactorily. An adequate "model loan portfolio planning and review" process results in the development and documentation of a standardized loan portfolio management and record keeping process which assures that the use of available loan funds is consistent with membership needs and does not exceed an acceptable degree of [illegible]. [illegible] process must be fully compatible with the fe[illegible]ration "loan portfolio management" process and reviewed periodically.

CREDICOOP has developed a standardized loan portfolio management and record keeping system consisting of a set of standard record keeping cards for agricultural and urban loans and a delinquency control form. Training programs provide instruction on loan record keeping and procedures for disbursement and repayment of loan funds and on estimation of loan demand.

To assure the appropriate use of loan funds, the loan application for agricultural or other production loans requires an investment plan. This shows total estimated costs and projected income, the amount of loan requested, and member's contribution to project cost. In addition, an agricultural field assistant surveys the project feasibility and estimates the applicant's debt/equity status. Together the farmer and the field assistant determine if the loan amount solicited is in fact appropriate to the projected need, whether the debt can be serviced and if there is adequate collateral. The application for an urban (non-farmer) loan requires a statement of the proposed loan's purpose and amount, borrower's credit history and salary, estimated payments, and guarantees offered.

The loan portfolio management and record keeping process is compatible with that of CREDICOOP, since it is basically a simplified version of that system. The forms have been designed and produced by CREDICOOP, which assures standardization.

Generally, this process is reviewed at least yearly by the Boards of both CREDICOOP and the credit unions. Any changes are usually made on the basis of Credit Committee recommendations.

The second process related to this functional area, "standard loan policies and procedures", results in the development and documentation of standard or model loan policies and procedures for credit unions which contains at least certain key elements. These policies and procedures must be consistent with relevant legal, cultural and risk constraints and with the skill levels of available staff, and should be periodically reviewed.

Model loan policies and procedures for credit unions have been developed by CREDICOOP and distributed to all affiliates. This model contains the following critical elements:

1) Eligibility requirements of applicants (VI)*
2) Application formats (model/standardized forms prepared by CREDICOOP) and procedures (IV.2)
3) Permissable use of loans (III.1-6)
4) Required records (IV.1)
5) Loan application analysis procedures (IV.2) - also are various courses for credit committee members on how to analyze loan applications
6) Approval procedures (IV.2)

*Roman numerals refer to sections of the "Model de Reglamento de Credito."

7) Permissable loan amounts (IX), terms (V), interest and commission rates (X) and guarantees (XI)

8) Contents of loan agreement (including disbursement conditions) (IV.3)

9) Collection procedures (V)

10) Refinancing and other follow-up adjustments (V)

11) Capitalization requirements (VII)

12) Monitoring of loans made (XII)

Since this model is patterned after CREDICOOP's own loan policies and procedures, it is equally specific and detailed. It provides more than adequate guidance for credit unions.

The guidelines include risk considerations, since they specify the required ratio between shares and budget format. (5:1 in the case of agricultural loans) and the procedure for application analysis. The analysis prescribed is comprehensive and involves three stages: 1) For agricultural loans, visit to project by the agricultural field assistant to verify information; 2) Analysis by manager; 3) Analysis and resolution by credit committee. The loan policies and procedures based on the model are taught in various courses offered by CREDICOOP and appear to be consistent with the skill levels of credit union personnel.

These model policies and procedures are reviewed about once a year by CREDICOOP. When the CREDICOOP Credit Committee changes, they are generally reviewed again. Training course participants' views are used to determine any needed revisions.

d. Stabilization Fund

The "stabilization fund development" process results in the documentation of policies, procedures, formats and forms necessary to establish and operate a stabilization fund/share insurance program. The program typically should be able to:

1) Stabilize any credit union in severe financial difficulty
2) Repay all shareholders of liquidated credit unions
3) Separate fund from national association/regulatory agency funds
4) Relate premiums and fund size to movement growth and projected risk levels

CREDICOOP's stabilization fund was established in 1977. Therefore, it has not been operational long enough to meet most of the minimal outcomes stated above. As of the time of the assessment, no funds had been set aside for the stabilization fund; and in fact, it was not listed in the current plan of accounts. Thus, no resources are yet available to provide the indicated financial assistance.

A policies and procedures statement for CREDICOOP's stabilization fund has been prepared. This statement covers the following areas:

1) Use of the service

   a) Non-financial assistance (e.g. provide temporary manager to resolve problems)

   b) Financial assistance

      (1) To establish financial solvency (primarily by loans to solve immediate problem)

      (2) To re-establish financial solvency in combination with other objectives (e.g. formulate plan for achieving financial stability)

2) Factors and criteria for use

3) Application process

This statement is not very detailed and provides only some general guidelines for the Stabilization Committee and credit unions. So far as is know no formats (e.g. model agreement) or forms (e.g. application form) have yet been designed. It also appears that no policies and or procedures have been established for the management and investment of the fund. Presumably once the fund is capitalized at some initial minimum level, these kinds of guidelines and materials will be developed.

The fund is to be capitalized by: 1) an allocation of 25 percent of annual dues income, and 2) a charge of $10 per member. The first allocation is scheduled for December 1977.

Activities normally undertaken by a stabilization fund, e.g., buying credit union loans, repaying member shares, etc., will eventually be performed. However, the immediate objectives of the fund relate to a strategy designed to revitalize those credit unions with serious delinquency problems. This strategy includes:

1) Agreement on a long-term repayment plan between the credit union and the BNF

2) During that period, CREDICOOP makes interest free loans from the stabilization fund to the credit union to:

   a) Provide capital to lend to its members

   b) Cover operating expenses

Although no estimates of the capitalization required to reach a level adequate to meet expected contingencies has been prepared, we do note that many funds relate to a specified percentage of movement savings, e.g., one percent of total shares. CREDICOOP's present fund capitalization method would never attain this level, since it is essentially tied to membership which is a linear growth function, while savings growth is curvilinear. We recommend, therefore, that the allocation method to the stabilization fund be tied to savings rather than membership growth.

> CREDICOOP: The total amount of dues for all programs is already quite burdensome. It is estimated that on a per capita basis, credit union members in Paraguay pay three times more in dues than U.S. members. Money paid in for dues reduces the amount of funds available for income-producing loans for each credit union. Thus, it is currently infeasible to increase dues assessments either for stabilization or other purposes.
>
> In addition, part of annual dues income, of which 25 percent is allocated to the Stabilization Fund, is based on movement savings. Each credit union pays .5 percent of its savings for annual dues to CREDICOOP.

TABLE 3

STABILIZATION FUND PROJECTIONS
($)

| | 6/77 | 6/78 | 6/79 | 6/80 | 6/81 |
|---|---|---|---|---|---|
| 1. Savings (shares and deposits) cumulative | | | | | |
| a. Urban | 972,400 | 1,440,000 | 1,988.100 | 2,621,600 | 3,345,400 |
| b. Rural | 810,200 | 1,155,600 | 1,658,700 | 2,384,500 | 3,457,500 |
| c. Total | 1,782,600 | 2,595,600 | 3,646,800 | 5,006,100 | 6,802,900 |
| 2. Estimated Member Dues Income | 2,882 | 5,423 | 6,620 | 7,916 | 9,333 |
| 3. C.U. Membership-cumulative | 13,552 | 16,946 | 20,686 | 24,736 | 29,166 |
| 4. Allocation to Stabilization Fund | | | | | |
| a. 25% Member Dues Income | 721 | 1,356 | 1,655 | 1,979 | 2,333 |
| b. ₡10/Member | 1,076 | 1,345 | 1,642 | 1,963 | 2,315 |
| c. Total (Annual | 1,797 | 2,701 | 3,297 | 3,942 | 4,648 |
| d. Cumulative* | 1,797 | 4,498 | 7,795 | 11,737 | 16,385 |
| 5. Allocation/Savings (4.d ÷ 1.c) | .101% | .173% | .214% | .234% | .241% |

*The cumulative total of $16,385 is the maximum amount that could be generated. Actually this total will probably be less if the recuperation of loans made to credit unions is not 100 percent.

e. Institutional Development

CREDICOOP is performing in an outstanding fashion in this functional area. It surpasses the adequate level for all processes related to this function. Since this area is critical to the effective development of viable local level institutions, the excellence with which CREDICOOP performs these processes has a markedly positive impact on the entire movement. An increasingly greater number of local leaders and managers are able to perform their respective functions in an adequate manner and are able to assume more sophisticated activities.

A brief review of CREDICOOP's program will illustrate its thoroughness and effectiveness. As noted in the section describing CREDICOOP's program planning and evaluation activities, a yearly evaluation is made of each affiliated credit union. The information obtained describes how well the credit union is performing each of its major functions and how successful it has been in reaching projected growth targets. Problems are identified, along with potential training needs by the CREDICOOP fieldworker, in consultation with the leadership of the credit union. This information serves as the basis for CREDICOOP's development program vis-a-vis each credit union for the year. One innovation that CREDICOOP is attempting to introduce is a method to specify precisely the type and amount of technical assistance that CREDICOOP will provide to each credit union during the year. All needs it can efficiently meet, it will do so. For all other needs, it will attempt to make arrangements with other institutions to provide the needed services. In this manner CREDICOOP: a) can develop a plan specifying the types of services it will provide to each affiliate, and b) does not become involved in activities not within its scope of competency to provide. This "contract" approach will likely be implemented for the year beginning January, 1978. Certain charges for services will be implemented after the first year of operation.

Some of the needs identified are met not through formal training programs, but through on-site assistance provided by CREDICOOP staff, usually the promotors or accounting specialist, to the credit union staff and/or leadership. Most problems in bookkeeping, personnel, and office administration are handled in this fashion. For problems common to several cooperatives the Education Department of CREDICOOP prepares specific training programs.

An example of the needs identified and CREDICOOP's response can be obtained from the training courses offered during the 12-month period ending June, 1977, as follows:

1) Credit Analysis II - N
2) Risk Management - N
3) Credit Analyses III - N
4) Agriclutural Machines - N
5) Extension Methods - N
6) Exporting - N
7) Technical Assistance - N
8) Accounting - N
9) Board of Directors - R
10) Supervisory Committee - R
11) Credit Committee - R
12) Education Committee - R
13) Agricultural Planning - N
14) End-of-Year Closing of Accounts - R

n - national courses
r - regional courses

As shown, both national and regional courses are provided depending upon the scope of the need identified and the most effective means to provide the training. CREDICOOP maintains a file on each training participant listing the courses previously attended so that persons of approximately equal skills and experience are brought into the same training programs. By so doing, precise performance-based training objectives can be set for all participants. The objective appears to serve as the operating guide for development of the training curriculum, schedules, and subsequent evaluation.

The materials developed for the courses appear to be very effective, making use of prepared problems, case histories, dramatizations, and the CREDICOOP Game. The latter demonstrates the ingenuity and resourcefulness of the CREDICOOP staff. A board game which presents situations encountered in operating a credit union has been developed as a teaching device and has been used with great success in a number of training programs. In addition, lectures, group discussions, and individual work are used during the courses. Throughout, participants are asked to solve practical problems related to the course subject to demonstrate their progress.

Some, but not all courses, have some form of examination at the conclusion. Comments about the course are also asked of the participants. For some courses an evaluation survey is conducted after the course is completed, e.g., six months, to determine how much has been retained. In addition, the promotors are instructed to identify how effectively the participants are actually using the information presented. These findings are considered by the Education Department in developing subsequent programs.

We should note that the assessment of this area is based entirely on interviews with Education Department staff and review of the relevant documents and materials. We did not have an opportunity to observe a training program being conducted which may have enabled us to identify additional factors, both positive and negative, to be considered. The available information, though, indicates that this is one of CREDICOOP's strongest areas.

f. <u>Institutional Monitoring</u>

This functional area includes those processes related to inspection and auditing of credit unions.

An adequate inspection system results in comprehensive and detailed documentation of tasks and associated procedures, tests and forms. This activity is performed satisfactorily, although it could be improved in some areas.

Inspections are accomplished by a combination of field staff and the various Supervisory Committees of the credit unions. No inspection guide for fieldworkers was observed during the assessment. However, a guide for credit union supervisory committees covers the following:

1) Assessment of credit union bookkeeping
2) Reconciliation of cash and bank accounts with general ledger accounts
3) Reconciliation of member passbooks with control accounts
4) Justification of expense
5) Assessment of self-sufficiency status
6) Compliance with regulations and bye-laws
7) Examination of membership applications
8) Examination of loan supporting documents
9) Assessment of loan delinquency
10) Examination of calculations of interest and commissions
11) Payment of insurance premiums and compliance with insurance policies
12) Verification of management reports to Board
13) Workplan for Supervisory Committee
14) Written summaries of inspections

This provides a basis for an inspection system. There is, of course, a great deal of variation in the frequency and quality of Supervisory Committee reports. Some Committees do not function at all. Fieldworkers generally try to visit their assigned credit unions at least once a month and prepare reports as often. In addition, the monthly financial reports from the credit unions serve as a means for monitoring. However, as noted above, these forms could be improved substantially.

The inspection system could be improved if the following elements were added:

1) Assessment of Board and member influence on management and detection of improper relationships
2) Adequacy of internal control and risk management measures
3) Assessment of adequacy of meeting management and minutes
4) Determination of adequacy of coordination with related organizations, and identification of specific problems

CREDICOOP has an extensive auditing system which is tailored to credit union's needs. Each audit is divided into an assessment of the administrative and accounting aspects of the credit union. An audit work program was prepared during 1974 and is still being used as a guide. Since the operations of the credit unions have expanded to new areas such as sales of inputs and marketing, detailed audit steps regarding these areas should be included in the program. The current work plan includes:

1) Cash verification with vouchers
2) Bank statement reconciliation
3) Comparison of income with deposits
4) Loan portfolio analysis
   - member loan cards with total in general ledger
   - sums on selected cards
   - analysis of how selected loans granted
   - repayment record
   - loan delinquency analysis
5) Analysis of internal control system(s)
6) Verification of cheques with vouchers

The final report format is specified and all the audit reports examined conform to it. Judging by the content of the audit reports, the quality of the work is outstanding. The reports are very thorough and cover virtually all aspects of the credit union's operation. Each audit report makes specific observations and relevant recommendations where improvements are needed to move towards self-sufficiency. After the audit there is a meeting among the Board, Supervisory Committee, auditor, and the fieldworker to discuss the findings and recommendations. The audit report results are then incorporated into the plan of activities for the fieldworker as well as for the credit union.

The audit function is part of the General Plan of Activities of CREDICOOP. A contract system for audits has been used since the start of the auditing operations. To date 22 rural and 6 urban credit unions have contracted for those services from CREDICOOP.

One major problem has been the length of time required to produce the audit report. In 1976, a total of 12 audits were planned and completed. In 1977, the plan scheduled 18 audits; as of October 1977, 10 were completed, the reports for three others were in preparation, and the fieldwork for one audit was being done. Unfortunately, this rate falls far short of CREDICOOP's own goal of one audit per year per credit union. In addition, the amended loan agreement with AID (Article III, Sec. 3.02) states that no loan of AID funds may be made to a credit union with more than $30,000 in total assets unless it has been audited within one year prior to such loan. As of 9/77, 16 of the 26 rural credit unions exceeded this figure.

The great level of detail included in the audits currently precludes realization of this target with current staff resources. It is recommended that a review of the audit system design be conducted to determine what areas might be reduced in detail, leaving only those crucial to the credit union's development to be analyzed. One obvious approach is to separate the administrative portion from the current audit program and use only the financial portion as the formal audit. Administrative audits or reviews can justifiably be done less frequently.

In summary, we find that technically this function is being performed quite adequately. However, the use of resources appears less than optimum, precluding the achievement of the stated targets.

## IV. ANALYSIS OF FARMER SUPPORT SERVICES

The previous chapter discussed CREDICOOP services directed principally at the individual credit cooperatives. This chapter discusses CREDICOOP services related not only to the individual credit cooperatives, but also more directly to the farmer members. Direct effects on farmer yield and income can presumably be traced to the effectiveness with which marketing, input supplies, and technical assistance services were provided. Since a positive impact on small farmers is the stated goal of this project, CREDICOOP and the assessment team agreed that a particularly detailed analysis should be made of these services. Special attention was directed towards the marketing function, since it is a relatively new service area for CREDICOOP, one that is expanding very rapidly and has large implications for the viability of the entire agricultural credit system. Following the discussion on marketing, an analysis of the systems used to provide technical assistance and agricultural supplies is presented.

A. MARKETING

The leadership of CREDICOOP views the provision of effective marketing services to its member farmers as an important component of the project. They argue that the delivery of directed small farmer production credit is a "necessary" but not "sufficient " condition for the development of Paraguay's small farmers; it must be accompanied by sufficient marketing support to ensure that they can realize the financial gains made possible by the new credit. They maintain that the federation's partial control of the marketing process not only allows member credit unions to enjoy additional benefits derived from certain economies of scale in the joint marketing of their products, but also provides a mechanism through which CREDICOOP can better ensure repayment of the original farmer production loans.

CREDICOOP has been providing marketing services to member credit unions since the termination of AID support in 1975 for UNIPACO, the organization originally designated to provide marketing sources for the project. At present CREDICOOP assists its member credit unions in the marketing of several agricultural products. These major crops include: cotton, tobacco, soya, rice, corn and to a lesser extent wheat. The first three are primarily exported, while the latter three are mostly destined for internal consumption. As the attached table illustrates, CREDICOOP's marketing operations have demonstrated remarkable growth in the first three years of operation, and marketing services now comprise an important part of the overall

CREDICOOP budget, accounting for 47.5 percent of its gross earned income and 2.6 percent of costs.

TABLE 4

PRINCIPAL CROPS MARKETED THROUGH CREDICOOP
1975 - 1977 (in 000's Units)

| | 1975 | | 1976 | | 1977 | |
|---|---|---|---|---|---|---|
| | Kg | ₡ | Kg | ₡ | Kg | ₡ |
| Cotton | 1 762.4 | 50,759.8 | 1,366.7 | 62,406.8 | 3,889.6 | 193,189.5 |
| Soya | 251.1 | 4,441.2 | 2,720.8 | 55,254.7 | 700.7 | 25,606.9 |
| Tobacco | 8.9 | 456.2 | 191.6 | 14,779.2 | 72.0 | 3,245.2 |
| Rice | 687.2 | 15,817.9 | --- | --- | 512.4 | 6,876.6 |
| TOTAL | 2,709.6 | 71,475.1 | 4,279.1 | 132,440.7 | 5,174.7 | 228,918.2 |

SOURCE: Marketing Division, CREDICOOP statistics

As the data illustrates, cotton marketing has played a major role in these growth processes. Several reasons given for the dominant role of this particular crop have been: extremely favorable price conditions in the world cotton market during the last three years, relatively favorable climatic conditions during the same period, and CREDICOOP's conscious choice to focus marketing activities on that crop.[1]

> CREDICOOP: CREDICOOP points out that cotton dominates in marketing operations because cotton is the major and most important small farmer crop.
>
> Cotton would dominate regardless of world market price. While marketing operations reflect the importance of this small farmer crop a paradox exists because CREDICOOP is prohibited from using AID funds to finance the very crop of importance to almost all small farmers.

To better analyze the operation of this marketing service of CREDICOOP, we have adopted a process analysis approach similar to that used in other sections of this report. Each process related to marketing is

[1]Domestic cotton prices, which are closely linked to world market prices, increased steadily during the above period from ₡29 per Kg. in 1975 to ₡49.5 per Kg. in 1977.

analyzed individually, based on the data that was made available to the assessment team and that was collected during the field visits.

1. <u>Planning</u>

The planning system used by CREDICOOP to guide its marketing operations is designed to produce a comprehensive and internally consistent plan which can be used to estimate individual as well as aggregate capital and support services needs for the following year. Under the system, all credit unions participating in the marketing program are required to submit credit union investment plans at the end of each calendar year estimating their production and market activities for the following agricultural season. These credit union level plans are normally based on individual farmer investment plans submitted earlier in the year as well as on data provided by the credit unions' local leadership.

From these credit union-level plans, CREDICOOP draws up a "global investment plan", which estimates the aggregate volume and type of crops which will be marketed through CREDICOOP and the approximate amount of financial support that will be needed for working capital, packing materials, etc. Utilizing the above information, CREDICOOP then computes its credit and service requirements, negotiates additional credits from outside sources such as the BNF, and enters into marketing agreements with major buying houses and exporting firms in preparation for activities which will begin at the start of the agricultural year in September.

Looked at from a purely functional point of view, the planning system for marketing is more than adequate. It serves as a useful device to plan and coordinate marketing activities for the next year and involves all levels of the credit union structure in its implementation. The only question concerning this process relates to the long time-lag -- generally eight months from submission of farmer plans to the implementation of market operations - between its initiation and actual execution. According to interviews with CREDICOOP personnel, provisions are made to update or modify the plan in the light of changing information, although there appears to be no formalized system requiring periodic update reports. Whether such an updating system should be adopted, however, is open to argument.

2. Contracting

In a functional sense CREDICOOP operates as a marketing agent, or broker, for its participating affiliate credit unions. It arranges bulk sale contracts with buyers and ensures that credit unions deliver their part of the bargain. It is worth noting that under the existing scheme CREDICOOP does not actually take physical possession of the produce; instead, credit unions accumulate and store the produce, and when designated, ship directly to buyers. This approach has its advantages since it not only spreads the overhead costs of marketing more evenly throughout the system, but also frees CREDICOOP's resources for use in other areas of the operation.

While it is true that CREDICOOP does not physically take possession of the marketed products it does assume legal responsibility for fulfilling the sales agreement with the buying house. Sales contracts are signed between the prospective buyer and CREDICOOP, not the credit union.

These agreements typically specify the type and amount of crops to be delivered, the credit and transport services that will or will not be provided, and the approximate time period during which the agreement will hold. The sale price is normally not included and is ordinarily the daily wholesale price set at the date of delivery.

To ensure that it meets this legal obligation to the buyers CREDICOOP enters into delivery agreements with each credit union affiliate. These marketing agreements establish the amount of produce that will be marketed through the CREDICOOP system and fixes the approximate period of delivery. If the central organization is to supply additional services to its affiliates, such as transport or processing, they will normally be included in this agreement.

In the team's opinion, CREDICOOP's system in market contracting appeared to be working smoothly. The process was well coordinated and there seemed to be few problems.

3. <u>Financing</u>

CREDICOOP does not yet possess sufficient capital of its own to finance all of its marketing operations and must depend on external sources to satisfy all of its credit needs. The required capital is presently being generated from four major sources: its own capital resources, COLAC, AID, and private firms who have market dealings with CREDICOOP. A description of these sources, the amount of their contribution, and the terms under which the capital is supplied is provided in the following table.

TABLE 5

PRINCIPAL SOURCES OF MARKETING FUNDS IN 1977 (US $)

| SOURCE | AMOUNT ($) | TERMS | ANNUAL INTEREST (%) | COMMISSION ETC (%) |
|---|---|---|---|---|
| COLAC | 300,000 | 8 months | 10 | 4.5 |
| AID[1] | 3,000,000 | 40 years | 2 | --- |
| Firms | 39,700 | 8 months | - | --- |
| Own Capital (1, 2) | 51,063 | ---- | - | --- |

NOTES: (1) About 2/3 of these funds are to be used for production and other non-market activities

(2) As of June 1977

SOURCE: CREDICOOP financial records

The $3,000,000 AID soft loan supplies the bulk of these capital needs; nevertheless, U.S. government restrictions on the use of these funds for the financing of both the production and marketing of cotton and tobacco have limited the usefulness of this source. Because of these prohibitions, CREDICOOP has been forced to utilize more expensive sources of capital, e.g., the COLAC loan for the 1975-1977 tobacco and cotton years. In May 1977, the restriction on cotton marketing was lifted, thus somewhat easing the situation. However, the ban on using the funds for cotton and tobacco production and tobacco marketing is still in effect.

CREDICOOP utilizes the above funds to provide cash advances to member credit unions during the marketing year which in turn are advanced to individual farmer members when they deliver their crops to the credit union. The amount of advance issued by CREDICOOP to each credit union is normally some fraction of the estimated value of crops that each credit union plans to market for the coming year. The typical advance varies from 25-60 percent of the value of estimated marketed production.[1] No interest is charged on these advances and the only requirement is that each participating credit union agree to invest 2.5 percent of the value of that advance as share capital in CREDICOOP.[2]

In a similar manner, the local credit union distributes these funds to individual small farmers in proportion to the local value of the product delivered or to be delivered. The

[1] CREDICOOP Ltd. 1977/1978 Global Investment Plan, p. 11.

[2] CREDICOOP Credit Policy

actual proportion may vary considerably from nothing up to 100 percent, depending on the value of the crop, local credit union policy, and the degree of competition being exerted by local middlemen or acopiadores. No set overall policy governing the allocation of these advance payments at both levels has yet been established by CREDICOOP. As a result, arrangements show considerable variation, sometimes leading to misunderstanding. Nonetheless, it can be argued that such flexibility may actually be needed so that instantaneous adjustments can be made in changing situations or when new funds become available.

CREDICOOP's marketing services are directed through its Marketing Division with a work force of four persons including a director, technical advisor, and two assistants. To help pay the operating costs of the Division, CREDICOOP charges participating credit unions a handling fee of 1 ₡ per kilogram of produce marketed through the organization.[1] Based on the projected budget for 1977 shown below, the income derived from such a formula will be sufficient to cover the Division's operating costs of ₡ 4,197,483 plus financial costs of ₡ 3,177,492, by only a slight margin. Were any major fluctuations to occur in the volume of crops marketed due to adverse price or weather conditions, some losses might result.

1 The only exception to this rule is wheat for which a ₡ .30 Kg fee is charged

TABLE 6

1977 BUDGET ESTIMATES FOR MARKETING DIVISION
(₲)

| | | |
|---|---|---|
| EXPENSES: | | |
| Operating Costs | 4,197,483 | |
| Market Financing Costs | 3,177,492 | |
| Total Expenses | 7,374,975 | |
| INCOME: | | |
| Marketing Commissions | | 7,750,000 |

SOURCE: CREDICOOP Budget Projections for 1977

While it seems likely that the federation will generate sufficient revenues to cover its marketing costs for this year, we would hesitate to predict that such a situation would continue in the future, given the noted volatility of world export prices for commodities like soya and tobacco, both of which CREDICOOP markets. Moreover, in spite of the prediction of a strong world market for cotton - a major CREDICOOP commodity - for the next few years it is uncertain whether Paraguay and CREDICOOP will be able to maintain their present market share in the wake of increased competition from low cost producer countries such as Turkey, Sudan, USSR, etc.[1]

1 U.S. Department of Agriculture, "World Cotton Trade Union 1975/1976 U.S. Exports Slip for Second Year", Foreign Agriculture Circular FC 1-77 January 1977

The federation's efforts to finance their marketing operations at this time appear adequate; nonetheless, based on its own projected value of marketed goods, CREDICOOP will probably require additional capital aside from that which it presently has to support its activities by 1980. The probability that this additional capital may not be supplied at the concessional rates of the AID loan, however, seems high and if so, would have a significant effect on costs related to the financing of marketing.[1]

4. Packaging

Virtually all marketed crops are packed in cotton or jute bags at the credit unions to facilitate easy handling before shipment to the buying houses for ultimate sale. Packing materials for raw cotton are generally supplied by the buying houses, but due to delays in return, CREDICOOP is presently recommending that credit unions purchase 25% of their cotton bags with their own funds. Packing materials for other projects are generally provided by the individual credit unions.

Interviews with credit union officials at the local level indicated that the cost of a typical jute or cotton bag varied beween ₲ 150 - ₲ 160 per bag. Considering the short use-life of these bags - approximately two years - this implies that packaging constitutes a sizeable expense to some credit unions. For example, utilizing 1976 statistics and the above cost per bag, each

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[1]If you assume that CREDICOOP's working capital requirements for marketing will amount to 50 percent of the value of its projected marketed production, then by 1980/1981 capital demands will far exceed existing resources. USAID/Paraguay Revised Project Proposal, p. 61.

participating credit union spend an average of ₡ 164,125 for packing materials in that year.

The two principal problems affecting this marketing process appear to be the delays experienced by credit unions which must depend on buying houses to supply them with bags and the short use-life of the bags themselves. CREDICOOP is currently attempting to solve the first problem by providing credit unions with credit to buy their own bags and, more recently, by arranging for the importation of cheaper packing materials from Brazil. The second problem, however, has only been partly addressed. The importation of cheaper packing materials for sale to participating credit unions will serve to reduce the variable costs of marketing at the credit union level; nevertheless, there are other measures that CREDICOOP has not taken, such as the improvement of control and accountability procedures in the handling of these containers, which might further reduce costs due to theft or excessive maltreatment.

5. Product Classification

The Marketing Division of CREDICOOP has established a set of product classification standards based on buyer requirements for use in the grading, classification and pricing of products received at the credit union level. To ensure that these standards are enforced, CREDICOOP provides periodic training to relevant credit union employees in the use of these norms in product grading and pricing. Any changes that might occur in these standards are usually published in the federation's bi-monthly bulletin to the credit unions or later incorporated into scheduled training courses for credit union marketing personnel.

The key individual in the marketing operation at the local level is the credit union warehouse clerk who receives the product from the member, classifies it, sorts it, and ensures that the farmer is paid a price which reflects the quality of the product which he delivers. Once the warehouse clerk accumulates sufficient volume and selling conditions are satisfactory, he and the credit union manager arrange for the product to be shipped by truck to the buying house. There, the product is weighed and classified a second time by buying house personnel and the final selling price is fixed.

Based on our own analysis, the above process appears to have suffered from three major weaknesses: firstly, until recently, CREDICOOP has had no way of accurately checking the validity of the reclassification conducted by the buying house, since it required the use of humidimeters and other measuring devices which CREDICOOP did not possess; secondly, though warehouse clerks seemed to be familiar with classification norms, they had only a general understanding of how to apply those norms in actual situations, implying that there is still need for improvement in the clerk's training program; finally, it was also apparent that the product classification system did not extend down to the farmer member level. Farmers interviewed know relatively little about how the classification system operated or about the advantages and disadvantages of utilizing proper on-farm storage techniques and pre-classification pressures to maintain product quality and reduce shrinkage.

> CREDICOOP: CREDICOOP checks the validity in two forms. It has hired professional cotton graders to do such checking. A local credit union employee goes along with each major delivery to check the grading process. They can and do complain when grading is not agreed with. CREDICOOP will enter the picture if agreement is not reached on the local level.
>
> CREDICOOP now has humidimeters.

CREDICOOP's recent purchase of precision hand testing equipment is encouraging and should assist in improving the accuracy of the grading process at the credit union level and in verifying buyer classification procedures; however, much work needs to be done in the area of training project participants in the execution of better grading and storage methods at the credit union and farmer levels. By placing increases emphasis on product quality of production, thus improving CREDICOOP's marketing position at the buying houses.

> CREDICOOP: Pre-classification at the farmer level is much more complex than it seems in the absence of complete

vertical integration. Early project documents spoke about the considerable advantages of a credit union's pre-classification that seldom occurred nor did any benefits pass to the farmers. As long as the process is not integrated and parties with non-identical interest are doing the classification, too much risk is built into paying a premium for quality or even indicating that one may be obtained. This is true since it is the final classification that counts.

## 6. Storage

As mentioned previously, CREDICOOP does not assume physical possession of its affiliates' produce; instead, crops are accumulated and stored at the credit union level and then shipped directly to processor, buyers or exporter by the participating credit union. The theory behind this procedure is that it helps spread the overhead costs of wholesale marketing more evenly throughout the system, thus allowing the federation to concentrate its efforts on the overall management and coordination of the marketing operation.

All but one of the credit unions participating in the marketing program operate storage warehouses, but as the following table reveals, only one third of these are actually owned by the respective credit unions; the vast majority are rented. Total crop storage capacity (as measured in metric tons of cotton) is now approximately 2,400 metric tons.

## TABLE 7

## MEMBER CREDIT UNION
## PRESENT STORAGE CAPACITY
## METRIC TONS COTTON
## (1977)

| CREDIT UNION | CAPACITY (MT) | OWNERSHIP STATUS |
|---|---|---|
| Acahay | 100 | Rented |
| Artigas | 100 | Rented |
| Barrerena | 100 | Rented |
| Bogado | 80 | Rented |
| Caguazu Poty | 100 | Rented |
| Carapegua | 100 | Rented |
| Carmena | 500 | Rented |
| Coe Pyalhu | 200 | Owned |
| Copasagu | --- | Being Built |
| Coronel Oviedo | 400 | Owned |
| Del Norte | --- | --- |
| Itacurubi | 30 | Owned |
| O'Leary | 50 | Rented |
| Paraguari | 60 | Rented |
| Promocion | 200 | Rented |
| Quiindy | 30 | Owned |
| Rosarina | --- | --- |
| San Ignacio | 50 | Rented |
| San Juan | 70 | Rented |
| San Pedro | --- | --- |
| Santa Rosa | 50 | Owned |
| Santani | --- | --- |
| Yaguaron | 50 | Owned |
| Ypane | 20 | Rented |
| Yuty | 100 | Owned |
| TOTAL | 2,390 | |

SOURCE: Marketing Department Data

A second major problem concerns the observed poor physical condition of many of the credit union - operated warehouses. Most of the structures are old and not ideally suited to multipurpose uses: the storage of farm implements and supplies as well as delivered crops of various types. Moreover, information collected during the team's field visits indicated that many warehouses suffer from humidity and pest problems, both of which increase shrinkage losses during long periods of storage. All of the above conditions could be significantly improved with only slight modifications: for example, by dividing warehouse spaces into rooms or bins which separate item lots and facilitate pest control by fumigation; by the cement capping of warehouse foundation walls to prevent moisture seepage; by the construction of better drainage around the storage structure; and by the construction of low-cost brick or cement drying patios. CREDICOOP has recently begun to furnish limited credit and technical assistance to its affiliates for the purchase and/or improvement of their own storage facilities at the credit union and farm level. For instance, by the end of 1977 it plans to have extended about ₲ 4,500,000 in credits for the construction of farm sheds and deposits. In addition, all net income earned in CREDICOOP's marketing operation is re-invested to help build up the overall storage and market infrastructure of the system. But it is also evident that CREDICOOP will have to make a greater effort in this area if it is to keep pace with its growing multi-purpose market activities. To assist in that effort the federation is currently seeking outside support and negotiating with AID for an extra $85,000 in local currency project funds to be used for improvement loans to better existing facilities.

7. Processing

CREDICOOP does not normally involve itself in the processing of agricultural products for market; for instance, raw cotton collected at rural credit unions is shipped directly to buying houses where it is ginned and the fiber and seed prepared for export or for domestic consumption. Likewise, tobacco and food grains such as corn, wheat, and soya are also sent to wholesale buyers in the Asuncion area for further processing or milling before final sale.

The only exception to this rule recently has been rice. In 1977 the federation took a more active role in the processing of this crop and contracted directly to have a large quantity of rice milled before final sale to local buyers through processor or subcontracting arrangements. The idea of this pilot scheme was to test whether the federation could further increase credit union market revenues by eliminating several steps in the marketing chain. Unfortunately, the experiment did not yield the desired results due to excessive product shrinkage before and after processing. CREDICOOP personnel have indicated that several negative factors may have influenced the outcomes, among them; the poor quality of the grain at time of harvest, the lack of adequate storage space and consequent humidity problems suffered at the farm and credit unions levels, delivery delays, and the lack of overall supervision by CREDICOOP in the processing of the grain.

Our interviews with CREDICOOP staff indicated that the federation intends to play a more active part in agricultural processing in the future, especially in cotton. A direct involvement by CREDICOOP in cotton processing might prove lucrative, given the comfortable profit margins of the local cotton processing industry and tax advantages which a CREDICOOP-sponsored processing operation would enjoy. Nevertheless, the weaknesses observed in the farmer-to-processor nexus mentioned in Section 5 and 6, the specific management control problems associated with running a cotton processing operation, and the existing market power exercised by the larger processors suggest that CREDICOOP would do well to first conduct a detailed study of the economic feasibility of such a venture in order to establish the type and size of processing technology which would be best suited to existing business conditions and the federation's own managerial and resource capacities.

It seems doubtful, at this early stage, that CREDICOOP will need the services of outside consultants to perform the necessary groundwork. In fact, there would appear to be an advantage in first identifying the key problems in the farmer-to-processor linkage and in more fully understanding the economics of local processing operations before negotiating a request for outside consultant services.

8. Transport

Under the present marketing system, credit union affiliates are responsible for contracting their own transport services from credit union to buying house or processing plant. The sole exception has been in the case of cotton marketing where one of the largest buyers, Vargas Pena, furnished its own transport as part of the purchase contract.[1]

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[1]CREDICOOP does not plan to utilize this type of arrangement in the coming year due to problems it has encountered in the transport scheduling of cotton to the wholesaler.

Transport costs have and will continue to comprise a major part of total marketing expense from the farm-gate to buyer. Almost all products are shipped by truck on Paraguay's highways, only some of which are weatherized. At present truck freight rates, which range between 4-10 percent of the farm-gate price, vary according to the condition of the road travelled as well as the distance hauled. Currently, there are about 871 kms. of ashpalted roads in the country and, depending on road conditions, costs may vary from ₲ .50/kg in the central area around Asunción to ₲ 2.00/kg between Encarnación and the capital. Sharp increases in field prices since 1974 have further influenced the upward trend in transport costs.[1]

Lack of adequate transport infrastructure within the country has limited marketing opportunities and led to high farm-to-market costs. CREDICOOP's efforts to better coordinate truck services have no doubt helped reduce these costs. Nevertheless, it will have to enter more strongly into this area if it is to reduce product shrinkage losses due to transport delays and thus improve its market position.

CREDICOOP is presently attempting to improve transport flexibility by having credit unions individually contract all of their transport services, therefore, reducing the over-dependence on buying houses for the provision of transport services. In addition, it intends to establish a small $90,000 fund for transport truck loans to begin in 1978 and go through June 30, 1981.

1 USAID/Paraguay Small Farmer Sub-Sector Assessment and Constraints Analysis August 1976, p. 134.

9. Communications

Marketing problems have been considerably eased through the establishment of an efficient communications system between CREDICOOP, its rural affiliates, and the offices of supporting government agencies. The system has three major elements which assist in coordinating market activities and disseminating useful market information. They include:

a. periodic marketing training courses held for credit union functionaries, usually lasting from 2-5 days each

b. monthly and bi-monthly written materials relating market information such as the Ministry of Agriculture's "Informativo sobre Mercadeo" and the bi-monthly CREDICOOP newsletter

c. radio and telecommunications such as the use of radio transmitter/receivers to communicate with credit unions not serviced by regular phone services and the broadcasting of a morning agricultural radio program called "Surcos del Progreso"

Interviews with training course participants and our own inspection of end-of-course evaluation reports revealed that the courses have served as a useful forum for the discussion of market problems and have provided the federation with good feedback on the effectiveness of certain policy moves. Yet it was also clear that these courses have largely been focused on credit union functionaries and not on the general membership. This latter observation was somewhat disturbing, since it was at the farmer level that we saw signs of a lack of communications. Many of the farmers interviewed during our field trips displayed a general lack of knowledge of the short- and long-term advantages of cooperative marketing, the importance of on-farm storage and pre-classification, etc.

Written materials conveying information on commodity prices, grading standards, storage practices, and market scheduling appeared to be in use in all the credit unions visited. And while many interviewed thought that the documents were informative, others indicated that the information was often presented in an esoteric style, utilizing a vocabulary and frame of reference which was out of reach of many credit union functionaries. Radio and verbal communications, on the other hand, seemed to promote a useful flow of information between credit unions and the apex organization, CREDICOOP. The only disadvantage of the latter was that it left no written record in the credit union of the information received and transmitted.

CREDICOOP has also made much progress in improving the quality of international market information that is needed to effectively manage its commodity sales and import operations. Indicative of this is the fact that the marketing Department now subscribes to one of the leading Brazilian papers "Journal do Brazil " in order to keep abreast of international developments in the cotton, tobacco and grain markets. Also illustrative of the level of CREDICOOP's development has been the recent installation of a telex machine to assist it in negotiating export and import contracts quickly in response to market changes.

The efforts being made by CREDICOOP in the area of communications have been impressive. Yet there still appears to be room for improvement. This is especially true in the domain of federation to farmer and credit union to farmer relations. It is at the lowest level where the system must be strengthened if the federation is to maintain the collective discipline and support so necessary to ensure the success of its marketing program.

10. Market Development

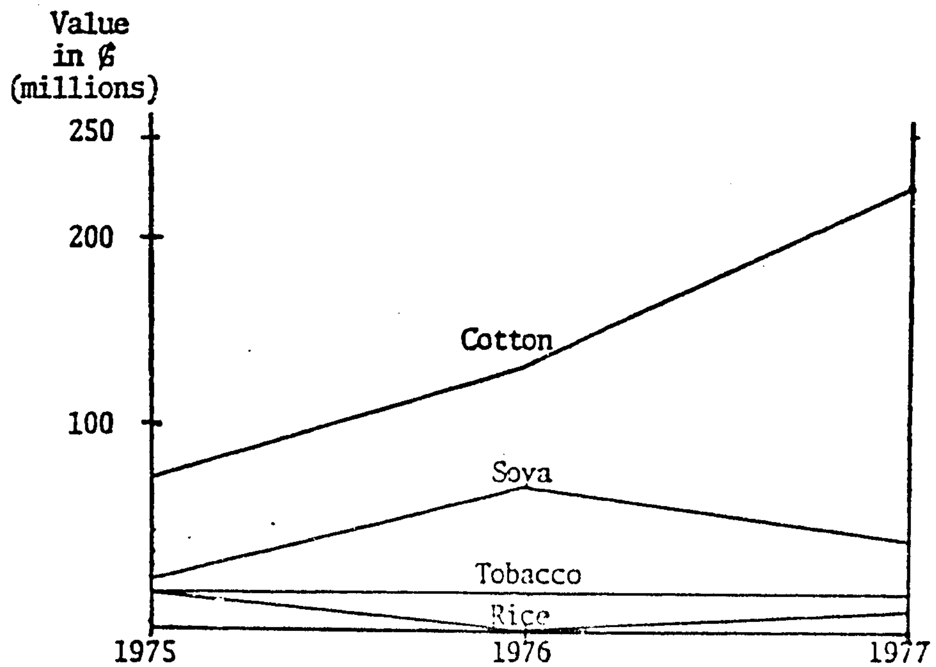
In 1974/1975, the first year of CREDICOOP's marketing activities, the federation marketed ₲ 71,475,000 in agricultural production. By 1976/1977 that value had more than tripled to over ₲ 228,918,200. The major factor contributing to this remarkable growth was the favorable price condition in the world cotton market which served to stimulate member cotton production which increased from a level of 1,762 metric tons in 1973 to 3,890 metric tons in the present year.

Today, cotton sales generate almost 85 percent of the total value of CREDICOOP's marketed production. The overall dominance of cotton in CREDICOOP's market activities has not been solely due to the favorable price climate in cotton. Fluctuations in the international demand and supply for CREDICOOP's other three major export crops - soya, tobacco, and corn - also had an impact on the pattern of marketing which changed dramatically during the three-year period as the following table indicates:

FIGURE 1

PRODUCT SHARE IN VALUE OF PRODUCTION

MARKETED THROUGH CREDICOOP 1975 - 1977




The overwhelming importance of cotton in CREDICOOP's marketing activities raises some critical questions, however, concerning: the strength of the world market for cotton in the short- and long-run, the ability of CREDICOOP and Paraguay to maintain or improve its share of that market, and lastly, the possible impact that a fall in world cotton prices might have on CREDICOOP's marketing and production loan activities.

With regard to the first question, world market conditions do appear to be favorable in the short- and medium-run: world demand for cotton products is increasing in part due to production shortfalls in major producer nations such as the United States and in part due to the increased costs in the manufacturing of synthetic fibers.

How long this upward trend will continue, however, will depend on a number of factors far beyond either Paraguay's or CREDICOOP's control.[1]

Concerning the second question, Paraguay has so far been able to maintain and even increase its share of the world cotton market in spite of its relatively high transport costs; nevertheless, some economists have suggested that progress in this area will become increasingly difficult as new, low-cost producers in other developing countries increase their output.[2] If, for example, there were a 10 percent drop in the world market price of cotton, marketing margins (the difference between final sale price and farm-gate price) would fall by an even greater proportion, probably 20 percent, given the present structure of operations.[3] Since it is reasonable to assume that export buyers would attempt to recover this decrease by making proportional decreases in cotton purchase prices, the end result could be harmful causing farmers to reduce cotton production for the next year and thus drastically reducing CREDICOOP's future marketing income.

CREDICOOP could reduce its exposure to this type of market risk in a number of ways: by improving the "marketability" of the products within its current market protfolio through such means as better

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1 U.S. Department of Agriculture, Foreign Agriculture Serve, op. cit.

2. Food and Grain Institute. Kansas State University " Evaluation of the Market System and Potential for Agriculture Products in Paraguay" Report No. 61. Manhattan, Kansas, February 1976, pp. 136-143.

3. Ibid. p. 89.

quality control, pre-classification, etc., by strengthening its market position through the gradual integration of product processing into its operations; or by further diversifying the areas of crops marketed and including other products with higher market potential.

Based on our analysis of the federation's marketing system there appears ample room for improving the quality of products that are marketed through CREDICOOP channels. This is particularly true in the area of establishing improved on-farm storage and pre-classification systems, and the betterment of credit union grading procedures and storage facilities. CREDICOOP is well award of these deficiencies and is currently action to ameliorate them; nonetheless, it does not appear to be focusing sufficient attention on the correction of farmer-level deficiencies where many simple, yet beneficial improvements could be made. It should also be added that CREDICOOP has begun to examine the feasibility of incorporating certain agricultural processing activities into its marketing operations. This strategy might well improve CREDICOOP's control over the quality and value of the final product, but it might also add to increased problems if not properly executed at the local level.

On the other hand, the federation has devoted few of its resources to investigating the benefits that it might reap by diversifying its marketing so as to include other marketable products as well as potentially profitable crops such as potatoes, tomatoes, and green peppers. Granted there are many storage and transport problems associated with these perishable products; nevertheless, the activities of other producer groups in the marketing of these crops implies that a market for these high value crops does exist especially during the winter months of June-September when a large proportion of the Paraguayan crop is exported to nearby markets in Argentina.[1] Certainly, any diversification in marketing activities entails some risk and would require a re-allocation of CREDICOOP's existing marketing resources. That risk would have to be weighed carefully against the risks of under-diversification and the benefits of concentrating on higher value crops.

> CREDICOOP: The marketing of these crops presents different needs and problems. CREDICOOP does selective marketing and selective financing. It has analyzed and used the reports of others to determine which crops to market. It is only interested in marketing those crops where it can provide the same or better service to members at the same or lower cost and do so at a profit which is reasonable in relation to the risk assumed. Vegetables are a specialized crop that can yield high profits for a few producers. This is indeed the case with the Japanese who also are integrated into the retail outlet level. However, once a significant number of small farmers began to produce vegetables, the small local market in Paraguay would be oversupplied and prices would fall to distress levels. In Argentina the season permits Paraguay to market its crops there about one month before the border is closed to protect the Argentine crop.
>
> CREDICOOP in brief has investigated this area and has had actual experience financing potatoes, tomatoes. Entry into this area could not help the majority of its members but only a limited few with assumption of great risk. Time and resources spent on additional investigation of this area appears unnecessary.

1 Japanese farmer groups in areas near Asunción and Encarnación in the south have been especially active in the production and marketing of these vegetables. No doubt much could be learned from a detailed investigation of the marketing and production techniques utilized by these and other such groups.

## B. TECHNICAL ASSISTANCE

In 1976 CREDICOOP granted over ₲ 12,400,000 in agricultural production loans and an additional ₲ 66,300,000 in cash advances for product marketing to its affiliates. As part of these credits, the organization also provided technical direction, i.e., support services designed to make these credits more productive and to ensure their eventual repayment.

These technical support services focused primarily on improving the production and marketing of several key agricultural crops cultivated by Paraguay's small farmers: cotton, soya, tobacco and rice (and to a lesser extent corn, wheat and pidgeon peas). While all of these crops received some attention, the major emphasis appeared to be placed on cotton production followed by soya, rice and tobacco. According to CREDICOOP's 1977/1978 global investment plan, this same focus is expected to be continued in 1978.

Several members of the CREDICOOP staff indicated that they were somewhat disappointed with the effectiveness of their technical support services. Utilizing data available from earlier sample surveys and information gathered from small farmer interviews, we attempted to determine if those opinions were, indeed, correct.

In general terms our analysis supported the view that the assistance provided had helped produce increases in farmer incomes through the diffusion of land-extensive agricultural technologies to small farmers (see section on Small Farmer Impacts), but had not led to any significant differences in per hectare yields. Thus, it appeared that small farmers had benefited from some forms of technical assistance such as marketing support and technical assistance which allowed them to extend the area of land under cultivation, but not from others which might have increased their crop yields. Given the magnitude of CREDICOOP resources devoted to providing the latter type of assistance these results were surprising; and hence, we will devote much of this section to a close evaluation of the causes of its apparent failure.

1. Organization

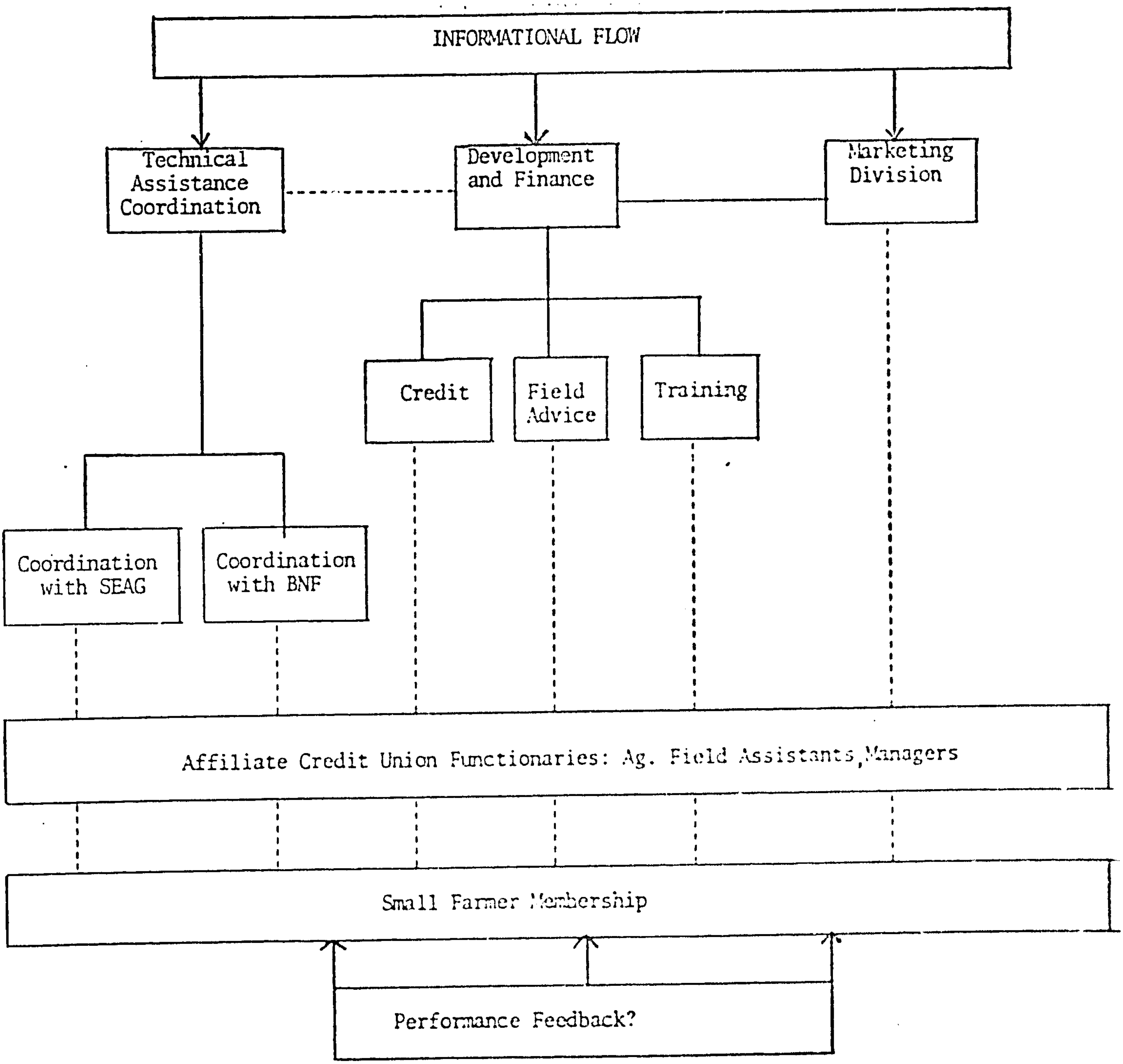
Internally, the Development and Finance Division of CREDICOOP is responsible for providing technical assistance and training to member cooperative staffs and small farmers. However, it is assisted in its activities by the Marketing Division which provides specialized day-to-day support to credit unions participating in federation marketing operations (see Figure 2 ).

The chief function of the former division is to organize, control and coordinate all technical assistance and training activities for member affiliates at the national, regional, and local levels, including those related to agricultural production and marketing. The division staff consists of a director and seven employees - an ample number for the task - yet most lack sufficient production and marketing skills to meet all of the technical assistance requirements of the program. To fill this gap, the division utilizes the services of personnel from other divisions such as the Marketing Division, from its seconded advisors, or from outside sources such as the Ministry of Agriculture Extension Service.

FIGURE 2

ORGANIZATION OF TECHNICAL ASSISTANCE

TO AFFILIATE CREDIT UNIONS



Under an agreement with the National Development Bank at the Extension Service of the Ministry of Agriculture, CREDICOOP is also utilizing the services of two seconded technicians, one from each organization, to help in the design of technical training courses for credit union staffs and in the coordination of extension activities between credit union field assistants and local BNF and SEAG extension personnel. As an incentive, the federation supplements their agency salaries with a ₲ 18,000 monthly bonus plus pays all per diem and travel expenses associated with their work.

The key element in this system of technical assistance at the credit union level is the agricultural field assistant. Each credit union participating in the project is required to employ a field assistant to assist in extending the agricultural and marketing services to the credit union small farmer members. These individuals are the chief recipients of CREDICOOP-sponsored training in agricultural production and extension techniques and theoretically work in close coordination with local SEAG extension agents.

The organization of the system is designed to provide an efficient structure for channeling technical assistance down to the farmer level. In a structural sense, it seems adequate because it allocates many of the responsibilities of the operation to the credit unions themselves and does not overly tax the limited personnel resources of the federation. Yet in functional terms, it does not generate sufficient informational feedback from the farmer level to serve as a check of the effectiveness of the various extension strategies employed. Agricultural field assistants do submit reports but these reports seem to focus more on the functions performed(e.g. the visits made, the number of talks given,) than on the results obtained.

2. Coordination with Other Government Programs

CREDICOOP's technical assistance activities are coordinated with other government programs through formal agreements signed between the federation, the National Development Bank (BNF) and the Extension Service of the Ministry of Agriculture (SEAG) which are the only other government agencies involved in agricultural extension work in the country. The two seconded technicians supplied by the BNF and SEAG serve to concretize this relationship and to facilitate communications between local BNF and SEAG representatives in the field, the credit unions' extension agents, and the CREDICOOP hierarchy.

While technical assistance efforts appeared to be well coordinated at the CREDICOOP level with the seconded technicians performing a useful advisory role in the technician training of credit union personnel, there were signs at the credit union level that this coordination was lacking. In theory local SEAG agents are supposed to work closely with the credit unions' field assistants,providing them with additional job training as well as assisting them in their agricultural extension activities; nevertheless, interview data collected during the team's visit indicated that in several cases assistance was sporadic and often did not contribute to improved performances of the credit union fieldworkers.

There may be many factors which explain the poor execution of this process at the local level, such as the limited resources of many local SEAG offices, the lack of technical preparation of many of the credit unions' field assistants, etc. The remedy to some of these deficiencies may require considerable time. Yet, in the team's opinion, the time could be shortened by CREDICOOP's placing additional emphasis on the promotion of joint CREDICOOP/SEAG training exercises at the local level. Up until now such joint training exercises have been minimal.

3. <u>Technical Training of Extension Personnel</u>

The level of technical training of senior CREDICOOP personnel involved in technical assistance appears to be more than adequate. Virtually all have university degrees in their respective fields and appear to be able to perform their duties satisfactorily.

In contrast to the relatively high level of skills at the apex level, local credit union staff involved in agricultural and marketing assistance are less well-prepared. Agricultural field assistants, for example, tend to be much younger and at best have only a high school degree. In addition, few possess the type of agricultural experience or training needed to become effective extension workers.

CREDICOOP is aware of these shortcomings, and has taken several steps to upgrade the skills of credit union personnel. The two principal methods now used to accomplish this task are: a) encouraging local SEAG agents to provide on-the-job training to key credit union personnel such as the credit union's agricultural field assistant, and b) requiring that credit union personnel attend periodic short courses organized by CREDICOOP in such subject areas as agricultural extension, marketing and crop-specific production techniques. The former method, as was previously mentioned, has not worked well, thus requiring CREDICOOP to focus much of its efforts on the latter technique. In 1976, for instance, CREDICOOP sponsored six national and regional courses on marketing problems as well as two major week-long courses on production and extension techniques. All told 205 people participated, the majority being credit union functionaries: managers, credit committee members, warehouse clerks, and agricultural field assistants[1].

On the surface, the technical training effort of CREDICOOP seems adequate. Courses are well organized, attendance levels are high, and end-of-course evaluations are held to measure

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1 Development and Finance Division statistics gathered by CUNA/GPO team during visit

the effectiveness of training methods. But, as of yet, the federation has not developed an appraisal system which can measure the effectiveness of this training at the operational level; for example, there was no way of knowing whether the formal training of agricultural field assistants was actually improving their field effectiveness with farmer members and contributing either to higher crop yields or to a better quality of product delivered to the credit unions.

4. Extension Methodology

The extension technique utilized by CREDICOOP is essentially a " package-of-practices approach" in which a tested and recommended set of practices for a specific crop is transmitted from national research centers down to small farmers via national and regional short-courses to agricultural field assistants and from agricultural field assistants to small farmers via individual farm visits or via strategically located demonstration plots.

The extension methodology has several unique features which bear some mention. Firstly, it is focused primarily on a series of key crops rather than a single crop. These crops are cotton, tobacco, soya and rice, each of which play critical roles in the federation's general marketing strategy. A second feature is that CREDICOOP has encouraged the formation of regional sub-groups within the credit union structure, called "comites por compañía", to expand the outreach of credit union field assistants in credit unions with geographically dispersed memberships.

A final characteristic of the CREDICOOP approach is that it requires the active involvement of the small farmers in planning and analyzing his participation in the project. This participation planning occurs at the farmer, credit union, and federation levels. The interested farmer joins with the agricultural field assistant and fills out his agricultural investment plan several months prior to the start of the agricultural season. The credit union management then develops its own "cooperative investment plan" for the forthcoming year based on this individual information. Finally, CREDICOOP formulates its own "global investment plan" from the cooperative-level data it receives from its participating affiliates. This global plan is used by CREDICOOP management to set training program priorities, to begin negotiations with buying houses for marketing goods, and to serve as a basis for estimating the organization's credit needs for the following year.

In performance terms, some aspects of the extension strategy seem to be working quite well. Judged by the growth in the volume and value of crops marketed through the system and from farmer interviews, the marketing technical assistance appears to be yielding positive results. [1] Likewise, evidence collected at three credit unions which showed increases in land

1 See Section on Small Farmer Impacts

area under cultivation also indicated that some of the production technology, particularly of the labor-saving variety, is getting through.[1] But, surprisingly, our own preliminary analysis of the 1976 survey results seems to indicate that this technical assistance has had almost no impact on crop yields. For example, sample data gathered in 1976 implies that per hectare cotton, rice, corn, and soya yields of credit union members have changed little in four years in spite of a considerable extension effort on the part of CREDICOOP.

The reasons for this implied lack of success may be several: delivery and quality problems may have limited the effectiveness of some inputs; the package of practices promoted at the farmer level may have been inappropriate to local farm, soil, and climatic conditions; or the credit union's extension agency may have lacked credibility in the eyes of practicing small farmers.

Delivery problems and quality problems related to product shrinkage were a frequent complaint at the credit union level. Many of the credit unions visited, especially those involved in cotton and tobacco production, had experienced dalays in the arrival of fertilizer, seed, and insecticide inputs. Moreover, several of the credit union staff members interviewed indicated that they were displeased with the reliability of some of the seed fertilizer, and insecticide supplies.
With respect to the second reason, there is some cause to believe that seed-fertilizer combinations currently being promoted by CREDICOOP may not be appropriate to local farm, soil, and climatic conditions. One indication of this fact was the observed low levels of fertilizer that

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[1]Ibid

were being used in cropping practices. While the increase in world fertilizer prices since 1973 definitely reduced farm consumption of chemical fertilizers, it does not fully explain the low levels of utilization observed during the team's visits.

Several members of CREDICOOP's staff have argued that the low utilization levels merely demonstrate the lack of usefulness of chemical fertilizers as a method for increasing crop yields in Paraguay's physical setting and cite as evidence a 1973 study on fertilizer use in neighboring Brazil.[1] However, our own analysis of that study suggests a different view. In fact, the study seems to imply that low fertilizer response in Brazil is caused more by the inappropriateness of the recommended fertilizer formulas and practices to specific soil and moisture regimes encountered than to the inappropriateness of chemical fertilizer themselves. A similar situation may well exist in Paraguay. If such is the case. CREDICOOP would do well to initiate with the collaboration of the government extension service a more vigorous program of farm-level soil-sampling as well as a more detailed evaluation of the effectiveness of its own extension efforts. As a longer term objective, CREDICOOP might also lobby for increased government funding in the area of supplied small farmer crop research.

> CREDICOOP: Many new experts are amazed at the low levels of fertilizer used in Paraguay. After more consideration this non-use comes to be seen as appropriate for certain crops such as cotton. For example, cotton fiber yields

[1]Nelson, W.C. and Meyer, R.L. "Fertilizer Use and Agricultural Development in Brazil," Economics and Sociology Occasional Paper No. 163, Ohio State University, Columbus, July 1973. See especially secton on: "Factors Affecting the Lack of Response to Fertilizers," pp. 22-24.

> on non-irrigated land compare very favorably to U.S. non-irrigated yields and favorably to irrigated yields. U.S. farmers use considerable fertilizer while the Paraguayans do not.
>
> The Paraguayan small farmer rotates his crop to land which has been fallow for several years.
>
> The article cited was not to demonstrate lack of usefulness but rather exactly the point raised in the study which was that following recommended application rates resulted in non-economic use due to lack of compensating increases in yields. In some cases yield went down since the recommended rate increased the already acidic condition of the soil.
>
> The point being that recommendation to use fertilizer should be made on the basis of research which proves the plants are yield responsive and that the increase in net income will be significant and offset the increased risk.

The third possible explanation, i.e., that the credit unions's agricultural field assistant lacks credibility in the eyes of member farmers due to his relative youth, his style, or his lack of experience in agriculture may have also been a factor. Some of those persons interviewed at the CREDICCOP and credit union levels indicated that many farmers lacked confidence in the recommendations of some agricultural field assistants. This lack of trust seemed understandable, given the youth and lack of experience of the typical field assistant and suggested that CREDICOOP may have to think seriously about revising its requirements for such positions.

Unfortunately, the federation's present extension evaluation system does not generate enough farmer data to determine the real causes of this poor performance. One strong recommendation, therefore, is that CREDICOOP institute an extension evaluation system based on "farmer-impact criteria" such as the change in per hectare yields, the alteration of certain agricultural practices or the improvement in the quality of product delivered, rather than on such measures as the number of visits made, the number of courses given, etc. which say nothing of the actual impact of the extension approach.

5. Financing the Cost of Technical Assistance

A key issue in all small farmer directed credit programs is the high delivery cost of such credit services. Many development economists argue that the costs are so prohibitive that such programs will never be able to pay their own way. Perhaps this is true; nevertheless, a better question to raise would be: which type of delivery system is the more efficient? The CREDICOOP system constitutes one such system. How effective is it?

Measuring the true economic cost of delivering small farmer credit is a complicated process and involves many assumptions. We will not attempt to do that here, but rather will only try to examine the direct financial cost of operating the system, since it is this cost which is the chief determinant of investor interest. Our calculations include only those costs that can be attributed to the provision of supportive agricultural services to farmers participating in the direct credit program. Included are:

- All direct personnel costs incurred by CREDICOOP in the support of its agricultural production credit and marketing system, including any subsidies provided to seconded personnel involved in the program
- The costs of training courses provided by CREDICOOP to credit union personnel on agricultural production and marketing problems

- Per diem and travel expenses of all CREDICOOP personnel involved in the technical assistance program
- Vehicle operation and maintenance expenses
- The estimated cost of local credit union technical assistance provided, i.e. the salary and traveling expenses of the agricultural field assistant.

No effort was made to compare the above costs with the costs of similar technical assistance programs operated by other Paraguayan institutions. Such a comparative analysis would be well worthwhile, but, unfortunately, time did not permit us to collect the additional data.

The cost estimate in the following table is based on several assumptions relating to the inter-divisional allocation of technical assistance costs within CREDICOOP, farmer participation rates, and the imputed costs of seconded personnel, etc. They are presented as footnotes for the reader's information.

## TABLE 8

### ESTIMATED FARMER COST OF AGRICULTURE TECHNICAL ASSISTANCE IN 1976
(In Guaranies)

| | LEVELS AT WHICH COSTS INCURRED | | |
|---|---|---|---|
| | CREDICOOP | CREDIT UNIONS(20) | BOTH |
| 1. SALARIES, etc. | | | |
| a. Development and Finance Division | 822,190[1] | | |
| b. Min. Ag. And BNF Advisors | 1,736,000[2] | | |
| c. Marketing Division | 3,687,483[1] | | |
| d. Agricultural Field Assistance | | 2,400,000[3] | |
| 2. TRAINING COURSES | | | |
| Agricultural Production Extension, Marketing | 402,975[4] | | |
| 3. PER DIEMS, etc. | | | |
| a. Min. Ag. and BNF Advisors | 202,000[1] | | |
| b. Marketing Division | 315,000[1] | | |
| 4. TRANSPORTATION EXPENSES | 195,000[1] | 640,000[7] | |
| | 7,360,648 | 3,040,000 | 10,400,648 |
| 5. COST PER CREDIT UNION | 368,032 | 152,000 | 520,032 |
| 6. COST PER PARTICIPANT | 3,525 | 1,456 | 4,981 |

Assumptions:

1. Derived from 1977 CREDICOOP budget projections. Development and Finance Division personnel contribution estimated at 15 percent of gross salary costs of Division.

2. Seconded technicians base salaries were calculated at ₲51,500 per month which would be equivalent to the approximate replacement of cost of hiring them independently, plus the actual bonus payment of ₲18,000 per month.

3. Based on an average monthly field assistant salary of ₲10,000.

4. Based on an analysis of CREDICOOP training records for 1976.

5. Assumes that only 20 of 26 rural credit unions receive the bulk of these services (based on 1976 data).

6. Assumes that the average size of a typical rural credit union is 174 members and about 60 percent of this number participate in the program (based on sample data from 12 credit unions).

7. Assumes each ayudnte travels 5,000 km/year @ 6.4 ₲ per km.

The cost of ₲4,981 per participant per year conveys little information unless it is presented in more relative terms. A random sample of 1,482 credit union loans granted during 1976-1977 provides us with that reference frame. In that study, the average small farmer loan was estimated at ₲ 33,768. If we utilize that loan value as a base, the estimated cost comes to represent about 15 percent of the value of an "average" small farmer loan.

It is true that the above figures do not include the imputed cost of support time provided by local SEAG agents to the project. We chose to omit this cost for two major reasons: firstly because our field visits revealed that local SEAG agents presently devote little time to credit union support activities, and secondly because it is doubtful that CREDICOOP would ever have to incur this additional support cost itself. Notwithstanding the above, it is clear that the relative cost of this extra service to small farmers is considerable. Whether it could be further reduced without sacrificing the existing quality of extension provided is, of course, another question.

Presently, the movement is fully covering these "delivery costs" by means of several extractive mechanisms. First and foremost is the 14-21 percent interest charge levied on all production loans. Delivery costs are further reduced through such mechanisms as tuition charges of from ₲ 200 - ₲ 400 per person for participation in CREDICOOP-sponsored training courses and through required capitalization on production loans, etc. which serve to reduce financing costs. Finally, the system generates additional revenues and cost reductions through the 1 ₡ per Kg. commission charged on marketed products and by a second required capitalization on all marketing advances supplied by CREDICOOP. However, it should be noted the movement's ability to continue covering its delivery costs will depend on a number of factors, two of the most important being CREDICOOP's ability to adjust to changing world market conditions and its ability to obtain additional sources of cheap capital.

6. Extension Development

Recently CREDICOOP has begun to expand its technical assistance program to include other production activities such as fish marketing and family dairy production. Pilot projects have been initiated at several rural credit unions to test the feasibility of such undertakings, but it is still too early to determine the impact of these actions.

The Revised Project Proposal also envisions CREDICOOP entering more forcefully into the field of processing, especially the ginning of cotton - the federation's principal income earner. Yet, if the above plans are to reach fruition, several major modifications will have to be made in its present technical assistance program. Not only must CREDICOOP develop new technology packages for the new agricultural activities, but it must also begin to consciously acquire greater in-house expertise in the economic and managerial aspects of agricultural processing operations.

Several of the persons interviewed at the CREDICOOP level also indicated that the present crop-specific focus of technical assistance may be too narrow, since it does not include the "total " farming system in its calculus; for example, it places little emphasis on practical systems of record keeping, problem solving, or family health care - all of which have an impact on project outcome. Whether such an integral approach to farm extension will produce better results is an open question and can only be determined by weighing the costs of utilizing such a strategy against the farmer benefits that accrue, especially as measured by indices such as yields per acre per farm and quality of product delivered.

C. AGRICULTURE SUPPLIES

In 1976 CREDICOOP added a new service to its member affiliates: The bulk purchase and distribution of agricultural supplies. The purpose of this new service was to provide member credit unions with certain economies-of-scale in the purchase of needed agricultural inputs. During the year 1977, the first year of large scale operations, over ₲31,500,000 or $250,000 in agricultural implements and supplies have been obtained through CREDICOOP channels. According to available data, the greatest proportion of these purchases have been for farm machinery and other labor-saving implements like tractors, harvesters, steel plows, sprayers, and planters.[1]

Given the newness of this supply service, however, little performance data was available for a thorough analysis of the operation; nevertheless, there did exist sufficient information for the assessment team to make a few observations which will be presented in the following pages.

1. Planning:

An essential part of any supplies operation is an accurate forecasting and planning system which can estimate credit union demands and efficiently schedule purchases in a world of changing prices. Under CREDICOOP's existing system, the type and quantity of supplies to be ordered is primarily based on direct credit union requests, data contained in the global investment plan, and advice provided by credit union and SEAG fonctionnaries. As of yet,

1 Letter from CUNA/Paraguay Advisor dated December 27, 1977.

CREDICOOP planners do not have enough time-trend data on other important variables such as supply prices, volumes and usage to incorporate these extra dimensions into the planning process. An examination of CREDICOOP records revealed that the federation has not yet begun to analyze historical price data that existed on inputs purchased through the system, nor had it developed a mechanism to provide monthly and annual statistics on the volume transactions and the usage or consumption of these inputs at the credit union and farmer level. These weaknesses, however, are somewhat understandable considering the incipient nature of the supply service.

There was some evidence that the lack of a more accurate planning system had created a few problems in estimating the type and volume of supplies needed, in scheduling purchases and in predicting the actual lag-time between requisition and distribution. Most of these problems appear to have arisen from the lack of an internal data system which could supply monthly updated information on credit union input requests and usage or consumption rates so that supply and demand bottlenecks could be identified and proper action taken to correct them.

2. Financing

CREDICOOP finances the purchase of agricultural supplies through the utilization of its own capital resources, the AID project loan, and a $200,000 loan provided by the Banco Real. The terms of the Banco Real loan are for eight months at an annual rate of 12 percent.

In addition to financing costs, CREDICOOP incurs other administrative expenses in arranging for bulk purchases for import tax exonerating, and for transport and handling. These costs are covered by charging credit unions the normal rate of 10 percent on all supply loans and by adding a surchage of from 5-10 percent, depending on the type of input and the degree of competition it faces from other input suppliers. A similar surchage system is used at the credit union level. However, there appears to be no set procedure for establishing this surchage.

According to CREDICOOP's 1977 budget projections, the institution expects these surcharges to generate approximately ₡ 700,000 in additional income for the organization during that year - income that will be used to help pay the operating costs of the total supply system. Even with the CREDICOOP and credit union surchages included, the input costs to the farmer still tends to be 15-25 percent lower than commercial costs.

3. Procurement and distribution:

CREDICOOP imports the bulk of their implement supplies (such as tractors, plowing equipment, etc.) and fertilizers, although some animal-drawn equipment is purchased locally. Other supplies such as seed and insecticides, which are more subject to rapid shifts in farmer demand, are purchased locally. While CREDICOOP is now the principal supplies of key farm inputs to its member credit unions, many continue to obtain a portion of their seed, fertilizer and other input requirements from non-CREDICOOP sources.

> CREDICOOP: We have no desire to become the sole supplier of all farm inputs to our member credit unions, but rather only of those items which can be supplies at a significant cost advantage. Continued credit union contact with non-CREDICOOP supplies only serves to make the federation more efficient.

Under the current distribution system, supplies are shipped directly to the requesting credit unions once they are received. In this way CREDICOOP avoids the necessity of maintaining a warehouse in Asunción to store the items, and CREDICOOP is relieved of the responsibility of safeguarding the products until they are sold. Affiliates are then charged a price equal to the quoted price plus transport costs and the CREDICOOP surcharge.

The procurement process for imported agricultural inputs is usually lengthy and lasts a minimum of 90 days due to lag-times inherent in any import system of this type and to bureaucratic procedures which must be followed in order to obtain import tax exemptions. Local procurement, on the other hand, is quite rapid, provided that there is sufficient stock available and prices are favorable. In general, the procurement and distribution process appears to be adequate.

4. Supplies Storage:

CREDICOOP does not physically store the supplies it purchases for member credit unions; instead, the inputs are shipped directly to credit unions and stored in the credit unions' own warehouses until they are issued or sold to farmer members.

In the team's opinion, the existing storage operation appears to suffer from two major weaknesses: 1) the lack of an adequate inventory control and storage monitoring system, and 2) the insufficiency of secure and weatherproofed storage facilities. Indicative of the first deficiency was that the inventory control and monitoring system did not provide the credit union and CREDICOOP with useful information on the consumption of various inputs at the farmer level. Moreover, it did not provide any mechanism for monitoring the quality of certain inputs received, especially inputs with low shelf-lives such as fertilizers, insecticides, and treated seeds.

Inadequate storage facilities for agricultural supplies pose another problem. Many of the existing facilities are not properly designed to store perishable input supplies such as seed or fertilizer due to moisture problems caused by foundation seepage, roof leaks, etc. In addition, none of the warehouses visited appeared to be properly secured against the possibility of theft. Granted that thefts are a rare phenomenon in rural Paraguay; nevertheless, the presence of many high-value inputs in storage such as plows, sprayers, etc. should warrant stricter control. Hopefully, storage conditions will be considerably improved once CREDICOOP initiates its planned facility improvement program in 1978.

5. Development

CREDICOOP's agricultural supplies operation is still in its infant stage and continues to evolve. Several improvements are envisioned for the next few years, but two of the more interesting ones appear to be the gradual introduction of an inflation pricing mechanism which would better reflect the true cost of goods sold and the investigation of economic feasibility of establishing a fertilizer mixing facility which would allow the federation to import fertilizer ingredients in bulk and tailor-mix packages to fit the specific needs of each of its credit unions.

# V. ANALYSIS OF AFFILIATED CREDIT COOPERATIVES

In this chapter, the level of development of the affiliated credit unions is analyzed to assess the likelihood that the second project purpose, i.e., establishment of a network of financially and technically viable credit unions, will be attained. Infomation for this chapter is derived from the visits to the 12 sample credit unions. Since these credit unions are fairly representative of the entire movement, the analysis provides a fairly good measure of the current level of development of the primary credit institutions.

## A. FINANCIAL ANALYSIS

Our approach to credit union level financial analysis is based on the concept that analysis of summary data of all the credit unions is not particularly meaningful. For example, an analysis prepared by CREDICOOP responding to a donor agency request, indicated that for all rural credit unions combined there was an excess of revenues over expenses of about ₡2 million. However, upon close examination it was found that this was entirely due to the ₡5 million surplus reported for one cooperative (COPAMAGU); the rest of the credit unions, as a whole, showed a deficit. More importantly, the summary data obscures the more essential piece of information, i.e., how many of the credit unions are in good financial condition. For that reason, we have not followed the approach contained in the Allen projections, but have chosen to examine each of the 12 sample credit unions separately. From this analysis, some conclusions about the general financial conditions at the primary level can be developed.

The following analytical table presents an analysis of the current conditions and previous growth trends for each credit union grouped according to level of development. The financial data for each credit union used to prepare this analysis is shown in Appendix B. It is recommended that the reader refer to these data to better understand the analytical table.

One key indicator shown is net income. Six of the nine rural credit unions and all the urban credit unions showed a surplus for the most recent fiscal year. Note that all three of the better developed rural credit unions recorded gairly high net income per member, while the three other rural credit unions reporting profits just barely broke even. For two of these the profit is misleading, since both currently have extremely high delinquency rates. If, as probably will happen, some of these loans must be written off, then both credit unions actually incurred deficits during the most recent fiscal year. Thus, only four of the nine rural credit unions may be viewed as actually breaking even.[1]

From the net income resulting from the margin between gross income and operating expenses, an adequate portion must remain for reserves and dividends. And as stated

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[1]Note the very high gross income and expense figures for San Ignacio resulting from members repaying the interest on delinquent loans, but being unable to repay the principal. With a large loan portfolio, the interest income is high. However, the credit union in turn must pay interest on its large delinquent loan with the BNF, thus the net income figure is very low.

TABLE 9

FINANCIAL STATISTICS OF 12 SAMPLE CREDIT UNIONS

| | RURAL - HIGH | | | RURAL - MEDIUM | | |
|---|---|---|---|---|---|---|
| | 6/77 | 6/77 | 5/77 | 7/77 | 6/77 | 6/77 |
| | Cml Bogado | Cml Oviedo | San Juan Bautista | Quiindy | La Barrerena | Coe Pyajhu |
| **A. FINANCIAL INDICATORS** | | | | | | |
| Loans/Shares | 1.98 | 1.03 | 1.37 | 1.53 | 1.32 | 1.65 |
| External Loans/Shares | 2.48 | .52* | 1.04* | 1.70* | 1.31 | 1.10 |
| Percent Delinquent | 12.0 | 11.0 | - | 4.0 | 6.1 | 47.0 |
| Percent Reserves/Loans | 1.8 | 6.5 | 2.9 | 1.8 | 1.1 | 5.8 |
| Percent Reserves/Delinquent Loans | 14.6 | 58.7 | | 52.2 | 18.7 | 12.2 |
| Percent Total Expenses/Gross Income | 75.1 | 70.7 | 65.4 | 99.6 | 131.7 | 94.6 |
| **PER MEMBER INDICATORS ₲ (000)** | | | | | | |
| Loan Volume | 38 | 14 | 38 | 36 | 33 | 32 |
| Farmers | 45 | 16 | 53 | 40 | 53 | |
| Loan Balance | 26 | 12* | 19* | 20* | 17 | 23 |
| Farmers | 33 | | | | 28 | |
| Shares Balance | 13 | 12 | 14 | 13 | 13 | 14 |
| Farmers | 14 | 14 | 18 | 14 | 14 | |
| Loan Balance - External Loans | 33 | 6* | 14* | 23* | 17 | 15 |
| Gross Income | 7.91 | 3.23 | 5.18 | 5.06 | 2.62 | 6.82 |
| Expenses - Total | 5.94 | 2.28 | 3.39 | 5.04 | 3.45 | 6.45 |
| Net Income | 1.97 | .95 | 1.79 | .02 | -.83 | .37 |
| **AVERAGE ANNUAL INCREASE ₲ (000)** | | | | | | |
| Members | 85 | -48 | 68 | 39 | 39 | 12 |
| Farmers | 26 | -47 | 34 | 39 | 6 | |
| Loan Volume | 3,967 | | | | 2,613 | 1,578 |
| Farmers | 1,791 | | | | 962 | 1,668 |
| Loan Balance | 3,990 | -1,462* | 1,441* | 1,865* | 1,185 | 1,516 |
| Farmers | | | | | 565 | |
| Share Balance | 2,287 | 1,000 | 1,486 | 1,232 | 1,124 | 814 |
| Farmers | 1,195 | 203 | 970 | 850 | 293 | |
| Gross Income | 1,528 | 188 | 845 | 498 | 195 | 516 |
| Gross Expenses | 595 | 214 | 418 | 455 | 238 | 458 |
| Net Income | 533 | -26 | 427 | 44 | -43 | 59 |

*12 month average

| | RURAL - LOW | | | URBAN | | |
|---|---|---|---|---|---|---|
| | | | | HIGH | MEDIUM | LOW |
| | 6/77 | 12/76 | 6/77 San | 3/77 | 12/76 | 2/77 |
| | Promocion | Acahay | Ignacio | Comecipar | Pablo | Mburicao |
| A. FINANCIAL INDICATORS | | | | | | |
| Loans/Shares | 1.78 | 2.26 | 2.61 | 1.12 | 1.16 | 1.19 |
| External Loans/Shares | 1.35 | 2.34 | 2.88 | - | - | - |
| Percent Delinquent | 53.0 | 51.0 | 95.0 | 1.5 | 11.0 | 3.0 |
| Percent Reserves/Loans | 10.5 | 3.1 | 3.7 | .8 | 2.8 | .3 |
| Percent Reserves/Delinquency | 19.7 | 6.0 | 3.7 | 60.8 | 25.6 | 9.3 |
| Percent Total Expenses/Gross Income | 130.3 | 186.3 | 98.5 | 61.1 | 68.5 | 95.0 |
| B. PER MEMBER INDICATORS ₲ (000) | | | | | | |
| Loan Volume | 11 | 9 | 16 | 60 | 9 | 11 |
| Farmers | 9 | 15 | 18 | | | |
| Loan Balance | 21 | 11 | 43 | 52 | 6 | 7 |
| Farmers | 21 | 17 | 53 | | | |
| Shares Balance | 12 | 5 | 16 | 46 | 5 | 6 |
| Farmers | 11 | 5 | 19 | | | |
| Loan Balance - External Loans | 16 | 11 | 47 | | | |
| Gross Income | 2.47 | 1.67 | 11.50 | 7.91 | .84 | .93 |
| Expenses Total | 3.22 | 3.11 | 11.33 | 4.84 | .58 | .88 |
| Net Income | -.75 | -1.44 | .17 | 3.08 | .26 | .05 |
| C. AVERAGE ANNUAL INCREASE ₲ (000) | | | | | | |
| Members | 5 | 20 | 36 | 112 | 22 | 41 |
| Farmers | 16 | 17 | 72 | | | |
| Loan Volume | -414 | 84 | -1,462 | 9,627 | 563 | 591 |
| Farmers | -91 | 165 | -1,558 | | | |
| Loan Balance | 1,120 | 276 | -2,023 | 8,189 | 441 | 397 |
| Farmers | 334 | 245 | -2,287 | | | |
| Share Balance | 511 | 153 | 78 | 7,501 | 301 | 343 |
| Farmers | 255 | 103 | 19 | | | |
| Gross Income | 53 | 86 | 1,410 | 1,424 | 70 | 48 |
| Expenses - Total | 106 | 111 | 1,380 | 856 | 39 | 46 |
| Net Income | -53 | -25 | 30 | 568 | 31 | 2 |

earlier, most are not currently paying dividends, which should legitimately be included as a cost of operation. Therefore, when these criteria are applied, none of the credit unions have reached the breakeven point. One must remember, of course, that most have been recently formed and thus are still in the early stages of development.

It is perhaps more important to note the past trends to determine if they appear headed towards eventual breakeven. Discounting Coe Payajhu and San Ignacio, whose growth trend is clouded by the delinquency issue, we see that three of the remaining seven rural credit unions show positive average annual increases in net income. For one credit union, Crnl. Oviedo, the negative growth trend indicated is somewhat misleading, since they showed a marked decrease in income in 1976 as a result of a cut-off in external credit, but rebounded to almost the previous level in 1977. We would expect that credit union to show a positive growth rate in subsequent years. However, for La Barrerena, Promocion, and Acahay, the deficits are consistent and increasing. Since the latter two also have high delinquency problems, the real deficit is greater than shown. Action is required to develop a strategy to reverse these trends; obviously no institution can operate indefinitely with expenses exceeding income.

For two of the best developed and all three of the medium developed rural credit unions, the loan volume for the past year ranged from ₲32,000 to ₲38,000 per member, and from ₲40,000 to ₲53,000 for farmer members. In contrast for the remaining rural credit unions the range was between ₡9,000 and ₡16,000 per member. The difference in loan volume obviously has an affect on the credit union's gross income, but more significantly indicates that the former are serving their membership more effectively than the latter. Most of the capital for the farmer loans comes from external funds, CREDICOOP or BNF, enabling the credit unions to serve more members with larger amounts. All four of the low loan volume credit unions had been denied external credit because of their delinquency problems in prior years. Three have since been reinstated (except for San Ignacio). The effect of external credit on the ability of the credit union to effectively serve its farmer members is clearly seen.

Too much external credit can also create difficulties, as shown by San Ignacio. The balance for external loans per member is ₡47,000, nearly three times the combined average balance for the remaining eight rural credit unions. With such high leverage, the problem created by member loan delinquency was greatly compounded.

One often overlooked measure of credit union achievement is the ability to mobilize savings. Except for one rural credit union, all had mobilized between ₡12,000 and ₡16,000 per member. The better develope redit unions seemed to be mobilizing savings at a substantially faster rate than the lesser developed credit unions, External loans funds also have an important affect on member savings. Since ten percent of all farmer loans are capitalized in shares, the greater the loan volume, the greater the amount of shares that can be mobilized. External funds enable a credit union to increase its own capital resources at a much faster rate than if such funds were unavailable.

Although delinquency is a frequent occurence in developing credit union movements, the situation in Paraguay is somewhat unique. Several credit unions owe more to the BNF than they now have in outstanding loans to members. This early availability of large amounts of external funds obtained from the BNF under the original CUNA/AID program has made the problem in Paraguay more difficult to resolve than in other countries where such funds were usually not obtainable. Four of the nine rural credit unions in the sample have high delinquency rates such that if continued would eventually lead to insolvency. Overall, ten rural credit unions currently have very high delinquency rates, four of which are in critical condition. CREDICOOP is currently working with the BNF to effect a long-term solution to this situation. As may be seen, the reserves are not nearly adequate to cover the existing delinquency.

The recent addition of marketing to the services provided by the credit unions has also provided an additional significant source of income. Although the information is not uniform, it appears that marketing may provide the difference between a surplus and a deficit for some credit unions close to the breakeven point. For credit unions for which there were data, net marketing income varied from ₲633,000 for Crnl. Bogado to ₲68,000 for Quiindy.

Overall, we would rate the three better developed credit unions, plus Quiindy in good financial condition with indications of developing into healthy financial institutions. La Barrereña would also be included, since all its indicators are quite positive, except for the negative trend in net income. Coe Pyajhu suffers from high delinquency although most of the other indicators are positive. Thus, these latter two credit unions are rated in fair condition with good possibility of improving if their respective problems are addressed. The three lesser developed credit unions are in poor financial condition; most indicators are negative. Immediate concerted action is required and being taken by CREDICOOP to revive these credit unions. All three urban credit unions appear to be in good financial condition with prospects of continued improvement. Comecipar is particularly strong.

Applying this sample to all credit unions in Paraguay, one would deduce the following:

| | Number | Financial Condition | | |
|---|---|---|---|---|
| | | Good | Medium | Poor |
| Rural | | | | |
| Better Developed | 4 | 4 | | |
| Medium Developed | 10 | 3 | 7 | |
| Lesser Developed | 12 | | | 12 |
| | 26 | 7 | 7 | 12 |
| Urban | | | | |
| Better Developed | 4 | 4 | | |
| Medium Developed | 7 | 7 | | |
| Lesser Developed | 2 | 2 | | |
| | 13 | 13 | | |
| TOTAL | 39 | 20 | 7 | 12 |

The above is obviously only a rough approximation; if all credit unions had been surveyed, the results would likely have been somewhat different. It does illustrate a point already well know to CREDICOOP staff, i.e., that a sizable number of rural credit unions are not financially sound, and some are in extremely precarious condition. Efforts to improve their condition are in progress. It is important for CREDICOOP's own financial viability that these efforts succeed, for if a number of these credit unions do not grow at the expected rate, or worse are declared insolvent and liquidated, the projected laon demand and CREDICOOP's expected interest income may not be attained.

## B. TECHNICAL ANALYSIS

The following discussion attempts to present a composite picture of the level of technical capabilities at the local level, based on the field visits to the 12 sample credit unions. Rather than prepare a detailed description of each credit union, we have taken the information gathered by each team and developed a synthesis which we believe is representative of the movement as a whole. As with any attempt at generalization there will be exceptions, e.g., one credit union may far exceed the indicated performance level, another may not have attained it. However, in terms of understanding the general level of development, and identifying areas that require improvement, we find this approach most useful.

### 1. Planning and Evaluation.

In the majority of credit unions visited, the manager prepared an annual plan for review by the Board of Directors and submission to the membership at the annual meeting. The plans generally consisted of two major components, one relating to the projected growth usually contained in budget projections, and the second relating to the activities to be pursued by the staff and leadership. Most had developed fairly detailed projections, specifying the targets for membership, share capital, loans, and other items. The means used to make the projections may not accurately reflect the future, e.g., extension of previous growth trends, or constant percentage increases, yet it probably does not significantly distort the results from those that would be obtained using a more "scientific" projection technique. The targets are definitely measurable, and serve as the focus for subsequent activities.

For the second component, CREDICOOP has promoted the usage of a form for planning which details each objective, all activities related to each objective, responsibility, and completion date. The better developed credit unions seem to be using this format fairly effectively. There does exist, on occasion, some inadequacy in the linkages between objectives and activities, i.e. it is not clear, that completion of all the stated activities will lead to achievement of the objective. This results partially from a weakness in the system, and partially from the lack of experience in using it. In the lesser developed ~~credit~~ unions, the planning activity is fairly weak, such that even though they may have targets identified, the strategies to achieve them, the resources required, the assignment of responsibilities and scheduled completion dates have not been specified. Obviously these credit unions require assistance in this area, assistance that is being provided by CREDICOOP through its continuing series of courses on planning and through the services of the field promoters.

One fairly common problem is that systematic planning is not a familiar activity at the local level, and accordingly, is not valued highly. Part of CREDICOOP's task in this area is to demonstrate the real benefits that can be achieved; e.g., in obtaining maximum utilization of resources, assistance with decision making, focusing on real needs and priorities. As the credit union expands and takes on more activities, an effective planning process will become even more essential.

A number of credit unions were already in the process of moving into new service areas. One had established a program to market artisan goods, i.e., ponchos and shawls. Another was considering establishing a processing plant for sugar cane. For these and other potential new service areas, a feasibility study should be conducted to fully identify the likely costs and returns, and the potential risks involved. Most credit unions would not have the capabilities to conduct such a study, and would require the assistance of CREDICOOP or related Government agencies. CREDICOOP will need to further develop this capability and provide services to its affiliates. If the credit unions move into new service areas without fully identifying the associated risks, it seems likely that some will encounter serious difficulty and potential losses.

Some of the better developed credit unions monitor progress made toward completion of the plan at periodic intervals, e.g., monthly, quarterly, or bi-annually. Others appear to do very little monitoring, thus the plan does not serve as an effective guide to program activities. End-of-year evaluations regarding the annual plan appear to be conducted informally if at all, and it does not appear that the results are used in any significant way. The results should indicate where the estimating technique was invalid, or what unrealized targets should be incorporated into the subsequent year's plan. At the current level of development, any shortcomings in evaluation techniques probably do not have a substantial effect upon a credit union's growth. However, in time it will likely be very useful to accurately assess progress, again to enable the credit union to maximize its resources, both physical and human.

2. Personnel

Most credit unions have some form of job description for each of their employees, although in some cases the description lacks sufficient precision. However, since the institutions are relatively small, the lack of precision does not adversely affect the credit union. Most employees are cognizant of the responsibilities assigned to them, and the existing structure and lines of authority within the credit unions.

Salaries are based principally upon the projected income for the credit union. A small credit union will normally be unable to offer the same salaries as a larger one. This operates as an effective incentive for the manager to increase the credit union's loan portfolio and attract additional members. Most credit unions budget salary increases in their projections, using cost-of-living changes and the availability of funds to determine the increase. Overall, it appears that the salary scale for credit union employees is slightly below the scale for similar positions elsewhere. Although it does not appear to be a problem now, it may cause unnecessary turnover if salary scales continue to lag.

CREDICOOP has instituted a program of positive incentives for credit union managers. This program allows the manager to receive bonus payments if he performs a number of activities in a satisfactory manner. For example, bonuses are received if loan delinquency is reduced or maintained below a specified minimal level, or if the manager consistently forwards monthly financial statements to CREDICOOP on time.

Written evaluation of employee performance is not done, in part because such evaluations are not a usual feature for positions in Paraguay. Informal dialogues about performance between the manager and the employees seem to be fairly common, although not on a regular basis. Although dialogues may have some merit, written evaluations, if properly carried out, can be more useful. They must be related to the employee's job description, plus his plan of work for the period. In addition, specific personal objectives agreed to by both the manager and the employee for the period being evaluated should be included. Numerous methods can be used to actually conduct the evaluation. The important feature is that a written document be prepared. Only by so doing can an employee's progress be objectively charted, and will there be firm evidence for merit salary increases, or in some cases, dismissal. With specific criteria being used, it is likely the evaluation will be more objective and that the manager and employee can reach a consensus.

3. Accounting

All credit unions are using the accounting system designed and recommended by CREDICOOP. The system is fairly elementary, allowing persons with some bookkeeping experience to be able to perform all required activities. Since the system does include a number of new activities not normally included in credit union accounts, i.e., marketing, input supplies, etc., it does make the system somewhat more complicated, particularly since these new accounts are not currently on the standard financial statement forms distributed by CREDICOOP.

One problem that the marketing activity poses is that there may be a large amount of potential income accrued not yet realized. The credit union may have accumulated large quantities of produce, or the produce may be in transit to the buyer, or they may still be awaiting payment. The same may occur, to a lesser extent, with expense items, i.e., large expenses associated with marketing may be accrued, but not yet paid. Thus, the actual profit and loss position of the credit union at any point in time before the year-end closing may be difficult to assess. As recommended in III.B.2.a, the monthly financial statement forms should be revised to more readily provide basic information. Except for this area, the accounting system appears quite adequate for the needs and conditions at the credit union level. Some of the credit unions are somewhat behind in their bookkeeping and financial statement preparation activities, although it appeared to be a transitory phenomenon in at least some of the credit unions. Nearly all prepared reconciliations with general ledger and sub-ledger accounts for loans, share capital, and deposits, as well as reconciliations with bank statements at least monthly. Although most do not have a written policy on receipt and disbursement of funds, this activity is apparently managed adequately. It may be useful for training new employees to establish written procedures in this area.

4. Operating Budget

The credit unions generally utilize a budgeting process recommended by CREDICOOP. It is not precisely compatible with the accounting system (see III.B.2.b), which makes it difficult to compare actual expenses with those projected. It does estimate required resources for the year. A couple of problems exist in this area that make the results less than satisfactory. First, it appears that many managers and Board members do not fully value budgeting as a management tool; thus, they do not make full use of it. Second, most credit unions lack a global cash flow analysis which, given the cyclical variations in loan demand of most credit unions, is essential. Income and expense items are projected, but not the total cash flow requirements including loan and loan repayment cycles. Thus, credit unions may face situations of both insufficient funds at one point and idle surplus funds at another. This is a critical feature, one that, if included, would allow management to better utilize the budget. Currently it is only used to ensure that the specified limits on expenses are not surpassed.

Another shortcoming is the lack of precision in projecting. As noted earlier, most use constant percentage increases based on previous trends, which may not adequately reflect changing circumstances. Also, few credit unions detail the working assumptions behind the projections, so that it is very difficult to analyze and revise the estimating technique at a later date.

CREDICOOP is offering training courses in this area in an effort to improve this area. Again, there is the feeling that at the current level of development, it does not have a significant adverse effect on the credit union's growth.

5. Mobilization of Capital

Most rural credit unions have obtained external credit from CREDICOOP and/or the BNF to finance agricultural loans. CREDICOOP management indicated that in order to insure the credit unions do not acquire excessive external debt, they do not encourage them to seek alternative sources of capital funds outside the regular CREDICOOP/BNF channel. The credit unions, however, are able to obtain loans from the BNF branch office in their area for loans up to a specified limit without approval from CREDICOOP or the BNF headquarters office. The cost of capital received from the Bank is approximately 16 percent, from CREDICOOP 10.5 percent. The prohibition on the use of AID funds for the financing of cotton or tobacco production precludes using the lower rates offered by CREDICOOP.

One alternative sources is the credit union's own internally generated capital. Most credit unions have shown fairly large gains in share capital, mostly as a result of the forced capitalization provision on loans. Since many credit unions have been unable to pay dividends on share capital, these funds have been essentially cost-free. It seems likely that as the credit unions become more prosperous, though, dividends will be paid. Thus, at some point these funds may cost say 5 percent to 6 percent, still considerably below that paid to external sources. In addition, a number of credit unions have recently initiated short-term and long-term deposits programs, paying specified rates of interest, in an effort to attract voluntary savings. It is too early to project how successful this program will be, although a number of urban credit unions have been able to mobilize considerable funds from the deposits programs. One concern voiced was that these savings instruments may detract from the use of share capital, which constitutes the permanent capital for the credit union However, to date this concern does not appear to be valid. Share capital is the basis for determining the amount a member may borrow. Thus, the member will still have strong incentive to increase his share capital. With other savings instruments paying guaranteed rates of interest, he will also be encouraged to place surplus funds with the credit union.

In projecting the cost of capital for local credit unions, it has been assumed that farmer loan demand is met almost entirely by external funds, at least to the end of the project. Most internally generated capital is used to meet non-farmer loan demand and does not affect the amount required externally. However, as we have projected, local credit union savings may increase markedly such that an increasing portion of farmer loan demand may be met from their own funds, thus significantly reducing the cost of capital. If, in addition, the cotton and tobacco restrictions were lifted, the cost of external funds would be significantly reduced, thereby reducing the average cost of capital funds.

One final problem noted by several credit unions is the lengthy delay in receiving loans, particularly from the BNF. Funds have often been received after the beginning of the agricultural year, such that funds for land preparation, planting, and weeding must be provided by the credit union's own resources. In several credit unions visited, all available capital had been exhausted such that no additional loans could be made, and yet the BNF loan had not been received. Non-farmer loan applications, entirely met from internal funds, could not be processed in those credit unions. Timely availability of credit, particularly for agricultural loans, is a basic tenet for financial institutions; the BNF unfortunately has not always heeded this tenet.

6. Loan Portfolio Management

For farmer loans in rural credit unions loan demand is estimated using the farmer investment plan as a base. These plans are filled out for each farmer usually with the assistance of the field assistant. One of the problems mentioned was the length of time taken to fill out the form, usually between 1.5 to 2.5 hours for each farmer. As the credit unions grow, it may be too time-consuming with a large number of farmers involved. In addition, the form itself does not really assist the farmer in planning anything; it merely indicates the appropriate times he will need funds, plus the amount and type of his own resources he is committing to the project. CREDICOOP is studying the possibility of revising the form to make it less time-consuming to complete and more useful as a planning guide for the farmer.

All the individual forms are summarized on a credit union global investment plan, which details the amount required, total number of hectares to be planted, etc., by type of crop. Thus, the same farmer may be listed several times if he is growing more than one crop. These forms are forwarded to CREDICOOP and the BNF for review.

Thus, for all farmer loans, the credit union has a well-established process to identify demand, most of which is met by external borrowing. For non-farmer loans, most credit unions usually rely upon historical data to estimate the amount and types of loans. Since external credit is unavailable for these loans, there is a definite constraint, i.e., the effective demand which can be serviced cannot exceed the supply of funds generated by internal savings. In smaller credit unions, where internal savings are not substantial, non-farmer borrowers may experience some delay in obtaining funds.

Nearly all credit unions have adopted CREDICOOP's recommended loan policies format, adding some modifications to meet their particular circumstances. The loan policies are usually quite adequate, covering all aspects that should be considered in the process of granting a loan.

Criteria applied with some regularity include the borrower's previous credit record and repayment patterns, the regularity of savings growth, the objectives of the loan, etc. The loan to share capital ratio which sets the maximum amount that can be granted seems to be applied consistently, perhpas because of problems resulting from previous policies allowing up to ten times the amount in shares. Although the above criteria are taken into account, most credit unions indicated that personal knowledge of the member was the most important factor in deciding on a loan application. This, of course, is valid, yet as the credit union grows, the Credit Committee may have less personal knowledge of the applicants and will need to rely more heavily on the other, objective criteria.

Most loan policies seem to contain fairly ambiguous statements about the specific procedures that should be followed to collect on delinquent loans. Most indicate that legal action can be taken but do not detail the procedures that can be effective prior to taking legal action. Perhaps those steps are best detailed in a separate document; however, without them the credit union does not have a useful guide to collect on delinquent loans.

7. Office Administration

Very few credit unions have written office procedures, although all indicated that the procedures to be followed were fully recognized by all employees. Since most credit unions are still fairly small, with small staff, the lack of written procedures is probably not significant. One possible adverse affect is that, with staff turnover, there is some possibility that the procedures will not be executed consistently.

To illustrate, few credit unions have written procedures on receipt and disbursement of funds, or on filing procedures; however, nearly all these activities are performed satisfactorily. There may be room for improvement, e.g., the files are often not identified, making it more difficult to obtain data, yet the staff feel that they can readily use it, and importantly, that no information is lost.

The majority of credit unions have space and equipment that is probably adequate for current conditions, but will need to be upgraded as the credit union grows. Only a small number have a safe, an item that will be increasingly important as the credit union grows. Most maintain an inventory list of equipment but fail to indicate such items as the purchase price, depreciation, current book value, or replacement cost. Only a few credit unions own or are buying their building space, which given the large increases in rent experienced in some parts of Paraguay in recent years, may substantially affect operating costs. (In other parts, renting may, however, be more inexpensive.) Most credit unions have bonding insurance policies offered by CREDICOOP adequately insuring them against losses.

## VI. PROJECT IMPACT ON SMALL FARMERS

The CREDICOOP project has affected the material well-being of its small farmer members in a number of ways: through an increase in farmer access to reasonably priced credit, through increased farmer capitalization and savings mobilization, through better input and output prices and improvements in agricultural technology. The purpose of this short section is to examine some of these measures of project impact in greater detail so that a more complete picutre of the project's influence can be obtained.

### A. INFORMATION DEFICIENCIES

The main findings in this section are based on information drawn from several sources including team interviews with project staff and small farmers, existing CREDICOOP records, and a preliminary analysis of data contained in two AID-sponsored small farmer surveys, one involving sample of 1,001 farmers in 1972-1973 and the other a 297 small farmer sub-sample of the original population conducted in June of 1976. In theory, the above sources should have been sufficient to estimate changes that had occurred in a number of areas. Unfortunately, the data from the two small farmer surveys, by far the most reliable source, was of limited usefulness due to certain technical problems which prevented detailed statistical analysis from being performed.

The most serious problem relates to the use of the 1972-1973 survey involving 1,001 small farmers. The published survey results did not distinguish between credit union and non-credit union farmer activities, and since AID was not able to provide the team with access to the original data base due to the lack of the proper computer access code, it was impossible to directly measure the increase or decrease in a particular credit union farmer variable over time.

Fortunately, the 1976 sub-sample data could be accessed therefore allowing comparisons to be made between credit union and non-credit union farmers. However, several technical problems relating to the statistical weighing of the sample chosen must be resolved before detailed analysis can proceed. The above two deficiencies are regrettable since they substantially limit the statements that can be made concerning the impact of the project on small farmers. Therefore, given the critical role that this data might play in measuring project impact and the fact that the 1976 sub-sample survey was expressly designed to gather credit union performance information, we strongly recommend that the AID Mission correct these deficiencies as soon as possible so that complete analysis of project impact can be performed. We also recommend that the findings be performed from this analysis be published as a separate project report.

In view of the difficulties mentioned above, the statements made in the following pages should be viewed as tentative observations rather than firm conclusions. They are offered as a means of identifying a series of questions which the leadership of CREDICOOP might wish to analyze with greater precision than was possible with the data available to the team. The absence of adequate farmer level data would also suggest the need for developing a reporting system which will allow CREDICOOP to effectively track the impact of the project on the ultimate target of their efforts -- the small farmer.

## B. INDICATORS OF PROJECT IMPACT

A number of indicators were used to measure the impact of the project on small farmer living conditions during the period 1972-1976.[1] These are presented below and should provide the reader with some idea of the progress of the project. Many other variables could have been examined too, such as the impact of the undertaking on farmer -- non-farmer membership growth patterns, on cropping systems, etc., but time did not permit us to gather teh necessary information.

### 1. Access to Production Credit Services

It was quite apparent from the team's analysis of credit union and CREDICOOP records that rural credit unions now provide significant amounts of production credit and marketing services to their farmer members and that they are beginning to replace or supplement other existing formal and informal credit sources.

Prior to 1975, virtually all production credit was supplied by the Banco Nacional de Fomento, but with the implementation of the $3,000,000 project loan in late 1976, credit union services have expanded considerably and have attracted an ever-increasing number of small farmers into the credit union movement. By the end of 1977, for example, CREDICOOP had extended over $1,380,000 in short and long term credits to its member credit unions and cooperatives, of which about 70 percent was used for marketing purposes.

A preliminary analysis of the survey results indicates that the

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[1] Since CREDICOOP did not begin formal operations until the spring of 1974, the term "project impact" also includes impacts resulting from project support provided to the movement prior to CREDICOOP's foundation.

main beneficiaries of these additional credits are farmers operating farms of greater than 5 hectares in size. However, a detailed analysis of the distribution of these project benefits cannot be performed until the deficiencies mentioned in the previous section are corrected.

2. Net Farm Income

The only sources of information on changes in project participant farm incomes during the life of the project are the two AID-sponsored small farmer surveys conducted in 1972-1973 and 1976. Although it was evident from an analysis of farmer savings records and conducted with credit union staff and small farmers that the project had produced some positive effect on small farmer income, it will be impossible to draw any firm conclusions until the problems mentioned in Section VI.A. are resolved.

3. Member Capitalization

No doubt some of the income gains achieved by farmer participants channeled into asset accumulation activities, e.g., buying a new improved plow, a tractor, purchasing land, or increasing the amount of liquid assets held as shares in their credit unions. The scarcity of any data on farm investment levels did not permit us to accurately measure the amount of asset accumulation that had occurred on the farms of project participants during recent years; nonetheless, we were able to gain a partial idea of the accumulation that had occurred by examining the increase in farmers' savings (shares) in their respective credit unions.

In an analysis of the financial records of seven rural credit unions visited, three of which had been cut off from any external sources of production credit from either CREDI-COOP or the BNF, we found that the average savings or capital per farmer member had increased by 20 percent from 1975-1977.

On the surface, this increase appears to be extremely low in view of the fact that farmer participants normally receive a wide range of both credit and technical services in producing and marketing their crops, and furthermore, are requried to capitalize 10 percent of the value of any production loan received. Yet in this particular case, three of the seven credit unions did not have any access to external sources of production credit supplied under the project because of previously high delinquency rates; thus, their capability to provide additional farm production loans and related services was greatly restricted. Had we excluded these three credit unions from our analysis, the average increase in savings per farmer would have been much higher, increasing from \$65 to \$121 per farmer, an increase of 86 percent.

Certainly the difference in growth rates of 86 versus 20 percent cannot be solely attributed to the presence of outside project funds and services, since the high delinquency rates experienced in three of the credit unions may have also dampened farmer willingness to invest in their credit union; nevertheless, interviews at the farmer level seemed to confirm that the availability of external sources of credit was a powerful influence in the generation of small farmer savings and a definite benefit, since the increased savings not only served as a sort of insurance policy against possible crop losses and a fund for future investment, but also because the growth in savings allowed the farmer to borrow larger and larger sums for productive purposes.

4. Expansion of Cultivated Land

There is some evidence to suggest that part of the observed increase in the net farm incomes of project participants came from expansion of land placed in cultivation rather than from any significant improvement in crop technology. The original 1973-1974 survey did reveal that many small farmers with more than 5 hectares farmed only a portion of their total available land. The existence of such a land surplus on the larger farms would, therefore, seem to argue that the additional credits supplied under the project could have been used to clear more land and thus increase farm incomes through the extension of lands under cultivation.

A random examination of the records of three rural credit unions in the departments of Misiones and Paraguari revealed that this had, indeed, been the case and that all three credit unions had expanded the area under cultivation by more than 100 percent during the 1973-1977 period. Another indicator of this land-extensive behavior has been the rapid increase in the purchase of labor-saving technology like tractors, sprayers, steel plows, etc. provided through CREDICOOP's agricultural supplies service which in 1977 amounted to almost $250,000.

5. Cost Savings and More Favorable Output Prices

Since the observed increase in net farm income among project participants apparently did not result from yield per hectare increases, other factors should be examined. One obvious explanation is that under the CREDICOOP scheme farmers generally received better prices for both their marketed produce as well as cost savings on the agricultural supplies.

The assessment team's analysis of CREDICOOP's records revealed that the federation was, indeed, able to obtain both volume and quality price bonuses from buyers. Moreover, for those products exported, it was able to secure additional price benefits due to the special export tax relief that it enjoyed because of its credit union status. According to data provided in the revised project proposal, the volume and quality bonuses have averaged about 6 percent and 1 percent of the annual value of crops marketed respectively. Export tax relief has provided an additional

2.5 percent cost savings on those crops exported. The majority of these price benefits are passed directly back to the farmers.[1]

Farmer participants also receive substantial cost savings in the purchase of certain agricultural supplies through CREDICOOP. The organization's tax exempt status allows it to import most articles tax free, saving members an estimated 8 percent of the purchase price value in taxes. Moreover, CREDICOOP's low overhead purchase operation allows additional savings permitting CREDICOOP to offer sale prices to farmers which average 12.9 percent below commercial rates (excluding consideration of import duties), thus, further reducing farm operational costs and leading to improved net farm incomes.[2]

According to AID Mission estimates, the total benefits accruing to project small farmers during the 1977 to 1981 period from the purchase of low cost agricultural supplies, credit and the sale of marketed produce will amount to approximately $5.8 million.

6. Better Terms of Credit

Another factor leading to the apparent increase in net farm incomes of members during the last four years has been the reduced cost that farmers now pay for production credit. Were CREDICOOP not involved in the provision of agricultural pro-

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[1]Mission estimates. (See AID/Paraguay Revised Project Proposal, p. 60.)

[2]Ibid.

duction credit to member farmers, they would be forced to seek other more expensive sources or abstain from the use of credit altogether. While the "true" cost of agricultural credit from commercial and informal lenders varies from region to region, recent studies have indicated that it lies somewhere between 26 to 52 percent.[1]

Moreover, farmers who utilize these latter sources seldom obtain the full range of additional support services that are an integram part of the typical CREDICOOP loan. The cost of CREDICOOP-sponsored credit, on the other hand, nowhere exceeds 21 percent implying that participant farmers often enjoy considerable savings in acquiring credit.[2]

7. Higher Yields Per Hectare for Specific Crops

Judged by the responses of small farmer members and a preliminary analysis of data from the 1976 sub-sample, the impact of the project on crop yields appears to have been small. Some of the possible reasons for this apparent shortcoming have been discussed in the section on technical assistance; nonetheless,

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[1] The true cost of credit normally includes transaction costs as well as official costs. The additional costs are those that the borrower must incur to obtain the loan. Typical transaction expenses might include: cost of transportation to the borrower, the opportunity cost of establishing a "working" relationship.

[2] Some members of CREDICOOP have argued that farmers also view the 10 percent capitalization requirement as an additional "cost." If that were included, the cost would still not exceed 31 percent.

a complete evaluation of the impact of the project on crop yields and farm productivity cannot be conducted until the technical problems affecting the two AID-sponsored surveys are resolved.

> CREDICOOP: A clear need is an evaluation to determine the existence of profitably proven packages for production which do not force the small farmer to take undue risk. This type of evaluation is needed much more than an evaluation of CREDICOOP's extension program which distributes existing crop technology packages.

# APPENDIX A

## CREDICOOP FINANCIAL PROJECTIONS
($ 000)

| | 6/77 Estimated | 6/78 | 6/79 | 6/80 | 6/81 |
|---|---|---|---|---|---|
| A. MEMBERSHIP | | | | | |
| 1. Number of Affiliated Credit Unions | 39* | 42 | 46 | 51 | 56 |
| a. Rural | 26* | 27 | 30 | 34 | 38 |
| b. Urban | 13* | 15 | 16 | 17 | 18 |
| 2. Credit Union Members | | | | | |
| a. Rural | 8,016* | 10,266 | 12,856 | 15,686 | 18,826 |
| (1) Farmer members | 4,378 | 6,358 | 8,648 | 11,148 | 13,928 |
| (1a) Farmer qualified for loans | 1,488 | 1,971 | 3,421 | 5,221 | 7,921 |
| (2) Non-farmers | 3,638* | 3,908 | 4,208 | 4,538 | 4,898 |
| b. Urban | 5,536* | 6,680 | 7,830 | 9,050 | 10,340 |
| c. Total (a+b) | 13,552* | 16,946 | 20,686 | 24,736 | 29,166 |
| B. PROJECTION OF SAVINGS | | | | | |
| Annual | | | | | |
| 1. Urban Credit Unions (both new and existing members) | | | | | |
| a. Shares ($50/member/year) | 275* | 334 | 391 | 453 | 517 |
| b. Deposits ($20/member/year) | 111 | 134 | 157 | 181 | 207 |
| c. Total | 386 | 468 | 548 | 634 | 724 |
| 2. Shares of Rural Credit Unions (both new and existing members) | | | | | |
| a. Non-farmers ($50/member/year) | 202 | 195 | 210 | 227 | 245 |
| b. Borrowing farmers (10% of loans, C.1.d) | 100 | 150 | 293 | 499 | 828 |
| c. Total (a+b) | 302* | 345 | 503 | 726 | 1,073 |
| Cumulative | | | | | |
| 1. Urban Credit Unions | | | | | |
| a. Shares | 816* | 1,150 | 1,541 | 1,994 | 2,511 |
| b. Deposits | 157* | 290 | 447 | 628 | 835 |
| c. Total | 972* | 1,440 | 1,988 | 2,622 | 3,345 |
| 2. Rural Credit Unions (shares only) | | | | | |
| a. Non-farmers | 246 | 441 | 651 | 878 | 1,123 |
| b. Borrowing farmers | 565 | 715 | 1,007 | 1,506 | 2,334 |
| c. Total | 810* | 1,156 | 1,659 | 2,385 | 3,458 |
| 3. Total Cumulative Savings | 1,783* | 2,596 | 3,647 | 5,006 | 6,803 |

** Actual - Based on 10/77 AID project paper
* Actual - CREDICOOP statistics
Note: Some totals may not be equal to the sume of individual components due to rounding.

| | 6/77 Estimated | 6/78 | 6/79 | 6/80 | 6/81 |
|---|---|---|---|---|---|
| **C. DEMAND FOR LOANS** | | | | | |
| 1. Farmer Demand | | | | | |
| a. Hectares/farmer borrower | 4.0 | 4.3 | 4.6 | 4.9 | 5.1 |
| b. Loan demand/hectare | 168 | 177 | 186 | 195 | 205 |
| c. Number farmer borrowers | 1,488 | 1,971 | 3,421 | 5,221 | 7,921 |
| d. Demand for external credit (a·b·c) | 1,000 | 1,500 | 2,927 | 4,989 | 8,281 |
| 2. Urban Demand | | | | | |
| a. Cumulative savings | 972* | 1,440 | 1,988 | 2,622 | 3,345 |
| b. Demand (150% cumulative savings) | 1,459 | 2,160 | 2,982 | 3,932 | 5,018 |
| c. Repayments | | | | | |
| (1) Loans made same year (.36) | 525 | 778 | 1,074 | 1,416 | 1,807 |
| (2) Loans made previous year (.57) | 432 | 831 | 1,231 | 1,700 | 2,241 |
| (3) Loans made 2 years prior (.07) | 53 | 53 | 102 | 151 | 209 |
| (4) Total | 1,010 | 1,662 | 2,410 | 3,267 | 4,257 |
| d. Available savings (annual new savings) | 386 | 468 | 548 | 634 | 724 |
| e. Total available supply | 1,396 | 2,129 | 2,958 | 3,900 | 4,981 |
| f. Demand | 1,459 | 2,160 | 2,982 | 3,932 | 5,018 |
| g. Need for external funds | 63 | 31 | 24 | 32 | 38 |
| **D. SOURCES OF CAPITAL FUNDS** | | | | | |
| 1. Capital From Previous Year | | | | | |
| a. Reserves grant | 140* | | | | |
| b. Previous capital funds accumulated | 27* | | | | |
| c. Total | 167* | | | | |
| 2. Annual Savings of Credit Unions in CREDICOOP | | | | | |
| a. Urban (2.5% of new savings) | 10 | 12 | 14 | 16 | 18 |
| b. Rural (2.5% of new savings) | 8 | 9 | 13 | 18 | 27 |
| c. Urban (5% of loans) | 3 | 2 | 1 | 2 | 2 |
| d. Rural (5% of loans) | 50 | 75 | 146 | 249 | 414 |
| e. Total | 70 | 97 | 174 | 285 | 461 |
| 3. External Borrowing | | | | | |
| a. AID | 1,470* | 383 | 383 | 383 | 383 |
| b. Other | - | - | - | - | |
| 4. Repayment from Credit Union (previous year) | | | | | |
| a. Rural | 80 | 363 | 924 | 1,438 | 2,270 |
| b. Urban | - | 63 | 31 | 24 | 32 |
| c. Total | 80 | 426 | 956 | 1,462 | 2,302 |
| 5. Marketing Advances Repaid | - | 1,361 | 1,311 | 1,361 | 1,188 |
| 6. Total Sources | 1,787 | 2,267 | 2,823 | 3,491 | 4,652 |

| | 6/77 Estimated | 6/78 | 6/79 | 6/80 | 6/81 |
|---|---|---|---|---|---|
| **E. USES OF CAPITAL FUNDS** | | | | | |
| 1. Loans | | | | | |
| a. Rural credit unions | 363 | 924 | 1,438 | 2,270 | 3,530 |
| b. Urban credit unions | 63 | 31 | 24 | 32 | 38 |
| c. Total | 426 | 955 | 1,462 | 2,302 | 3,568 |
| 2. Marketing Advances | 1,361 | 1,311 | 1,361 | 1,188 | 1,084 |
| **F. REVENUES** | | | | | |
| 1. Dues | | | | | |
| a. Capital dues (.5% savings) | 5 | 13 | 18 | 25 | 34 |
| b. Member dues (.32/member) | 3 | 5 | 7 | 8 | 9 |
| c. Total | 8** | 18 | 25 | 33 | 43 |
| 2. Program Revenues | | | | | |
| a. Audit | 1 | 6 | 7 | 8 | 8 |
| b. Education | 3 | 17 | 18 | 20 | 22 |
| c. Total | 4** | 23 | 25 | 28 | 31 |
| 3. Interest | | | | | |
| a. Loans (10% + .5% commission) | | | | | |
| (1) Rural | 35 | 89 | 138 | 218 | 340 |
| (2) Urban | 6 | 3 | 2 | 3 | 4 |
| (3) Total | 41** | 92 | 141 | 222 | 343 |
| b. Interest on deposited repayments (8%) | 22 | 3 | 6 | 10 | 15 |
| c. Total | 63** | 95 | 147 | 231 | 359 |
| 4. Total Revenues | 75** | 136 | 197 | 292 | 433 |
| **G. EXPENSES** (10% increase in P/O costs) | | | | | |
| 1. Interest - AID loan (2% loans outstanding) | 8** | 37 | 45 | 52 | 60 |
| 2. 1% BNF pass-through commission | 0 | 19 | 22 | 26 | 30 |
| 3. Interest -Other | 14** | - | - | - | 23 |
| 4. Bad Debts, Allocation (1% loans outstanding) | - | 10 | 15 | 23 | 36 |
| 5. Personnel/Operating Costs | 157** | 173 | 190 | 209 | 230 |
| 6. Total Expenses | 179** | 238 | 271 | 310 | 379 |
| **H. PROFIT/(LOSS)** | (104)** | (102) | (74) | (34) | 54 |
| **I. EXPENSES** (16% increase in P/O costs) | | | | | |
| 1. Interest - AID loan (.02 loans outstanding) | 8** | 37 | 45 | 52 | 60 |
| 2. 1% BNF pass-through commission | - | 19 | 22 | 26 | 30 |
| 3. Interest - Other | 14** | - | - | - | 23 |
| 4. Bad Debts, Allocation (1% loans outstanding) | - | 10 | 15 | 23 | 36 |
| 5. Personnel/Operating Costs | 157** | 182 | 211 | 245 | 284 |
| 6. Total Expenses | 179** | 248 | 293 | 346 | 433 |
| **J. PROFIT/(LOSS)** | (104) | (112) | (96) | (54) | 0 |

# ASSUMPTIONS FOR CREDICOOP FINANCIAL PROJECTIONS

## I. INTRODUCTION

The team decided to utilize the projections done by B. W. Allen, Financial Analyst, AID dated January 15, 1976, as preliminary projections for the purposes of this assessment study. The assumptions of Allen were reviewed with CREDICOOP management and appropriate revisions were made. Upon further analysis, some assumptions of management were again revised by the CUNA assessment team.

It should be stressed that the projections do not include any actual or projected data related to CREDICOOP's marketing function except applying projected surplus funds to marketing advances. As such, the projections do not provide a complete financial ficture of CREDICOOP. However, for break-even analysis any projected revenues from marketing would be excluded anyway, since they will be used only to develop the marketing infrastructure, not to cover operating costs.

The projections presented are similar to the format used by Allen with some modifications resulting from different estimating techniques. Actual data as of June 1977, was used when available. If not, the best estimate was used with the procedures explained below. The assumptions for each line-item follow.

## II. ASSUMPTIONS

### A. MEMBERSHIP

#### 1. Number of Affiliated Credit Unions

Allen reduced the number of credit unions added each year from the projections in the Capital Assistance Paper (CAP) dated 11/74. Management felt this assumption was still valid, since the current emphasis is on working with existing credit unions to perhaps open branches and develop the use of "comites por compania" rather than on establishing new credit unions.

#### 2. Credit Union Members

Allen reduced the projected growth in credit union members from the CAP primarily due to the slowdown in adding credit unions and more selective membership. In addition, the number of farmers qualified for loans was reduced.

The totals of farmers and non-farmers were reduced using the actual amount (6/77) as a base, but with the same annual increments used by Allen. It was felt this gave a better representation of current levels. The number of farmer members (4,378) indicated in the 10/76 project paper was subtracted from total rural members to obtain estimated non-farmer members (3,638).

The farmers qualified for loans were also reduced using the number (1,971) projected for 1977-1978 in the Global Investment Plan as a base and then using the increments projected by Allen. The number of farmers in 1977 (1,488) was estimated as a derivative of C.1.a., b., and d.

Urban credit union members' estimates are the same as those of Allen since his projected figure (5,600) was close to the 6/77 actual figure (5,536).

B. PROJECTION OF SAVINGS

1. Urban Credit Unions

Allen made a distinction between the annual amount saved by new members vs. existing members. However, CREDICOOP management made a distinction instead between shares and deposits saved. The reason was that CREDICOOP does not have data on existing vs. new members.

It was estimated that all members would add $50 to their shares and $20 to their deposits annually since these amounts reflect the current rate for 1977.*

* These calculations were performed as follows:

1. Shares

| | | | | |
|---|---|---|---|---|
| $275,400 (Increase in shares of urban members 6/76-6/77) | ÷ | 5,111 (Average number of urban members 6/76-6/77) | = | $55.88 (Average annual increases in share savings per urban member) |

2. Deposits

| | | | | |
|---|---|---|---|---|
| $79,000 (Increase in deposits of urban members 1/77-9/77) | ÷ | 5 481 Average number of urban members 1/77-9/77 | x | 12/8 (Annualizing factor) |

= $21.62 (Average annual increase in deposits per urban member)

2. Rural Credit Unions

a. Non-Farmers

Again, the distinction between new and existing member savings was eliminated. It was extimated that an average of $50 would be saved in shares annually by non-farmer members of rural credit unions.[1] This was based on current data.[2]

b. Borrowing Farmers

The only share savings projected for farmers is of those who borrow. Their rate of share savings is estimated at 10% of farmer loans, i.e., the forced capitalization requirement. No voluntary savings are assumed for farmers.

C. DEMAND FOR LOANS

1. Farmer Demand

Total farmer demand for production credit from external sources is the product of average hectares financed, cost per hectare and number of borrowers. However, the actual demand will probably be greater than that projected by Allen since these projec-

[1]It is assumed that in rural credit unions only shares are saved since there have been few deposits to date in the majority of these credit unions.

[2]This was calculated as follows:

| | | | | |
|---|---|---|---|---|
| $201,900 (Estimated shares saved 6/76-6/77) | ÷ | 3,638 | = | $55.50 |

This estimated $201,900 was obtained by subtracting the estimated shares for farmers ($100,000) from the actual 6/77 total ($301,900).

tions include implement loans. Using the 1977-1978 global investment plan (see figures for 6/78) as the base, all three components were revised using Allen's annual increments.[1] The number of farmer borrowers is slightly lower, but the loan demand per hectare is much higher, resulting in high total loan demand projections. Note these figures represent the demand for external credit. Some additional farmer demand may be met from the credit union's own funds. Such loans though have no effect on CREDICOOP projected income, and therefore are not estimated here. Similarly, we assume that all non-farmer loan demand is met from credit union funds which does not affect CREDICOOP income projections, and thus there is no need to estimate this demand.

It is assumed that all agricultural loans are to be repaid in one year or less, which in turn is repaid to the external lender. Loan repayments, therefore, do not constitute a source of funds for farmer loan demand.

2. Urban Demand

It is assumed that (as in the Allen projections) urban loan demand is limited to 150 percent of cumulative urban savings (or borrowing of 1.5 x shares and deposits).

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[1]Loan demand per hectare was estimated using Allen's annual percentage increases. The total demand estimated for 6/77 ($1 million) is the same as that used by Allen, rather than the $1.6 million in the new project paper, so that is more compatible with the 6/78 figures ($1.5 million).

It is assumed that the average loan period of urban loans is 18 months with equal monthly amortization. Assuming equal monthly amounts of funds are lent within each calendar year, 36 percent of lent funds are repaid in the same calendar year, 57 percent in the following calendar year, and 7 percent in the next calendar year.

Repayments plus annual new savings less de[illegible] equals need for external funds. It is assumed that these external loans are provided by CREDICOOP.

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Note: <u>Funding and Operating Income and Expenses of Urban and Rural Credit Unions</u>

This section of Allen's projections is excluded here since it was felt that a global estimate (total for all credit unions) of revenues and expenses is meaningless and misleading. For example, a small number of credit unions may account for the bulk of either of these two items. In addition, these figures do not indicate the general financial condition of the individual credit cooperative, nor how many appear headed towards self-sufficiency.

<u>Sources and Uses of Capital Funds: CREDICOOP</u>

These sections have been made cumulative which eliminates the need for Allen's section F.3.

D. SOURCES OF CAPITAL FUNDS

Some changes and additions to the Allen projections have been made to this item.

1. Capital From Previous Year

The reserves grants of $140,000 were capital donations made by AID in 1976 and 1977. It is assumed this is available for loans. Previous capital funds accumulated of $26,928 is previously accumulated share capital paid in by the credit unions to CREDICOOP.

2. Annual Savings of Credit Unions in CREDICOOP

Article 21 of CREDICOOP's bye-laws states that member credit unions must maintain an equivalent of 2.5 percent of their own savings (shares and deposits) as shares in CREDICOOP. This means that 2.5 percent of annual new savings in credit unions should be invested in CREDICOOP which in turn becomes a potential source of capital funds. In addition, CREDICOOP loan regulations state that 5 percent of loans to credit unions must be capitalized.

3. External Borrowing (Annual)

Virtually all of CREDICOOP's external borrowing is accounted for by the $3 million loan from AID. The annual borrowing shown is different from the disbursement schedule found in the amended loan agreement dated 12/7/76. The reason is that the amount actually disbursed as of 6/77 was different from that scheduled. It was assumed here that the balance of the $3 million is divided equally among the remaining four years of the project.

4. Repayments From Credit Union Loans

To simplify calculations, the loans to both rural and urban credit unions are assumed to be repaid in 11 months which, given the cycle for agricultural loans at least, means that repayments would be received in the year following the disbursement. No delinquency is assumed so repayments are 100 percent of the amount disbursed.

5. Marketing Advances Repaid

This is the balance of total sources less loans to credit unions from the previous year (line E.2) which becomes a source the following year. Marketing advances are discussed below.

## E. USES OF CAPITAL FUNDS

1. Loans

a. Rural Credit Unions

These are the same amounts projected by Allen with the exception of the 6/77 and 6/78 figures. The figure for 6/77 was estimated using the estimated interest received for the fiscal year ($34,985 ÷ .09625 = $363,484). For 6/78 the figure in the global investment plan was utilized.

b. Urban Credit Unions

These amounts represent surplus demand (line C.2.g.) in urban credit unions.

2. Marketing Advances

These projections do not deal with the marketing aspect of CREDI-COOP. However, it is assumed here that any surplus after production credit loan demand is met is applied to marketing advances to credit unions rather than deposited in interest bearing accounts. It is assumed these advances are short term and are repaid the following year (line D.5.).

## F. REVENUES[1]

1. Dues

This was eliminated as a source of capital funds (section F.). Dues are used as income to cover operating expenses and as such are not a source of funds for loans. The total dues for 1977 are actual, but the capitalization and member dues are estimated.[2]

a. Capitalization Dues

These are calculated as .5 percent of projected cumulative savings of all member credit unions.

b. Member Dues

These are calculated as $.32 per member times total membership.

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[1] All actual revenue and expense figures were obtained from the October 1977 AID project paper.

[2] The projected dues for this year were calculated ($8,913 + $4,335 = $13,248) and these percentages applied to the actual total to obtain the estimates shown.

2. Program Revenues

This was estimated as $300 per audit for 50 percent of the credit unions per year and $400 per credit union for education per year. (This compares with $200 for 50 percent and $500 respectively in the Allen projections.) Again, the total for June 1977 is actual with (1) and (2) estimated based on the percentages for June 1978.

3. Interest

a. Interest and Commission

This is interest and commission on loans to credit unions projected as 10 percent and .5 percent respectively (as compared to 9 percent and .5 percent in the Allen projections) for a total of 10.5 percent of loans to rural credit unions (line F.2.a.). Since the estimated term of these loans is 11 months, the adjusted interest rate is .09625 (11/12 x .105). Even though the commission is paid on the full amount of the loan, for ease of calculation the .5 percent was merely added to the interest rate. The difference in revenues is insignificant.

b. Interest on Deposited Repayments

Since credit union loans are for 11 months, there is one month when the repayments are deposited rather than being relent immediately. The estimated annual interest on these deposits is 8 percent (currently what savings and loans are paying for passbook accounts). Thus, the adjusted interest rate is .006667 (1/12 x .08). The $22,032 for June 1977, includes $16,799 interest on accounts receivable and $5,025 interest on deposits.

G. EXPENSES

1. Interest - AID

Annual interest on the $3 million AID loan is 2 percent of the outstanding balance, which is equal to the cumulative disbursements since the first repayment is not due until 1986.

2. The National Development Bank charges a 1 percent pass-through commission on the $3 million AID loan.

3. Interest - Other

It is not known what the $13,705 for June 1977, represents. The $23,315 for June 1981, is interest on "borrowing by CREDICOOP to meet demand in 1980 over and above funds available from the AID loan and other available funds" (Allen). These are short-term funds of 11 months amortization with an estimated annual rate of .08 or .0733 adjusted. The amount of the borrowing as shown in the loan agreement is $317,938.

4. Bad Debts Allocation

An estimated 1 percent of loans is allocated each year to cover bad debts, even though repayments (line D.4.) assume 100 percent recuperation of loans.

G.5 and I.5. Personnel/Operating Costs

Here two alternative sets of projections are made (lines G.4 and I.4). The Allen projections show a decrease in these costs from June 1977, actual of $157,024 (or a projected $154,700) to $153,670 in June 1978. It is assumed here that instead these costs will increase by at least 10 percent per year to cover inflation (line G.4.). Total expenses and net profit resulting from this assumption is shown in lines G.5. and H. respectively.

If CREDICOOP is to breakeven by the end of the project (6/81), then these costs can only increase by a maximum of 16 percent annually (line I.4.). Lines I.5. and J. show the total expenses and net profit resulting from this assumption.

# APPENDIX B

## SAMPLE CREDIT UNIONS - STATISTICAL SUMMARY

### Rural Credit Unions

Coronel Bogado

Coronel Oviedo

San Juan Bautista

Quiindy

La Barrereña

Coe Pyajhu

Promoción

Acahay

San Ignacio

### Urban Credit Unions

Comecipar

San Pablo

Mburicao

# CORONEL BOGADO
(₲ 000)

| | 6/77 | 6/76 | 6/75 | 6/74 | 6/73 |
|---|---|---|---|---|---|
| Members-Total | 574 | 454 | 388 | 319 | 127 |
| Farmers | 303 | 245 | 251 | | |
| Non-Farmers | 271 | 209 | 137 | | |
| Loan Volume-Total | 21,597 | 10,782 | 13,663 | 1,120 | 67 |
| Farmers | 13,736 | 5,924 | 10,153 | 884 | - |
| Non-Farmers | 7,861 | 4,858 | 3,510 | 236 | 67 |
| Loan Balance(EOY)-Total | 15,159 | 8,556 | 7,380 | 784 | 88 |
| Farmers | 10,040 | 5,242(2) | | | - |
| Non-Farmers | 5,119 | 3,658 | | | 88 |
| Peak Loan Balance-Farmers | 12,130 | 10,285 | 8,689 | | - |
| Shares Balance(EOY)-Total | 7,664 | 4,486 | 3,091 | 1,292 | 253 |
| Farmers | 4,368 | 2,477 | 1,979 | | - |
| Non-Farmers | 3,296 | 2,009 | 1,112 | | 253 |
| Demand Deposits | 178 | - | - | - | - |
| Fixed Term Deposits | - | - | - | - | - |
| Loan Balance(EOY)w BNF | 5,337 | 5,452 | 5,996 | - | - |
| Loan Balance(EOY)w Credicoop | 13,637 | 2,636 | 833 | 218 | - |
| Gross Income | 4,543 | 1,728 | 1,486 | 150 | 23 |
| Interest | 1,186 | 1,016 | 953 | 78 | 1 |
| Commissions | 789 | 487 | 369 | 37 | - |
| Punitive Interest | 70 | 77 | 5 | 1 | - |
| Marketing Income | 2,337 | - | - | - | - |
| Other Income | 161 | 151 | 159 | 34 | 22 |
| Expenses-Total | 3,412 | 1,700 | 1,423 | 267 | 53 |
| Administrative | 1,007 | 1,058 | 721 | 232 | 53 |
| Financial | 701 | 642 | 631 | 35 | - |
| Marketing | 1,704 | - | - | - | - |
| Net Income | 1,131 | 28 | 63 | (117) | (30) |
| Loan Delinquency (%) | 12(1) | 36% | | | |

(1) May 1977

(2) July 1976

# CORONEL OVIEDO
(₲ 000)

| | 6/77 | 6/76 | 6/75 | 6/74 | 6/73 |
|---|---|---|---|---|---|
| Members-Total | 650 | 626 | 740 | | |
| Farmers | 181 | 180 | 274 | | |
| Non-Farmers | 469 | 446 | 464 | | |
| Loan Volume-Total | 9,390 | - | - | | |
| Farmers | 2,840 | - | - | | |
| Non-Farmers | 6,558 | - | - | | |
| Loan Balance 12 month average | 7,731 | 9,571 | 10,743 | | |
| Farmers | | | | | |
| Non-Farmers | | | | | |
| Peak Loan Balance-Farmers | | | | | |
| Shares Balance(EOY)-Total | 7,487 | 6,260 | 5,488 | | |
| Farmers | 2,496 | 2,148 | 2,090 | | |
| Non-Farmers | 4,991 | 4,112 | 3,398 | | |
| Demand Deposits | 617 | 255 | 173 | | |
| Fixed Term Deposits | 407 | 100 | - | | |
| Loan Balance - External Loans 12 month average | 3,855 | 3,759 | 4,573 | | |
| Gross Income | 2,098 | 1,736 | 1,722 | | |
| Interest | 911 | 1,173 | 1,179 | | |
| Commissions | 459 | 392 | 286 | | |
| Punitive Interest | 107 | 113 | 78 | | |
| Marketing Income (net) | 547 | - | - | | |
| Other Income | 74 | 58 | 179 | | |
| Expenses-Total | 1,483 | 1,643 | 1,055 | | |
| Administrative | 1,179 | 1,232 | 506 | | |
| Financial | 304 | 411 | 549 | | |
| Marketing | - | - | - | | |
| Net Income | 615 | 93 | 667 | | |
| Loan Delinquency (%) | 11% | - | - | | |

SAN JUAN BAUTISTA
(₲ 000)

| | 5/77 | 5/76 | 5/75 | 5/74 | 5/73 |
|---|---|---|---|---|---|
| Members-Total | 363 | 258 | 227 | | |
| Farmers | 174 | 118 | 107 | | |
| Non-Farmers | 189 | 140 | 120 | | |
| Loan Volume-Total | 13,664 | - | - | | |
| Farmers | 9,296 | - | - | | |
| Non-Farmers | 4,368 | | | | |
| Loan Balance 12 month average | 6,771 | 4,585 | 3,890 | | |
| Farmers | | | | | |
| Non-Farmers | | | | | |
| Peak Loan Balance-Farmers | | | | | |
| Shares Balance(EOY)-Total | 4,944 | 2,862 | 1,972 | | |
| Farmers | 3,177 | 1,746 | 1,237 | | |
| Non-Farmers | 1,767 | 1,116 | 735 | | |
| Demand Deposits | - | - | - | | |
| Fixed Term Deposits | - | - | - | | |
| Loan Balance - External Loans 12 month average | 5,149 | 3,323 | 2,944 | | |
| Gross Income | 1,880 | 1,005 | 191 | | |
| Interest | 660 | 621 | 53 | | |
| Commissions | 575 | 173 | 136 | | |
| Punitive Interest | 47 | 5 | 2 | | |
| Marketing Income (net) | 187 | 102 | - | | |
| Other Income | 411 | 104 | - | | |
| Expenses-Total | 1,229 | 783 | 393 | | |
| Administrative | 674 | 479 | 327 | | |
| Financial | 555 | 304 | 66 | | |
| Marketing | | | | | |
| Net Income | 651 | 222 | (202) | | |
| Loan Delinquency (%) | | | | | |

QUIINDY
(₲ 000)

| | 7/77 | 7/76 | 7/75 | 7/74 | 7/73 |
|---|---|---|---|---|---|
| Members-Total | 224 | 181 | 147 | | |
| Farmers | 152 | 120 | 74 | | |
| Non-Farmers | 72 | 61 | 73 | | |
| Loan Volume-Total | 7,978 | - | - | | |
| Farmers | 6,106 | - | - | | |
| Non-Farmers | 1,872 | - | - | | |
| Loan Balance 12 month average | 4,543 | 1,612 | 813 | | |
| Farmers | | | | | |
| Non-Farmers | | | | | |
| Peak Loan Balance-Farmers | | | | | |
| Shares Balance(EOY)-Total | 2,964 | 1,255 | 500 | | |
| Farmers | 2,101 | 1,010 | 401 | | |
| Non-Farmers | 863 | 245 | 99 | | |
| Demand Deposits | 112 | - | 10 | | |
| Fixed Term Deposits | - | - | - | | |
| Loan Balance - External Loans 12 month average | 5,044 | 2,104 | 575 | | |
| Gross Income | 1,134 | 430 | 138 | | |
| Interest | 513 | 208 | 81 | | |
| Commissions | 356 | 177 | 26 | | |
| Punitive Interest | 10 | 6 | - | | |
| Marketing Income (net) | 68 | - | - | | |
| Other Income | 187 | 39 | 31 | | |
| Expenses-Total | 1,130 | 512 | 221 | | |
| Administrative | 650 | 279 | 157 | | |
| Financial | 480 | 233 | 64 | | |
| Marketing | - | - | - | | |
| Net Income | 4 | (82) | (83) | | |
| Loan Delinquency (%) | 4% | | | | |

LA BARREREÑA
(₡ 000)

| | 6/77 | 6/76 | 6/75 | 6/74 | 6/73 |
|---|---|---|---|---|---|
| Members-Total | 231 | 174 | 153 | 78 | - |
| Farmers | 66 | 47 | 55 | 71 | - |
| Non-Farmers | 165 | 127 | 98 | 7 | - |
| Loan Volume-Total | 7,673 | 3,354 | 2,448 | - | - |
| Farmers | 3,501 | 1,733 | 1,578 | - | - |
| Non-Farmers | 4,172 | 1,621 | 870 | - | - |
| Loan Balance(EOY)-Total | 3,947 | 1,516 | 1,577 | - | - |
| Farmers | 1,826 | 625 | 697 | - | - |
| Non-Farmers | 2,121 | 891 | 870 | - | - |
| Peak Loan Balance-Farmers | 2,418 | 1,733 | 1,578 | - | - |
| Shares Balance(EOY)-Total | 2,988 | 1,358 | 741 | 91 | - |
| Farmers | 926 | 407 | 341 | 6 | - |
| Non-Farmers | 2,062 | 951 | 400 | 85 | - |
| Demand Deposits | - | - | - | - | - |
| Fixed Term Deposits | - | - | - | - | - |
| Loan Balance(EOY)w BNF | 2,209 | 828 | 797 | - | - |
| Loan Balance(EOY)w Credicoop | 1,701 | 274 | 149 | - | - |
| Gross Income | 606 | 316 | 217 | - | - |
| Interest | 313 | 194 | 137 | - | - |
| Commissions | 268 | 88 | 44 | | - |
| Punitive Interest | 19 | 8 | 2 | - | - |
| Marketing Income | - | - | - | - | - |
| Other Income | 6 | 26 | 34 | - | - |
| Expenses-Total | 798 | 526 | 323 | - | - |
| Administrative | 467 | 389 | 243 | - | - |
| Financial | 331 | 137 | 80 | - | - |
| Marketing | - | - | - | - | - |
| Net Income | (192) | (210) | (106) | - | - |
| Loan Delinquency (%) | 6.1% | | 38% | | |

COE PYAJHU
(₡ 000)

| | 6/77 | 6/76 | 6/75 | 6/74 | 6/73 |
|---|---|---|---|---|---|
| Members-Total | 337 | 308 | 336 | 349 | 288 |
| Farmers | | | | | |
| Non-Farmers | | | | | |
| Loan Volume-Total | 10,658 | 5,111 | 10,935 | 8,746 | 4,345 |
| Farmers | 8,874 | 3,329 | 9,192 | 5,479 | 2,203 |
| Non-Farmers | 1,886 | 1,782 | 1,743 | 3,267 | 2,142 |
| Loan Balance(EOY)-Total | 7,798 | 8,954 | 13,600 | 6,568 | 1,735 |
| Farmers | | | | | |
| Non-Farmers | | | | | |
| Peak Loan Balance-Farmers | | | | | |
| Shares Balance(EOY)-Total | 4,729 | 3,618 | 3,910 | 2,879 | 1,474 |
| Farmers | | | | | |
| Non-Farmers | | | | | |
| Demand Deposits | 162 | - | - | 55 | 66 |
| Fixed Term Deposits | - | - | - | - | 25 |
| Loan Balance(EOY)w BNF | 4,766 | 6,347 | 11,602 | 4,588 | 279 |
| Loan Balance(EOY)w Credicoop | 413 | 277 | 107 | 324 | 173 |
| Gross Income | 2,299 | 1,702 | 2,016 | 880 | 234 |
| Interest | 1,248 | 1,477 | 1,675 | 718 | 160 |
| Commissions | 616 | 222 | 332 | 153 | - |
| Punitive Interest | 169 | 3 | 6 | - | - |
| Marketing Income | - | - | - | - | - |
| Other Income | 266 | - | 3 | 9 | 74 |
| Expenses-Total | 2,174 | 1,953 | 1,945 | 846 | 344 |
| Administrative | 1,043 | 1,114 | 813 | 543 | 221 |
| Financial | 1,131 | 839 | 1,132 | 303 | 124 |
| Marketing | - | - | - | - | - |
| Net Income | 125 | (251) | 71 | 34 | (111) |
| Loan Delinquency (%) | 47% | 18% (1) | | | |

(1) September 1976

PROMOCIÓN
(₡ 000)

| | 6/77 | 6/76 | 6/75 | 6/74 | 6/73 |
|---|---|---|---|---|---|
| Members-Total | 438 | 440 | 497 | 470 | 417 |
| Farmers | 317 | 328 | 325 | 320 | 252 |
| Non-Farmers | 121 | 112 | 172 | 150 | 165 |
| Loan Volume-Total | 4,613 | 2,091 | 12,200 | 9,647 | 6,268 |
| Farmers | 2,908 | 1,644 | - | 5,600 | 3,273 |
| Non-Farmers | 1,705 | 447 | - | 4,047 | 3,055 |
| Loan Balance(EOY)-Total | 8,996 | 8,587 | 12,200 | 9,647 | 4,515 |
| Farmers | 6,601 | 6,355 | 7,334 | 5,600 | - |
| Non-Farmers | 2,395 | 2,232 | 4,866 | 4,047 | - |
| Peak Loan Balance-Farmers | 8,730 | 8,100 | - | 5,600 | 5,919 |
| Shares Balance(EOY)-Total | 5,060 | 5,062 | 5,464 | 4,637 | 3,016 |
| Farmers | 3,410 | 3,308 | 3,100 | 2,645 | - |
| Non-Farmers | 1,650 | 1,754 | 2,364 | 1,992 | - |
| Demand Deposits | - | - | 3 | - | 25 |
| Fixed Term Deposits | - | - | - | - | - |
| Loan Balance(EOY)w BNF | 6,070 | 5,252 | 7,833 | 3,609 | 1,917 |
| Loan Balance(EOY)w Credicoop | 750 | 220 | 102 | 212 | - |
| Gross Income | 1,082 | 1,481 | 1,952 | 1,269 | 870 |
| Interest | 711 | 1,194 | 1,533 | 992 | 448 |
| Commissions | 109 | 52 | 273 | - | - |
| Punitive Interest | 2 | 114 | - | - | - |
| Marketing Income | - | 71 | - | - | - |
| Other Income | 260 | 50 | 146 | 277 | 422 |
| Expenses-Total | 1,410 | 1,611 | 2,163 | 1,244 | 986 |
| Administrative | 802 | 1,170 | 956 | - | 680 |
| Financial | 608 | 370 | 1,207 | - | 306 |
| Marketing | - | 71 | - | - | - |
| Net Income | (328) | (130) | (211) | 25 | (116) |
| Loan Delinquency (%) | 53% | | | | |

ACAHAY
(₲ 000)

| | 12/77 | 12/76 | 12/75 | 12/74 | 12/73 |
|---|---|---|---|---|---|
| Members-Total | - | 131(1) | 122 | 92 | - |
| Farmers | - | 72 | - | 39 | - |
| Non-Farmers | - | 59 | - | 53 | - |
| Loan Volume-Total | - | 1,121 | - | 954 | - |
| Farmers | - | 1,078 | - | 748 | - |
| Non-Farmers | - | 43 | - | 206 | - |
| Loan Balance(EOY)-Total | - | 1,409(1) | 1,247 | 857 | - |
| Farmers | - | 1,238 | 1,078 | 748 | - |
| Non-Farmers | - | 1,710 | - | 206 | - |
| Peak Loan Balance-Farmers | - | 1,587 | - | 748 | - |
| Shares Balance(EOY)-Total | - | 623 | 522 | 318 | - |
| Farmers | - | 388(1) | - | 182 | - |
| Non-Farmers | - | 235 | - | 136 | - |
| Demand Deposits | - | - | - | - | - |
| Fixed Term Deposits | - | - | - | - | - |
| Loan Balance(EOY)w BNF | - | 1,065 | 1,109 | 733 | - |
| Loan Balance(EOY)w Credicoop | - | 393 | 176 | 10 | - |
| Gross Income | - | 219 | 169 | 47 | - |
| Interest | - | 135 | 109 | 17 | - |
| Commissions | - | 40 | 31 | 24 | - |
| Punitive Interest | - | 44 | - | - | - |
| Marketing Income | - | - | - | - | - |
| Other Income | - | 29 | 6 | - | - |
| Expenses-Total | - | 408 | 238 | 186 | - |
| Administrative | - | 243 | 165 | 167 | - |
| Financial | - | 165 | 73 | 19 | - |
| Marketing | - | - | - | - | - |
| Net Income | - | (189) | (69) | (139) | - |
| Loan Delinquency (%) | - | 51% (3) | 32% (2) | 1% | - |

(1) November 1976

(2) January 1976

(3) March 1976

SAN IGNACIO
(₡ 000)

| | 6/77 | 6/76 | 6/75 | 6/74 | 6/73 |
|---|---|---|---|---|---|
| Members-Total | 441 | 447 | 485 | 333 | - |
| Farmers | 335 | 280 | 152 | 118 | - |
| Non-Farmers | 106 | 167 | 333 | 215 | - |
| Loan Volume-Total | 7,075 | 5,598 | 28,431 | 11,461 | - |
| Farmers | 6,008 | 4,325 | 27,003 | 10,681 | - |
| Non-Farmers | 1,067 | 1,273 | 1,428 | 780 | - |
| Loan Balance(EOY)-Total | 18,788 | 21,389 | 28,327 | 24,857 | - |
| Farmers | 17,721 | 20,254 | 22,068 | 24,582 | - |
| Non-Farmers | 1,067 | 1,135 | - | 777 | - |
| Peak Loan Balance-Farmers | 17,721 | 22,535 | 30,922 | 24,857 | - |
| Shares Balance(EOY)-Total | 7,194 | 7,677 | 7,737 | 6,959 | - |
| Farmers | 6,506 | 6,702 | 6,650 | 6,449 | - |
| Non-Farmers | 588 | 975 | 1,087 | 505 | - |
| Demand Deposits | - | - | - | 15 | - |
| Fixed Term Deposits | - | - | 330 | 150 | - |
| Loan Balance(EOY)w BNF | 20,254 | 20,254 | 22,068 | 22,583 | - |
| Loan Balance(EOY)w Credicoop | 464 | 640 | 835 | 1,064 | - |
| Gross Income | 5,073 | 4,503 | 4,121 | 843 | - |
| Interest | 3,593 | 3,938 | 3,050 | 516 | - |
| Commissions | 230 | 185 | 790 | 114 | - |
| Punitive Interest | - | - | - | - | - |
| Marketing Income | 949 | - | - | - | - |
| Other Income | 301 | 380 | 281 | 214 | - |
| Expenses-Total | 4,996 | 4,880 | 3,967 | 857 | - |
| Administrative | 1,258 | 1,374 | 2,410 | 352 | - |
| Financial | 2,964 | 3,208 | 1,557 | 505 | - |
| Marketing | 772 | 299 | - | - | - |
| Net Income | 77 | (377) | 154 | (14) | - |
| Loan Delinquency (%) | - | - | - | - | - |

COMECIPAR
(₡ 000)

| | 3/77 | 3/76 | 3/75 | 3/74 | 3/73 |
|---|---|---|---|---|---|
| Members-Total | 735 | 613 | 540 | 408 | 289 |
| Farmers | - | - | - | - | - |
| Non-Farmers | - | - | - | - | - |
| Loan Volume-Total | 43,750 | 31,327 | 15,582 | 7,920 | 5,244 |
| Farmers | - | - | - | - | - |
| Non-Farmers | - | - | - | - | - |
| Loan Balance(EOY)-Total | 38,000 | 25,753 | 14,592 | 7,920 | 5,244 |
| Farmers | - | - | - | - | - |
| Non-Farmers | - | - | - | - | - |
| Peak Loan Balance-Farmers | - | - | - | - | - |
| Shares Balance(EOY)-Total | 34,083 | 22,698 | 14,461 | 7,840 | 4,080 |
| Farmers | - | - | - | - | - |
| Non-Farmers | - | - | - | - | - |
| Demand Deposits | 2,627 | - | - | - | - |
| Fixed Term Deposits | 3,046 | 610 | - | 150 | - |
| Loan Balance(EOY)w BNF | - | - | - | - | - |
| Loan Balance(EOY)w Credicoop | - | - | - | - | - |
| Gross Income | 5,815 | - | 2,031 | 986 | 121 |
| Interest | 5,507 | - | - | 946 | 21 |
| Commissions | - | - | - | - | 90 |
| Punitive Interest | - | - | - | - | - |
| Marketing Income | - | - | - | - | - |
| Other Income | 308 | - | 75 | 70 | 10 |
| Expenses-Total | 3,554 | - | 1,283 | 705 | 132 |
| Administrative | 3,115 | - | 1,155 | 702 | 132 |
| Financial | 439 | - | 128 | 3 | - |
| Marketing | - | - | - | - | - |
| Net Income | 2,261 | - | 748 | 280 | (11) |
| Loan Delinquency (%) | 1.46% | 0.94% | 1.49% | 0.98% | 2.63% |

SAN PABLO
(₡ 000)

| | 12/77 | 12/76 | 12/75 | 12/74 | 12/73 |
|---|---|---|---|---|---|
| Members-Total | - | 264 | 245 | 220 | - |
| Farmers | - | - | - | - | - |
| Non-Farmers | - | - | - | - | - |
| Loan Volume-Total | - | 2,580 | 2,017 | - | - |
| Farmers | - | - | - | - | - |
| Non-Farmers | - | - | - | - | - |
| Loan Balance(EOY)-Total | - | 1,598 | 1,163 | 716 | - |
| Farmers | - | - | - | - | - |
| Non-Farmers | - | - | - | - | - |
| Peak Loan Balance-Farmers | - | - | - | - | - |
| Shares Balance(EOY)-Total | - | 1,378 | 939 | 777 | - |
| Farmers | - | - | - | - | - |
| Non-Farmers | - | - | - | - | - |
| Demand Deposits | - | - | - | - | - |
| Fixed Term Deposits | - | - | - | - | - |
| Loan Balance(EOY)w BNF | - | - | - | - | - |
| Loan Balance(EOY)w Credicoop | - | - | - | - | - |
| Gross Income | - | 222 | 162 | 82 | - |
| Interest | - | 164 | 112 | 49 | - |
| Commissions | - | 50 | 41 | 29 | - |
| Punitive Interest | - | - | - | - | - |
| Marketing Income | - | - | - | - | - |
| Other Income | - | 8 | 9 | 4 | - |
| Expenses-Total | - | 152 | 138 | 74 | - |
| Administrative | - | 152 | 138 | 74 | - |
| Financial | - | - | - | - | - |
| Marketing | - | - | - | - | - |
| Net Income | - | 70 | 24 | 8 | - |
| Loan Delinquency (%) | - | 11% | 16% (1) | - | - |

(1) November 1975

MBURICAO
(₲ 000)

| | 2/77 | 2/76 | 2/75 | 2/74 | 2/73 |
|---|---|---|---|---|---|
| Members-Total | 173 | 136 | 85 | 49 | - |
| Farmers | | | | | - |
| Non-Farmers | | | | | - |
| Loan Volume-Total | 1,898 | 860 | - | 124 | - |
| Farmers | | | | | - |
| Non-Farmers | 1,898 | 860 | - | 124 | - |
| Loan Balance(EOY)-Total | 1,264 | 525 | - | 74 | - |
| Farmers | | | | | - |
| Non-Farmers | | | | | - |
| Peak Loan Balance-Farmers | | | | | - |
| Shares Balance(EOY)-Total | 1,060 | 547 | 214 | 30 | - |
| Farmers | | | | | - |
| Non-Farmers | | | | | - |
| Demand Deposits | | | | | - |
| Fixed Term Deposits | 90 | - | - | - | - |
| Loan Balance(EOY)w BNF | | | | | - |
| Loan Balance(EOY)w Credicoop | | | | | - |
| Gross Income | 161 | 70 | 30 | 17 | - |
| Interest | 105 | 44 | 14 | 3 | - |
| Commissions | 38 | 17 | 6 | 2 | - |
| Punitive Interest | 2 | 2 | 1 | - | - |
| Marketing Income | - | - | - | - | - |
| Other Income | 16 | 7 | 9 | 12 | - |
| Expenses-Total | 153 | 68 | 23 | 16 | - |
| Administrative | 140 | 61 | 23 | 16 | - |
| Financial | 13 | 8 | - | - | - |
| Marketing | - | - | - | - | - |
| Net Income | 8 | 1 | 7 | 1 | - |
| Loan Delinquency (%) | 3% | 6% | - | - | - |

# APPENDIX C

## DELINQUENCY AND LEVERAGING

One of the most crucial issues in this project has been that of the high delinquency and potential insolvency of a number of rural credit unions.

## I. CAUSES OF THE PROBLEM

### A. LEVERAGING

The policy of all the participants in the project - CUNA, AID, BNF, and CREDICOOP - until 1974 seemed to emphasize the borrowing of large amounts of external capital by rural credit unions with little concern about the possible effect on the financial structure of those credit unions. These credit unions borrowed several times their share capital; a 10:1 ratio apparently was the standard. In one case a loan application for $174,600 was approved in 5/74 when the credit union concerned had only 13,450 in share capital, a 13:1 ratio. The loan policy of the lender, the Banco Nacional de Fomento, permitted such high leveraging because they believed that as a result of the continuing assistance provided by CUNA and AID, credit unions had evolved into strong financial institutions capable of managing large amounts of external capital. Thus, it is likely that rigorous analysis of each credit union's loan application was not performed, and that loans were granted fairly easily. To illustrate, BNF loans to cooperatives increased from $160,740 to $1,038,175 between 1972 and 1973; most of these recipients were credit unions. After the creation of CREDICOOP (chartered in 1974, it was not always consulted before loans were extended to these credit unions, even though they were members of CREDICOOP.

This expansive supply of external funds meant, in turn, that credit unions could lend to all members who applied for production credit loans. Consequently, the analysis of these applications may have been done hastily, with insufficient rigor. This over extension of credit ultimately resulted in high delinquency rates.

High leveraging combined with an inability to collect 100 percent of the funds lent out produces a magnified adverse effect on member savings. The following example illustrates this point:

| | External Loan | Shares | Loans to Members |
|---|---|---|---|
| 1. | - | 10,000 | 10,000 |
| 2. | 100,000 | 10,000 | 110,000 |
| Balance | 100,000 | 20,000 | 120,000 |

A credit union with $10,000 in share capital can borrow $100,000 (at a 10:1 ratio) thereby increasing its loan portfolio by $110,000 to $120,000 and its share capital account by $10,000 to $20,000. With a delinquency rate of just 16.7 percent $\left[\frac{20,000}{120,000}\right]$ the credit union would be able to repay the external loan, but it would find itself completely decapitalized. The value of the member shares would be reduced to zero. Any new share savings would lose their value immediately.

Presumably, in order for a credit union to be able to mobilize savings, it has to be able to develop its management capabilities as manifested by the ability to gain the respect/trust of its members, control costs and to pay an acceptable dividend. These same capabilities prepare it to manage the funds generated. However, in this situation externally borrowed funds can be obtained without any real demonstration of management capabilities.

The most critical factor in this process though is that none of the project participants apparently foresaw the potential disastrous consequences of high leveraging. The BNF apparently did not recognize the greatly increased risks involved in this lending situation, with the resultant possibility that repayment would be most uncertain. In effect it did not take adequate safeguards to protect its own funds. CUNA and AID similarly did not recognize the serious implications for the project credit unions, i.e., that even moderate delinquency could decapitalize a credit union. They failed to protect the best interests of these credit unions, either by developing more stringent policies regarding external loans or by pointing out to each credit union the serious consequences that could result from accepting such large amounts of external funds.

## B. CALCULATION OF LOAN DELINQUENCY

In fact, there may have been a high delinquency even before the BNF loans were granted. However, due to the way delinquency was calculated neither the BNF nor the credit unions may have been aware of the problem. At the beginning of the CUNA project non-agricultural loans in 13 credit unions represented an average of 60 percent of the loan portfolio. Non-agricultural loans generally either have a term longer than a year and/or more than one payment. In this case, if delinquency is calculated by dividing only those payments past-due by the balance of loans outstanding (which is what Paraguay credit unions were doing before 1974), the result is a delinquency rate which does not reflect the amount at risk. In fact, once even one payment is missed, the whole remaining balance of the loan is at risk and should be considered delinquent. Dividing this balance by total outstanding loan balance gives a much truer picture as well as a higher delinquency rate. Had credit unions been using this method, they would have been alerted to existing problems sooner and perhaps would have thought more carefully about the implications of external borrowing with an already high delinquency.

Unfortunately, even a correctly calculated delinquency rate is not very applicable to credit unions whose portfolios have a large percentage of agricultural loans.[1] Such a portfolio generally has large fluctuations in the loan balances due to seasonal variations in the crops being produced. These fluctuations result in the delinquency rising as loans are successfully collected and the small portion of uncollected loans becomes the major portion of the remaining loans outstanding. That is, the denominator decreases but the numberator does not, which produces a higher delinquency index.

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[1]Actually, either method for calculating delinquency produces the same result on loans such as those for agricultural production with just one payment.

Or conversely, borrowing and lending a large sum can produce a sharp drop in the delinquency rate with no real improvement in the situation. That is, the denominator increases but not the numerator.

These problems can be partially resolved by using the recuperation rate which results from dividing the total of payments received by the total payments due. Thus, both the numerator and denominator change proportionately. This rate reflects better what is actually happening in a credit union providing primarily seasonal agricultural credit than does the standard delinquency rate.

However, both these measures are only indicators and need to be interpreted and explained. The problem in the early stages of the project was that these measures were not used at all, nor was there an attempt to really analyze the outstanding loan balances in the credit unions.

## C. OTHER PROBLEMS

Another problem in some credit unions has been the granting of loans in too wide an area. In fact, it appears that delinquency is at least partially correlated with the distance of the loan recipient from the credit union. This results from the difficulty of monitoring/follow-up on loans to distant members.

A related problem is a tendency to use collateral as a substitute or at least as a priority consideration over careful pre-loan analysis and member education. Much of the collateral of farmers (implements, livestock, etc.) is easily movable and therefore presents difficulty of foreclosure. The cost of foreclosure is sufficiently high and the difficulties such that credit unions are effectively precluded from this action. In addition, if the collateral is obtained, there is the problem of how to dispose of it.

## II. ACTIONS TAKEN

By 1973 there were 11 credit unions which had been damaged by leverage. This number had increased to 13 by 1974. In this year, the new CUNA advisor surfaced the seriousness of the problem. All 13 credit unions were cut off from credit at the insistence of CREDICOOP to the BNF. CREDICOOP began emphasizing the collection of loans to their member credit unions. The following measures were introduced in 1974:

1) No member credit union can receive a production loan greater than three times its share capital;

2) In order to receive a loan, the total amount of a credit union's external debt may not exceed five times its share capital;

3) Loans to an individual member cannot exceed 5 times his/her share savings;

4) Delinquency calcualtion by credit unions must take into account the total remaining balance of the delinquent loan, not just the portion that is in arrears;

5) Legal collection procedures enforced by credit unions, using lawyers contracted through CREDICOOP;

6) A simplified delinquency report used by credit unions to stimulate the recording and reporting of delinquent accounts to CREDICOOP;

7) Coordination between the Banco Nacional de Fomento and CREDICOOP to improve the quality of loans being made.

In 1975 marketing also became a key instrument in loan collection. That is, the income to the farmer from selling his crop to the credit union is applied first to the repayment of the loan. The balance is the net income to the farmer.

A constraint on making this method of collection successful was the absence of working capital to advance funds to credit unions against products delivered by the members. Farmer members were hesitant to deliver their products to the credit union if it was not able to advance funds against these products. Credit union members were then forced to market their produce by other means. This meant a loss of control on recuperation by the credit union. As a result, there was an increase in delinquency. This cause of delinquency should be resolved by use of the AID loan for necessary marketing advances. In addition, allowing the use of the AID loan for the marketing of cotton and tobacco should also improve this situation.

In addition, a positive incentive plan for credit union employees was established with AID funds in 1976. In those credit unions where delinquency has been a problem, a bonus is provided where the recuperation rate on loans was 50 percent or above in 1976 and 85 percent or above in 1977. The bonus is calculated on a percentage of the manager's salary, but is distributed proportionately to all credit union employees.

## III. CURRENT SITUATION

Although these measures have not eliminated delinquency problems, 7 of the original 13 credit unions cut off from external borrowing have managed to make acceptable progress in lowering delinquency so that normal borrowing has been restored. No new credit unions have fallen into a delinquency situation warranting a cut-off of credit.

Table 13 shows the current situation in the original 13 credit unions. Three (Crnl. Oviedo, San Pedro, Santaní) are now considered out of danger due to the progress they have made. Four credit unions have neither received credit in 1976-1977, nor are they scheduled to receive loans in 1977-1978. Two of these (Del Norte and Paraguarí) are not receiving credit for reasons not entirely clear. Two others (Yaguarón and Yuty) received small loans in 1976-1977, but because their situation has not improved significantly, have not been scheduled to receive loans in 1977-1978. Of the other seven to which credit has been re-established, three (acahay, Carapegua, and Promoción) still have high delinquency (51 percent to 81 percent). However, these credit unions have recently hired

TABLE 10

## CREDIT UNIONS ORIGINALLY DAMAGED BY HIGH LEVERAGING

(₲ 000)

| | AS OF 11/77 | | | | LEVERAGE EXTERNAL LOANS/SHARES AS OF 9/77 | PRODUCTION CREDIT RECEIVED 1976-1977 | PRODUCTION CREDIT TO BE RECEIVED 1977-1978 |
|---|---|---|---|---|---|---|---|
| | Shares | Loans | Del. | % Del. | | | |
| Acahay* | 693 | 765 | 623 | 81 | 1.13 | | 2,490 |
| Carapegua | 2,350 | 4,295 | 2,906 | 68 | 1.14 | | 4,945 |
| Coe Pyajhu | 5,227 | 10,633 | 3,689 | 35 | .76 | 158 | 17,895 |
| Crnl. Oviedo | 7,567 | 8,176 | 951 | 12 | | 158 | 11,816 |
| Del Norte | 3,222 | 2,989 | 1,149 | 38 | | | |
| Juan O'Leary | 1,840 | 1,925 | 1,829 | 95 | .63 | | |
| Paraguarí | 2,829 | 4,728 | 114** | | .96 | | |
| Promoción | 5,268 | 8,346 | 4,225 | 51 | 1.18 | | 4,497 |
| San Ignacio | 8,014 | 19,787 | 18,798 | 95 | 2.59 | | |
| San Pedro | 2,203 | 3,008 | 738 | 25 | 1.07 | 279 | 3,774 |
| Santaní* | 1,677 | 2,842 | 639 | 22 | .61 | 382 | 5,651 |
| Yaguarón | 2,867 | 5,972 | 3,070 | 51 | 1.38 | 420 | |
| Yuty | 3,612 | 4,852 | 2,981 | 61 | 1.84 | 134 | |

*as of 9/77

**This credit union gave automatic extensions to all borrowers and now shows none of the original loans as delinquent even though payments are not being made to any great extent.

new managers and elected new committees. They are to receive credit in 1977-1978 to enable them to get a "fresh start." They should be monitored closely by CREDICOOP since these are still considered high risk loans. All credit unions can get advances for marketing based on the estimated value of the crop.

It should also be noted that the leverage which was originally so damaging to these credit unions has been reduced below 2:1 in all but one case (San Ignacio 2.59:1). It should be emphasized that these leverage ratios are lower due to required capitalization. After external loans are made to the credit union, the ratio is lower than the pre-loan level. For example, a credit union with a 10:1 ratio (of proposed loan to shares) before an external loan would have a 5:1 ratio after loan disbursement due to a 10 percent capitalization on re-lending to individual members. This can be seen in the following example:

| | Shares | External Loan | Leverage |
|---|---|---|---|
| Before External Loan | 10,000 | 100,000 | 10:1 |
| After External Loan | 20,000 | 100,000 | 5:1 |

CREDICOOP is well aware that in spite of the actions already taken, a serious problem still exists. The problem is particularly crucial and pressing in the one credit union (San Ignacio) which represents 46.5 percent of the delinquency in the original 15 damaged credit unions.

As discussed in Chapter III, CREDICOOP has established its own stabilization fund within the past year. The maximum amount that could be generated within five years is $16,400 with the current formula. This is not even close to covering the current delinquency ($313,000) in the 10 credit unions still in serious condition nor even in San Ignacio alone ($150,000). Therefore, an alternative and more immediate solution for the current situation must be developed.

Possible solutions and recommendations are discussed in the Executive Summary.