



Auditor General

AUDIT REPORT
AGRICULTURAL SECTOR
USAID/LOLVIA

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LIST OF ACRONYMS

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A&A	-	Agribusiness and Artisanry Project
ASC	-	Agricultural Service Center
BAB	-	Bolivian Agricultural Bank
BCB	-	Central Bank of Bolivia
CBF	-	Development Corporation of Bolivia
Chemonics	-	Chemonics International Consulting/Division of Chemonics Industries
CIAT	-	Tropical Agricultural Research Center
CID	-	Consortium for International Development
CORDEBENI	-	Development Corporation of the Beni
CODETAR	-	Development Corporation of Tarija
CORDENO	-	Development Corporation of the Northeast
CORDECRUZ	-	Development Corporation of Santa Cruz
CROFOC	-	Revolving Credit Fund
FAT	-	Technical Assistance Fund
FENACRE	-	National Federation of Credit Unions
FRA I	-	Agricultural Refinancing Fund I
FRA II	-	Agricultural Refinancing Fund II
FRI	-	Fund for Industrial Refinancing
GOB	-	Government of Bolivia
IBTA	-	Bolivian Institute of Agricultural Technology
ICs	-	Integral Cooperatives
ICIs	-	Intermediate Credit Institutions
INC	-	National Institute of Colonization
MACA	-	Ministry of Campesino Affairs and Agriculture
MIC	-	Ministry of Industry and Commerce

MOF - Ministry of Finance
MPC - Ministry of Planning and Coordination
NCDS - National Community Development Service
PCGP - Productive Credit Guaranty Program
PIF - Preinvestment Fund
RNA - Robert R. Nathan Associates
SFCP - Small Farmer Credit Program
SFED - Special Fund for Economic Development
SNC - National Road Service
STC - Servicios Técnicos del Caribe
USAID - USAID/Bolivia

AGRICULTURAL SECTOR
USAID/BOLIVIA

EXECUTIVE SUMMARY

Introduction

Bolivia is the poorest country in South America and has the lowest agricultural productivity rates on the continent.

In August 1974 USAID/Bolivia (USAID) published an assessment of the Bolivian agricultural sector. The assessment reviewed the performance of the sector over recent years and identified and analyzed the problems that have restricted agricultural development in Bolivia. Since FY 1975, the USAID has started 20 projects with a total estimated cost of about \$243 million of which the USAID is to finance \$179 million (see Appendix A). These projects were designed to help the Government of Bolivia (GOB) overcome the problems identified in the sector assessment and to increase the incomes and standards of living of the small farmers.

Scope

This is the first overall audit of the agricultural sector and covered the period from January 1, 1975 to September 30, 1979. Because of the significance of the agricultural sector credit programs being assisted by AID, we are covering them in a separate report (Audit Report No. 1-511-80-11, issued May 29, 1980). All other findings and recommendations resulting from our review are included in this audit report.

The principal objectives of our examination were to determine as of September 30, 1979 (1) the impact of USAID projects on the performance of the agricultural sector since the beginning of CY 1975; (2) the extent to which USAID programs have assisted the GOB in overcoming the constraints to agricultural development; (3) the degree to which AID provided resources have been effectively and efficiently utilized; and (4) the adequacy of USAID management of projects in the agricultural sector.

Conclusions

In general, we believe the USAID has (1) formulated an adequate program strategy since 1975 to help the GOB accelerate the development of its agricultural sector, and (2) developed an adequate group of well-designed projects to increase the per capita income and standards of living of the rural poor. We did find, however, several areas where the USAID and GOB could improve the management of their agricultural sector programs in order to have a greater impact on sector performance. Our major conclusions are presented in the following paragraphs:

Impact of USAID Assisted Programs

It appears that no progress has been made since 1975 to achieve the USAID's sector goal of increasing the per capita income and standard of living of rural people. Per capita Gross Domestic Product (GDP) for the agricultural sector decreased in real terms at an annual rate of 1.7 percent from 1975 to 1978 compared to an increase of .4 percent during the period 1972-78.

USAID programs have had a minimal effect in improving the performance of the agricultural sector and in overcoming the constraints identified in the 1974 Sector Assessment because of (1) slow implementation of some of the older USAID projects and the newness of other projects (2) inadequate GOB policies and financial support to the sector and (3) bad weather conditions which have reduced yields of some crops.

In order to increase the effectiveness of AID assistance and accelerate the development of the agricultural sector the GOB needs to (1) increase financial support to public sector agencies (2) adopt pricing policies that provide greater production incentives to small farmers (3) increase the supply of fertilizer and improved seed and (4) increase the services provided the soil testing laboratories (see page 4).

Training

The USAID plans to provide advance degree training to 69 public and university employees working in the agricultural sector. The purpose of this training is to upgrade the level of public administration which was identified as a major constraint to the development of a more vigorous agricultural sector in the 1974 Sector Assessment.

Our review of the training program disclosed that (1) GOB salaries of returning participants with advanced degrees and professional employees are too low to attract and retain qualified employees (2) the USAID has not followed-up with returned participants to identify and correct any job-related and future training problems (3) USAID participant training records are not adequate and (4) Ministry of Campesino Affairs and Agriculture (MACA) has not billed a returned participant for breach of contract (see page 16).

Commodities

The GOB procurement, management and utilization of commodities can be improved. Excessive delays in the procurement of AID-financed commodities have adversely affected the implementation of many agricultural sector projects. Control over the receipt, storage, and distribution of commodities is weak. Claims for lost commodities are not promptly filed and recoveries are not used to replace commodities lost. Commodities are not promptly delivered to project sites so they can be used as intended (see page 26).

Technical Assistance

The implementation of agricultural sector projects has been adversely affected because the technical assistance being provided has suffered from (1) the lack of effective counterpart relationships, (2) the lack of Spanish language proficiency of some advisors, (3) inadequate work plans, (4) lack of the timely recruitment of advisors, and (5) inadequate mix of technical skills to effectively respond to problem areas (see page 26).

Construction

Construction activities under the agricultural sector projects have

moved much slower than planned. Out of 25 projects planned for the sector under AID loans 050, 053 and 059, 2 have been completed, 15 are in process and 8 had not been started as of September 30, 1979. According to the project papers for these loans, the construction activities were to have been completed by September 1978 under loans 050 and 053 and by October 1980 under loan 059.

Our review of construction activities financed under the agricultural sector projects disclosed that (1) the GOB has not committed enough funds to complete two penetration roads (2) the GOB has not provided sufficient funds to effectively maintain and operate project equipment which has delayed the construction of access trails (3) MACA has not promptly obtained land and land titles for eight facilities to be built under the Agricultural Sector II project which has delayed the start of construction and (4) GOB supervision and USAID inspections of construction activities have not been made frequently enough to assure that problems are promptly identified (see page 31).

USAID Management

We believe that USAID management of the agricultural sector projects can be improved. We found numerous examples where the USAID has not taken timely and effective action to identify and/or resolve problems related to GOB pricing policy, use of AID-financed equipment, construction, counterparts and compliance with project provisions. However, the USAID has recently taken action to reduce procurement delays (see pages 22 & 23). In addition, we found that improvements can be made in project evaluation procedures, implementation planning controls, the design of logical frameworks, and procedures used to control the implementation of recommendations made in evaluation and audit reports. This should result in more realistic implementation of recommendations made in evaluation and audit reports (see page 38).

Recommendations

We have made 23 recommendations to improve the implementation of the agricultural sector projects. These recommendations were directed at correcting problems related to sectorial constraints, training, commodities, technical assistance, construction and USAID management. The implementation of these recommendations should increase the effectiveness of AID assistance and accelerate the development of the agricultural sector.

While this audit was in process, the USAID took action to implement 6 additional recommendations included in our draft report.

BACKGROUND

A. Scope of Audit

We have made an audit of USAID/Bolivia (USAID) programs to the agricultural sector. This is the first overall audit of the agricultural sector and covered the period from January 1, 1975 to September 30, 1979. Because of the significance of the agricultural sector credit programs being assisted by AID, we are covering them in a separate report (Audit Report No. 1-511-80-11, issued May 29, 1980). All other findings and recommendations resulting from our review are included in this audit report.

As of September 30, 1979, the USAID program to the Bolivian agricultural sector consisted of 20 active loan and grant projects with a total estimated cost of about \$243 million of which the USAID is to finance \$179 million (see Appendix A). Fourteen of these projects were directly related to agriculture and 6 were partially related. We made a detailed review of 11 loan and grant projects directly related to agriculture. These projects are identified in Appendix A.

No detailed review was made of the other three projects directly related to agriculture or the six projects partially related to agriculture because of recent audits, limited disbursements, or planned audits in the future. However, we included these projects in our overall analysis of the sector to the degree deemed necessary.

We also reviewed five prior audits of agricultural sector projects. The major findings of these audits were that most of the projects were behind schedule, some of the project implementation plans were not realistic, and the Government of Bolivia (GOB) was not providing adequate financial support to some of the projects. Recommendations were made that the USAID evaluate some projects to correct problems and that implementation plans be updated. The five reports included 43 recommendations of which 25 were closed as of September 30, 1979. The remaining 18 open recommendations were made in an audit report published in August 1979 (Audit Report No. 79-22).

The principal objectives of our examination were to determine: (1) the impact of USAID projects on the performance of the agricultural sector since the beginning of CY 1975; (2) the extent to which USAID programs have assisted the GOB in overcoming the constraints to agricultural development; (3) the degree to which AID provided resources have been effectively and efficiently utilized; and (4) the adequacy of USAID management of projects in the agricultural sector.

Our examination was made in accordance with generally accepted auditing standards and included (1) discussions with officials of the USAID and GOB implementing agencies for projects (2) the review of records of the USAID and GOB implementing agencies (3) field trips to all project areas except the Beni and (4) such other auditing procedures as were considered necessary.

B. Characteristics of Bolivian Agriculture

Bolivia is the poorest country in South America and has the highest percentage of its population in rural areas. Bolivia's rural population is faced with a number of serious problems ranging from extremely low per capita income to the lowest nutritional intake levels in South America, the highest rates of illiteracy, and the lowest agriculture productivity rates on the Continent.

In 1978, the population of Bolivia was estimated to be 4.8 million persons of which 58 percent or about 2.8 million persons were living in rural areas and engaged in agriculture. USAID estimates that small farmers represent 90 to 95 percent of the rural population and that they comprise about 530,000 small farm families.

C. GOB Organizations Supporting Agriculture

There are numerous GOB organizations that support the agricultural sector at both centralized and decentralized levels. At the centralized level are the Ministry of Campesino Affairs and Agriculture (MACA), the Ministry of Industry and Commerce (MIC) and the Ministry of Planning and Coordination (MPC). MACA's responsibility is to monitor the whole sector, particularly with respect to policy formulation and coordination of activities of different institutions at the decentralized levels. MIC has responsibility to oversee (1) pricing and marketing of some agricultural products, (2) development of agro-industrial enterprises at the decentralized levels, and (3) controlling imports and exports of agricultural products. MPC has responsibility for coordination of all planning activities of the central government agencies.

The decentralized institutions are normally under the control of a ministry with the Minister having authority to appoint the director or the president of the institution. However, they are autonomous in their budgets and decisions.

At the decentralized level there are 9 development corporations, 14 public institutions and 4 public enterprises.

D. USAID Assessment of the Agricultural Sector

In August 1974, the USAID published an assessment of the Bolivian agricultural sector. The assessment reviewed the performance of the sector over recent years and identified and analyzed problems that restricted agricultural development in Bolivia.

The assessment showed that while the economy in general was improving between 1962 and 1972, the agricultural sector was not performing satisfactorily because of inadequate GOB policies and financial support. In fact, the per capita output in agriculture declined at an annual rate of .7 percent during this period. Agriculture plays a key role and is fundamental to Bolivia's general economic process. Thus, it is necessary to have significant increases in the agricultural output to accelerate the development of the overall economy.

The 1974 assessment concluded that development of the Bolivian agricultural sector was restricted because of poor organizational structure, lack of sufficient budget support, inadequate planning capacity, lack of agricultural credit, limited availability and high cost of inputs, absence of a sufficient number of qualified personnel, deficient transportation system and inadequate policies. Considering the restraints and the significance of the small farm sector, the USAID formulated a strategy with a geographical and commodity focus to increase the productivity and per capita incomes of small farmers.

E. Description of USAID Programs

The assessment pointed out that in order to assure the proposed USAID programs would be efficiently managed and have the maximum positive impact, the GOB would have to (1) improve policies to provide greater production incentives (2) increase salaries to attract and retain qualified personnel (3) undertake reorganizations to strengthen public agencies and (4) increase budget support to provide an adequate level of public services. To assist the GOB in this effort, USAID initiated a series of projects. As of September 30, 1979, USAID had 20 active and 4 proposed projects directly or partially related to agriculture. The total estimated cost of these 24 projects was about \$275 million of which AID would finance about \$211 million and the GOB would finance the remaining \$63 million (Appendix A).

In general, the USAID assisted projects were designed to (1) improve research and extension services (2) provide credit to small farmers and agribusiness (3) establish cooperatives (4) upgrade agricultural universities (5) improve planning (6) support colonization projects (7) develop transportation facilities (8) expand GOB capability to provide inputs and other services (9) provide formal training to public employees and (10) develop rural infrastructure projects. A more complete description of the USAID assisted projects and related accomplishments are included in Appendix G.

F. USAID Management

The USAID Office of Rural Development manages 10 of the 14 active projects directly related to agriculture. This office has 9 professional employees consisting of 7 U.S. direct hires and 2 foreign nationals. The other four projects directly related to agriculture are managed by one U.S. direct hire employee and one foreign national employee assigned to the USAID's Office of Development Resources.

G. Other Comments

Bolivian Pesos have been converted to dollars in this report at the rate of exchange of 20 pesos to \$1.00 unless otherwise noted.

AUDIT FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

A. Impact of USAID Assisted Programs

USAID programs have had a minimal effect in improving the performance of the agricultural sector since 1975 and in overcoming the constraints identified in the 1974 sector assessment. The major factors that have limited the impact of USAID programs have been (1) slow implementation of some of the older USAID projects and the newness of other projects (see Appendix G) (2) bad weather conditions and (3) inadequate GOB policies and financial support to the sector.

During the last 6 years (1972-78) the performance of the agricultural sector has improved compared to the previous 10 year period (1962-72). Real Gross Domestic Product (GDP) for agriculture has grown at an annual rate of 2.8 percent during the last 6 years compared to a rate of 1.9 percent during the previous 10 year period. Although the performance of the agricultural sector has improved, it continues to lag the growth rate of the whole economy (see Appendix E).

It appears that no progress has been made since 1975 to achieve the USAID's sector goal to increase the per capita income and standard of living of rural people. Per capita GDP ^{1/} for the agricultural sector decreased in real terms at an annual rate of 1.7 percent from 1975 to 1978 compared to an increase of .4 percent during the period 1972-78 (see Appendix E).

We believe that USAID programs could have a greater impact on sector performance in future years once the objectives of on-going projects are achieved and planned programs are started to upgrade the GOB extension service and expand the amount of credit available to small farmers.

The weak performance of the agricultural sector from 1975 to 1978 is supported by a sharp reduction in the annual growth rate of crop production in metric tons ^{2/}. During the period 1975-78, total crop production excluding sugar cane only grew at an annual rate of .81 percent compared to a rate of 3.09 percent during the period 1972-78 (see Appendix C). The fall-off in the rate of growth in production was caused by a peaking of yield growth for most commodities between 1974 and 1976 and a reduction in the rate of new land brought under cultivation since 1975 (see Appendixes D and E).

1/ The USAID does not have any statistics to directly measure the increase in per capita income but such statistics are being developed under the Farm Policy Study Project.

2/ This assumes that there was not a significant shift from heavy-weight, low-value products to light-weight, high-value products.

An analysis of individual crop yields indicated that many of them peaked between 1974 and 1976. In 1977, the yields of many crops grown in the highlands and valleys fell significantly because of a drought. In 1978, yields recovered but because of a freeze the rate of recovery was less than it might have otherwise been. Yields were also adversely affected because (1) new technologies have not been disseminated and adopted by the farmers and (2) GOB pricing policies have kept farm level prices too low to provide adequate incentives for farmers to risk investing in inputs needed to increase yields.

Inadequate GOB policies and financial support have also limited the impact of USAID projects. Below we analyze five of these constraints which should be corrected to increase the effectiveness of USAID projects and accelerate the development of the agricultural sector.

1. GOB Financial Support

In general, the GOB budgetary support to public agencies serving agriculture has been inadequate to provide the services necessary to effectively support the development of the sector and the implementation of AID-financed projects because of the weak financial condition of the GOB. Also, the GOB has not allocated adequate budgetary resources to agriculture because it has given higher priority to other sectors. From 1974 to 1978, the percent of total GOB budget from both internal and external sources, allocated to agriculture has fallen 10.29 to 9.26 percent.

The 1974 Sector Assessment estimated that public sector budgets serving agriculture would have to be increased at a real rate of 15 percent per year to provide adequate public services. As a result of this conclusion, the GOB submitted a plan under condition precedent 3.01(d) of the Agricultural Sector I loan to increase the MACA budget and those of its decentralized agencies at a real rate of 15 percent per year from 1975 to 1979 with National Treasury funds. A review of the MACA budget (to which we have added those of IBTA and CIAT) ^{1/} shows that it was only increased at a real rate of 9.3 percent during this period.

The real rate of growth in the MACA, IBTA and CIAT budgets on a per capita employee basis was even lower than on a total budget basis because the total personnel employed by these institutions increased from 997 in 1975 to 1,284 in 1979. During this period, the per capita employee budget only grew at a real rate of 2.7 percent which was not adequate to raise salaries to competitive levels and provide sufficient funds for operating expenses.

^{1/} The budgets of IBTA (Bolivian Institute of Agricultural Technology) and CIAT (Tropical Agricultural Research Center) were added to the MACA budget since these institutions were established in 1977 to take over functions previously performed by and budgeted under MACA.

The failure of the GOB to adequately increase budgets for agriculture has adversely affected the level and quality of public services and the use of AID-financed assistance. Examples where budgets should be increased are:

- a) The IBTA soil testing laboratories did not have sufficient funds to buy chemicals and hire personnel needed to effectively use AID-financed soil testing equipment (see page 14).
- b) Low salaries paid by public agencies serving agriculture have prevented them from employing an adequate number of personnel with advanced degrees. Public employees with advanced degrees have only increased from 21 in 1974 to 23 in 1978.
- c) The lack of budgetary support to the National Cooperative Institute (INALCO) reduced the effectiveness of technical assistance provided under the Small Farmer Organizations project (Grant 511-0452).
- d) The lack of enough qualified counterparts in MACA's Planning Division has reduced the effectiveness of technical assistance financed under the Farm Study Policy, the Basic Foods Production and Marketing and the Agricultural Sector II projects (see pages 27 and 28).
- e) IBTA's Regional Office in Cochabamba did not have an economist to work with an advisor financed under Basic Food Production and Marketing project. This prevented the project from helping IBTA develop a capacity to test the economic viability of research findings (see page 27).
- f) The National Institute of Colonization (INC) did not have sufficient funds to effectively maintain and operate project equipment which has contributed to construction delays under the Subtropical Land Development project (see page 33).

- g) IBTA and CIAT did not have sufficient funds to increase their staffs and cover operating expenses needed to upgrade the extension services. As a result, the services have been unable to effectively disseminate new technologies to the small farmer.

- h) IBTA did not have sufficient funds to publish the research results of many experiments.

- i) The lack of an adequately financed extension service has reduced the effectiveness of technical assistance provided to IBTA under the Basic Food Production and Marketing project (see page 56).

- j) The failure of the GOB to promptly provide funds to its oil processing plant in Villamontes delayed the payment of funds to farmers who sold soybeans and peanuts to the plant under the USAID-financed land clearing project. This has adversely affected farmers attitudes toward the project and has reduced demand for land clearing services.

- k) MACA supervision of AID-financed construction projects has been limited because of a lack of funds for travel expenses and transportation (see page 36).
- l) Public salaries are not high enough to retain AID-financed participants with advanced degrees. The 1974 Sector Assessment pointed out that most public employees trained under USAID and other programs in the 1950s were lost by the early 1960s because of low salaries. The USAID is financing the advance degree training of 69 public employees under its agricultural sector projects. Our follow-up review of 2 of 16 returned participants disclosed that one of the returnees has resigned because of a low salary (see page 19).
- m) The GOB has not contributed to the BAB \$1,000,000 of loan capital and \$25,000 of funds for operating expenses for the Small Farmer Credit Program (SFCP) as required under AID Loan 511-T-059. However, the Bolivian Agriculture Bank (BAB) has (1) contributed the \$1,000,000 of loan capital to the SFCP Fund from its own resources and (2) requested that the GOB include in its budget for CY 1980 the contributions required to be made to the program.
- n) The lack of funds to employ and support enough qualified counterparts in IBTA and CIAT has reduced the effectiveness of technical assistance provided under the Basic Foods Production and Marketing project. The contractor estimates that when its contract is completed in 1982 after seven years of assistance, IBTA will not be able to carry out a research program at the current level of effort without further assistance.
- o) IBTA did not have sufficient funds to promptly deliver AID-financed commodities to project sites which delayed the use of commodities (see page 26).

The USAID has recognized and acted to help the GOB resolve its problem of not being able to provide sufficient counterpart to AID projects. The problem is more serious now because of the current economic crisis in Bolivia. The USAID has reduced estimated GOB counterpart requirements for 1980 from slightly over \$19 million to \$12.6 million. For example, the USAID has designed a proposed Agricultural Extension project for 1980 to limit the financial requirements to be placed on the GOB. Also, funds will be made available under the USAID's P.L. 480 Title III program as well as under loans from the World Bank and International Monetary Fund to provide some of the GOB counterpart requirement for new AID projects.

While the above actions will limit the adverse financial impact of new program starts on GOB budgetary resources, it does little to help the GOB provide adequate support to existing projects. In fact, starting new projects could make it more difficult for the GOB to support existing projects because budgetary resources might have to be spread more thinly over a greater number of activities.

The basic long-run problem is that the GOB is not making a rational use of its resources. To improve the effectiveness of its activities, the GOB should spread its budgetary resources over fewer activities which are of the highest priority. By cutting back on low priority activities, the GOB could save enough funds to adequately fund its continuing programs and employ qualified public servants.

Based on the above analysis, we do not believe it would be prudent to finance any new USAID projects to the agricultural sector in Bolivia until the GOB provides adequate budgetary support to its public agencies to ensure that AID-financed assistance is being used effectively under existing agricultural projects. Also, in order to provide the USAID with greater leverage in the future, we suggest that covenants be included in new project agreements which would require the GOB to increase and maintain its public sector budgets at an acceptable level to ensure that AID-financed assistance is used effectively.

Recommendation No. 1

The AA/LAC should consider not authorizing any new agricultural projects for USAID/Bolivia until the GOB provides adequate budgetary support to its public agencies to ensure that AID-financed assistance is being used effectively under existing agricultural projects.

2. GOB Price Policy

GOB price policy is geared more to keeping consumer prices low for political reasons than providing adequate prices to farmers to cover their cost of production. As a consequence, the rate of growth in production of most food commodities has increased at a slower rate than the growth in demand (see page 58). This resulted in the need for the GOB to import potatoes in 1978 and 1979 and rice and corn in 1979.

According to the Supreme Decrees governing GOB pricing policy, MACA is responsible for determining the costs of production and setting prices at the farm level and the Ministry of Industry and Commerce (MIC) at the retail level.

Prices at the farm level can be effectively controlled only when the commodities produced by the farmers have to be sold to a processing plant. These commodities include sugar, soybeans, peanuts, rice, wheat, cotton, cacao, tea, and coffee. The prices paid to the farmers by the processing plants are set by MIC after considering the cost of production, the processing and marketing costs, and the desired retail price.

Prices of other products that are marketed directly to the consumer without processing, such as potatoes, corn, citrus, and vegetables, are generally only controlled at the retail level. Thus, the retail prices indirectly control the prices received by the farmers. However, since it is more difficult to control prices at the retail level, there is a freer market for these commodities than those that have to be sold to a processing plant.

The following is an example of the undesirable effects of GOB pricing policy for sugar. By Supreme Decree 16581, dated June 18, 1979, the GOB set a price of \$13.50 per metric ton for the sugar cane growers when the estimated cost of production of the growers was \$17.60 per ton ^{1/}. The GOB also set a selling price for refined sugar produced by the mills of \$15.00 per cwt when the estimated cost of production of the mills was \$19.15 per cwt ^{1/}. As a result of these prices, both the farmers and sugar mills lost money in 1979 which could reduce the amount of sugar cane produced in 1980. The retail price of sugar to the consumer has not changed since 1974, remaining at a price of \$.335 per kilo.

In general, we believe a free market price policy combined with a limited GOB price stabilization program would probably result in a more efficient allocation of resources at the farm level and accelerate the rate of growth of production for those commodities in which Bolivia has a comparative advantage.

AID loan 511-T-052 included a covenant (Section 5.05) under which the GOB agreed to "... analyze on a continuing basis governmental pricing policies which affect types of basic foods financed under the Project and, where indicated, to implement policies providing greater production incentives for those basic foods".

Also, AID loan 511-T-053 included a similar covenant (Section 5.05) which stated: "The Borrower agrees to develop price policies which will provide small farmers with incentives to increase production. In establishing such policies, Borrower shall consider the costs to such farmers for needed investments, seed, fertilizers, pesticides and materials, as well as the cost of credit."

Based on our review of GOB price policies, we do not believe the GOB has complied with these covenants which has contributed to the failure of production to keep pace with the growth in demand for many basic farm commodities.

According to the USAID, they have repeatedly talked to top GOB officials about the need to adopt more realistic pricing policies. However, the USAID has not taken any action to enforce the GOB price policy covenants included in AID loans 052 and 053. It is unlikely that the USAID could get the GOB to comply with these covenants in the near future because of the influence of politics on the pricing process. We believe, however, that the USAID should urge the GOB to demonstrate to policy-makers the adverse economic effects of the current pricing policies which will provide greater production incentives to small farmers.

^{1/} Cost estimates were obtained from MACA

Recommendation No. 2

USAID/Bolivia should (1) urge the GOB to adopt pricing policies as required by section 5.05 of AID Loans 511-T-052 and 053 and (2) assist the GOB in price policy analysis.

3. Fertilizer

The use of fertilizer in Bolivia has not increased during the 1970s because of the lack of action by the GOB to foster the development of a domestic fertilizer industry. Also, the USAID has not acted to implement the recommendations of a 1978 AID-financed study to increase the supply of fertilizer. The lack of fertilizer is a major reason for Bolivia's low level of agricultural productivity.

As shown below, fertilizer imports have increased very little during the 1970s.

<u>Year</u>	<u>Metric Tons ^{1/} of Fertilizer</u>
1970	9,373
1971	6,885
1972	6,899
1973	13,743
1974	5,499
1975	7,915
1976	7,331
1977	6,696
1978	9,509

Except for organic fertilizer, all of Bolivia's fertilizer requirements are imported. About 80 percent of all imported fertilizers go into the production of potatoes.

We do not believe that private business as presently organized will be able to promptly meet the supply requirements of an increase in demand for fertilizer caused by the use of more advanced technology and a rapidly expanding credit program ^{2/} which will more than double in size by 1983. Also, whatever supply requirements which the private sector will be able to satisfy will probably be done at unreasonable prices.

1/ Data obtained from unpublished information provided by MACA's Marketing Division

2/ As of June 30, 1979, the GOB and AID had budgeted under existing and proposed projects about \$52 million for credit to small farmers of which about \$15 million was disbursed.

In November 1978, the International Fertilizer Development Center (IFDC) did a feasibility study on establishing a fertilizer industry in Bolivia under a USAID contract. IFDC estimated that demand for fertilizer would increase 300 percent by 1982 and that agricultural productivity of some crops could be increased from 17 to 192 percent from the use of fertilizer.

IFDC reported that there are about 20 firms in the business of importing and selling fertilizer in Bolivia. Most of these firms are commercial companies set up as local representatives of foreign manufacturers. Fertilizers must compete with other imported products within the local company on a comparative margin. If the returns for fertilizers are low in comparison, the companies quickly lose interest and do not import or store any type of fertilizer. The importing companies with this attitude generally do not plan ahead and do not purchase at the best possible time or price; they do not anticipate the need to warehouse or stock products in advance. They simply pass on to the consumer the cost of importing the type of fertilizer brought into the market place. The small farmer is forced to purchase whatever products happen to be imported by the local distributors even though this may not meet his technical needs. The prices are usually not favorable to the farmer when compared with prices paid by other farmers in the world. In addition, the small farmer receives little or no technical service, credit assistance, or delivery facilities which would normally be expected from fertilizer distributors. Also, most of the fertilizer is sold in larger urban centers and not in the rural areas where it is needed mostly because of the lack of adequate distribution systems.

IFDC recommended the establishment of a fertilizer blending and bagging plant. Initially, the plant would exclusively use imported raw materials which would later be combined with some domestically produced materials. The total financing for the plant was estimated at \$3,198,060 consisting of a plant investment of \$240,000 plus working capital of \$2,958,060. This level of investment would provide a capacity in excess of 20,000 metric tons a year and could operate at a profit of \$343,900 a year with an average sales price of \$260 per metric ton. This would result in a cost savings of a \$140 per metric ton when compared to ~~current retail prices of \$400 a ton for 18-46-0 fertilizer consisting of nitrogen and phosphorus.~~

Another option recommended by IFDC in lieu of a plant would be to import the fertilizer directly in bags to supply the needs of the small farmers. The cost per bag would be higher than using the option of a plant but still lower than ~~current market prices.~~ Also, ~~this option could be implemented more quickly~~ with a lower total investment and has already been done on a small scale by the Integral Cooperatives (ICs) established under the Small Farmer Organizations project.

Although the USAID agreed with the recommendations of the IFDC study, they had not taken any action to implement the recommendations as of December 31, 1979. However, prior to the IFDC study the USAID established a program to import bagged fertilizer for the members of the IC's under the Small Farmer Organizations project.

To try to implement the recommendations of the study, the USAID should promote the project with key officials of the GOB and private sector and provide them with copies of the report.

In sum, we believe an increase in the supply of low-cost fertilizer to meet demand projections would benefit the small farm target group and increase agricultural productivity.

Recommendation No. 3

USAID/Bolivia should take action to try to implement the recommendations of the IFDC study.

4. Improved or Clean Varieties of Certified Seed

The production of certified seed by MACA's Seed Division only increased from 914 metric tons in 1974 to 1,003 tons in 1979 mainly because of a lack of an effective plan to promote the use of improved seed by credit programs and the GOB extension service. In 1979, MACA's two AID-improved seed plants only operated at about 15 percent ^{1/} of capacity. MACA's performance in the production of seed will have to be greatly increased over the next several years if substantial gains are to be made in agricultural productivity.

According to the USAID, the use of improved seed for soybeans, corn and rice can increase yields by 38, 132 and 148 percent, respectively. Also, CID/IBTA research findings show that yields of potatoes can be increased 316 percent by mainly using clean seed plus fertilizer.

MACA has two seed processing plants in operation with a total capacity of 6,864 metric tons plus one plant under construction, one being improved, and two planned with a total capacity of 12,272 metric tons.

~~The USAID is financing improvements and equipment for three existing plants and the construction and equipment for three new plants. In addition, USAID plans to finance the services of a seed advisor under a contract with the Chemonics International Consulting Division (Chemonics) to advise MACA in the area of seed quality control, production, processing, and distribution. The USAID also has budgeted \$250,000 under the Agricultural Sector II loan to increase the capital of MACA's Rotating Seed Fund which is to be used to purchase seed grown by farmers.~~

In 1979, MACA only produced 4/10 of 1 percent of the total seed that would have been required to plant all of the hectares of the following crops grown in Bolivia in 1978:

^{1/} This percent represents the estimated capacity of MACA's two seed plants divided by 1,003 tons of seed produced in 1979.

<u>Crops</u>	<u>Metric Tons of ^{1/} Seed Required to Plant all the Hectares Grown in 1979</u>	<u>Metric Tons of Seed Production in 1979</u>	<u>Percent of Seed Produced in 1979 to Total Requirements</u>
Corn	8,973	122	1.4%
Potatoes	195,000	181	.1%
Wheat	7,990	409	5.0%
Rice	8,750	45	.5%
Soybeans	971	205	21.1%
Peanuts	810	-	-
Barley	11,510	27	.2%
Oats	300	14	4.7%
Total	<u>234,304</u>	<u>1,003</u>	<u>.4%</u>

Below, we estimated that the effective demand for certified seed could increase from 7,029 metric tons in 1978 to 21,321 tons in 1983 provided the use of improved seed is adequately promoted by credit programs and the GOB extension service.

Estimated Percent of ^{2/}
Farmers Able to Buy Seed

<u>Year</u>	<u>USAID</u>	<u>Other</u>	<u>Farmers Not Under Formal Credit Programs</u>	<u>Total</u>	<u>Effective Demand for Seed ^{3/} (Metric Tons)</u>
1978	1.4	.6	1.0	3.0	7,029
1979	2.0	.9	1.2	4.1	9,606
1980	2.7	1.2	1.4	5.3	12,418
1981	3.5	1.5	1.6	6.7	15,698
1982	4.3	1.8	1.8	7.9	18,510
1983	5.0	2.1	2.0	9.1	21,321

^{1/} Seed required to plant one hectare (estimated by USAID) times hectares of crops planted in 1978 (obtained from unpublished data provided by MACA's Statistics Division)

^{2/} The percent of farmers able to buy seed is represented by the estimated percent of farmers reached by USAID and other credit programs plus other farmers not receiving formal credit.

^{3/} Effective demand was determined by multiplying the percent of small farmers able to buy seed by the total seed requirements for crops under cultivation in 1978.

The annual production capacity of MACA's 2 seed plants in operation plus the 4 plants to be completed (19,136 metric tons) ^{1/} indicates that MACA should have enough capacity to satisfy effective demand through 1983.

The main factor limiting an increase in seed production is the lack of demand for seed. There are also production problems, such as seed quality, that the USAID plans to address with technical assistance to be provided under the Chemonics contract.

Demand for seed can be created through the credit and extension programs. The USAID in their reply to our draft report stated that they plan to start an Agricultural Extension project in FY 1980 which will promote the use of certified seed. However, it will take several years for this project to have a significant impact on demand because it is new and will have a limited geographical focus. The quickest way to create demand for certified seed on a national scale is to encourage farmers to use the seed through the AID-financed credit programs managed by the BAB and BCB. To achieve this end, the managers of the MACA Seed Division and the credit programs should collaborate to develop production and promotional plans. For example, the managers of the credit programs would need to know the types and amounts of seed that would be available and MACAs Seed Division would need to know the amount of seed required by the credit programs.

To ensure that the demand for certified seed is increased to effectively use AID-financed production capacity, we believe that the USAID should work with MACA, the BAB, and the BCB to promote the use of seed.

Recommendation No. 4

USAID/Bolivia should work with MACA, the BAB and the BCB to help them develop plans to increase the demand for certified seed so AID-financed production capacity is effectively used.

5. Soil Testing Capacity

The operation of IBTA's soil testing laboratories will have to be improved in order to effectively use AID-financed equipment and run soil tests ~~for an increased number of small farmers including those receiving crop production loans under USAID credit programs.~~ Such soil tests are needed to properly determine the fertilizer needs of the soil in order to increase agricultural productivity.

The USAID believes, and we agree, that the first priority of the soil testing laboratories should be used to support the research program to develop better fertilizer recommendations and the second priority is to support the soil testing needs of the small farmer.

According to IBTA/CIAT research results supported by the Consortium for International Development (CID), a good body of information exists in Bolivia

to make fairly reliable fertilizer recommendations. According to CID, an AID-financed contractor, the technological status on making fertilizer recommendations is as follows:

<u>Crops</u>	<u>Area</u>	<u>Confidence Level of Recommendations</u>
1) Potatoes	Whole Country	90%
2) Corn	Santa Cruz and Cochabamba	80%
3) Wheat, Oats & Barley	Upper Cochabamba Valley	80% ^{1/}
4) Rice	Santa Cruz	80% ^{2/}

As a general practice, fertilizer applications in Bolivia have been based on regional recommendations ^{3/}. As pointed out in our recent audit of the CROFOC program, (Audit Report No. 79-22, dated 8/28/79), regional recommendations did not result in an efficient and effective application of fertilizers for potatoes grown by the farmers under the IC program in Potosi. At the request of the IC in Potosi, CID had CIAT run soil tests on 175 samples taken from the farmer's fields in 1978. The test results showed that 48 percent of the samples were extremely low in phosphorus, 41 percent were medium to low and 11 percent were high. CID concluded that based on IC's proposed fertilizer applications following regional recommendations, 59 percent of the farms sampled would not receive the proper rate of fertilizer; some would receive too much (11 percent) and others (48 percent) would not receive enough to bring about the best production levels.

According to CID, the best production responses will generally be obtained based on soil tests from farm fields. Regional recommendations would normally only give good results when they apply to an area where fertilizer has not been used in the past.

The USAID has pointed out, and we agree, that for the country as a whole, credit resources could be used more efficiently and effectively by not making fertilizer recommendations to bring about the best production levels. The reason for this is the marginal rate of return on using additional fertilizer increases at a very slow rate after a certain amount of fertilizer is applied. Thus, by only applying fertilizer up to this point, credit funds could be made available to more farmers for fertilizer resulting in a higher cost-benefit ratio in the use of funds for fertilizer.

IBTA has three soil testing laboratories - one each in La Paz, Cochabamba and Trinidad - and CIAT has one laboratory in Santa Cruz. The USAID has purchased new soil testing equipment for the laboratories in La Paz, Cochabamba and Santa Cruz under the Agricultural Sector I Loan and for the one in Trinidad under the Exploratory Research project. IBTA also plans to build a new laboratory in Tarija.

^{1/} Percentage to be reached by April 1980

^{2/} Percentage to be reached by July 1980

^{3/} Regional recommendations established fixed fertilizer requirements by crop for common areas of the country.

The three largest laboratories in La Paz, Cochabamba and Santa Cruz each have an estimated capacity to test 25,000 samples per year provided they are adequately staffed and funded. This gives the country a total potential capacity of 75,000 samples per year from these three laboratories. This capacity should be adequate to handle the soil testing requirements of small farmers over the next several years.

However, the IBTA soil testing laboratories are unable to operate at anywhere near full capacity because of staffing, budgetary and equipment problems. For example, the laboratory in La Paz only made 1,145 soil tests in 1978.

Problems that prevent the laboratories from operating at full capacity are: (1) the number of personnel assigned to the laboratory in La Paz is not sufficient (2) only one person has been assigned to work in the laboratory in Cochabamba (3) nobody has been assigned to the laboratory in Trinidad (4) some of the AID-financed equipment delivered to the laboratory in La Paz cannot be used because of broken or missing parts (5) the laboratory in Trinidad lacks enough space to install all of the equipment (6) most of the laboratories suffer from a lack of funds to buy chemicals needed to make the soil tests (7) personnel need to be trained in how to set-up mass production systems and (8) the laboratories need more sample holding trays to meet mass production requirements.

In sum, the laboratories will not be able to meet the soil testing requirements from the introduction of improved technologies and an expanded small farmer credit program until the staffing, budgetary and equipment problems are resolved.

The USAID believes it may be better for the GOB to close some of its laboratories in order to be able to adequately staff and fund the operation of the other laboratories.

Recommendation No. 5

USAID/Bolivia should ensure that IBTA develops a strategy to resolve the operational problems of its soil testing laboratories in order to effectively use AID-financed soil testing equipment and meet the needs of a more modern agricultural sector.

B. Training

Our review of the training program disclosed that (1) GOB salaries of returning participants with advanced degrees and professional employees are too low to attract and retain qualified employees (2) the USAID has not followed-up with returned participants to identify and correct any job-related and future training problems (3) USAID participant training records are not adequate and (4) MACA has not billed a returned participant for breach of contract.

The USAID has budgeted \$1,990,000 under the Agricultural Sector I and II projects for the training of public and university employees working in the agricultural sector. The purpose of this training was to upgrade the level of public

administration which was identified as a major constraint to the development of a more vigorous agricultural sector in the 1974 Sector Assessment. The upgrading of public sector employees will also have the benefit of reducing the need of costly technical assistance provided by foreign donors.

The training program consists of the training of 118 employees in other countries of which 69 are to get advanced degrees (64 Masters and 5 PHD degrees). Of the 69 employees selected for advanced degree training, 16 have returned, 36 are in training and 17 were being processed for training as of September 30, 1979. The institutions that will benefit from the advanced degree training program were as follows:

<u>Institutions</u>	<u>Number of Trainees</u>
MACA	34
Universities	13
IBTA	11
BAB	5
CIAT	3
NCDS	3
	<u>69</u>

Our review disclosed several problems that could interfere with the accomplishment of the program goal to upgrade the level of public administration serving agriculture in Bolivia.

1. Salaries of Professional Employees

Salaries of professional employees working at MACA, IBTA and CIAT are not high enough to attract and retain qualified employees. The 1974 Agricultural Sector Assessment pointed out that most of MACA's employees trained under USAID and other programs in the 1950's were lost by the early 1960's because of low, noncompetitive salaries.

As can be seen below, the average salaries of the professional employees of the CBF, BAB and Ministry of Finance were 86 percent greater than those paid by MACA in 1974, and that by 1978 the salaries of the other agencies was still 82 percent greater than those of MACA:

Gross Annual Salaries of GOB Agencies ^{1/}

	1974			1978		
	MACA	Others ^{2/}	Percent of Diff.	MACA	Others ^{2/}	Percent of Diff.
Director	\$4,991	\$10,463	109%	\$9,100	\$18,916	107%
Department Head	3,866	8,379	116%	8,400	14,200	69%
Division Head	3,566	5,924	67%	5,950	11,200	88%
University Graduate	2,625	3,957	51%	4,550	6,675	46%
Total Average	<u>\$3,852</u>	<u>\$ 7,193</u>	<u>86%</u>	<u>\$7,000</u>	<u>\$12,747</u>	<u>82%</u>

This indicates that MACA was not successful in keeping its salaries at the same level paid by other public agencies even though in 1976 MACA did increase its salaries to an average of other agencies under condition precedent 3.02(e) of the Agricultural Sector I loan (511-T-053)

In 1977, IBTA and CIAT were established to take over the MACA functions of research and extension. An analysis of the salaries paid by these institutions in 1979 to technicians with university degrees showed that MACA salaries had increased very little since 1978 and they were only slightly greater than those paid by IBTA but much less than those of CIAT:

Average Annual Gross Salaries ^{1/}
Paid in 1979 to University Graduates

	MACA	IBTA	CIAT
Planning	\$4,644	\$ -	\$ -
Research	-	4,884	6,441
Extension	-	4,441	4,798

The Agricultural Sector Assessment indicated that the salaries of MACA should be increased at an average annual real rate of growth of 15 percent from 1975 to 1979 so they would be competitive with the salaries paid by other organizations in Bolivia. As can be seen below, MACA, IBTA and CIAT were not successful in achieving this target:

1/ Data was obtained from payrolls

2/ Average of CBF, BAB and Ministry of Finance

Average Annual Gross Salaries for 1979

	<u>Actual</u> ^{2/}	<u>Target</u> ^{1/}
<u>MACA Planning Office</u>		
Office and Division Heads	\$9,100	\$14,135
Technical Staff	4,674	9,093
<u>IBTA</u>		
Research Technicians	\$4,884	\$ 7,410
Extension Technicians	4,441	6,109
<u>CIAT</u>		
Research Technicians	\$6,441	\$ 7,410
Extension Technicians	4,798	6,109

Also, MACA has not increased the salaries of professionals with MS and PHD degrees to levels competitive with those paid in the international market by 1978, in accordance with a plan submitted under condition precedent 3.02(e) of the Agricultural Sector I loan.

While MACA, IBTA, NCDS and the BAB do not have a policy of increasing the salaries of returning participants with advanced degrees, CIAT does have such a policy. MACA, IBTA, NCDS and the BAB pay returned participants the same salary they earned before they departed for training while CIAT provides them with an increase of about \$1,800 per year. Unless the policies of MACA, IBTA, NCDS and the BAB are corrected, it could eventually result in the loss of many of the returned participants with advanced degrees as happened in the 1960's.

We followed-up on two of the 16 returned participants with advanced degrees. We found that one of them (who worked at MACA's Soils Division in Tarija) left MACA 6 months after returning to get a job in the private sector because MACA did not increase his salary. The other returned participant (who is MACA's Departmental Director in Potosi) is still working with MACA but is dissatisfied because his salary was not increased.

In sum, MACA, IBTA and CIAT should increase salaries of their professional personnel to an average of other public sector agencies and MACA, IBTA, NCDS and the BAB should establish a policy of providing salary increases for returning participants with advanced degrees. Unless these deficiencies are corrected, these institutions will have problems in attracting and keeping qualified employees needed to upgrade public administration.

1/ Target is based on an average annual rate of growth of 15 percent from 1975 to 1979 in addition to the rate of growth of inflation as measured by the deflator index for GDP.

2/ Data was obtained from payrolls

In order to provide the USAID with greater leverage than obtained under past agreements, we suggest that future agreements with MACA include a covenant that MACA and its agencies increase and maintain salaries at acceptable levels.

Recommendation No. 6

USAID/Bolivia should encourage (1) MACA, IBTA and CIAT to increase the salaries of its professional employees to levels that are competitive with other public agencies and (2) MACA, IBTA, NCDS and the BAB to establish a policy of providing salary increases to returned participants with advanced degrees.

2. Follow-up of Returned Participants

Although many participants have returned to Bolivia over a year ago, the USAID has not yet followed-up with the returnees to identify and correct any training or job problems. We feel such follow-up is important to determine (1) whether the training programs were adequate, (2) whether the returnees are satisfied with their salaries and other employment conditions and (3) whether the returnees have been given assignments to permit them to make effective use of their education. The prompt identification and correction of job-related problems will hopefully result in a high rate of retention of returnees which is needed to up-grade public services and accelerate the development of the agricultural sector.

In our draft report we recommended that the USAID follow-up with returned participants. However, we withdrew this recommendation because the GOB at the request of the USAID contracted an advisor under the CID contract on February 18, 1980 to follow-up with returned participants.

3. Participant Training Records

~~A selective review of 16 USAID training files for participants in training for advanced degrees under AID Loan 511-T-053 disclosed a couple of deficiencies.~~

~~First, 11 of the files reviewed did not contain a copy of the scholarship contract signed between the participant and MACA (sponsoring institution) because the USAID has not established procedures requiring submission of signed contracts to the USAID prior to the departure of the participant. The PIO/Ps signed by the sponsoring institutions require the participant to sign a scholarship contract before departing which commits the participant to continue in the service of the sponsoring institution for a specified period of time. To assure that the contracts are signed before the participants leave for training, we believe this requirement should be modified to require the submission of signed contracts to the USAID before the USAID authorizes the departure of the participant.~~

~~Second, one of the five signed contracts found in USAID files obligated the participant to repay his salary costs, but not the AID-financed training costs in the event the participant does not return to his job and work~~

for a certain period of time. This has happened because the sponsoring institution does not always use the contract forms provided by the USAID. To assure that the contracts signed will give the GOB and/or AID a legal basis to collect both salary and training costs in the event that the contract is not complied with, we believe the PIO/P scholarship contract provision should be modified to require that the signed contracts are satisfactory to the USAID.

Based on our draft audit report, the USAID established procedures to obtain a copy of the signed scholarship contracts before participants depart for training. We have, therefore, deleted a recommendation in our draft report that these procedures be established.

4. Compliance with Scholarship Contract

We found that MACA has not tried to collect the salary costs paid to a returned participant who resigned from his job with MACA Soils Division in Tarija on January 2, 1979 before completing the two years of service required by his scholarship contract. This participant was sent to Mexico to obtain an MS degree and was financed under PIO/P 511-T-053-1-60038 for a total cost of \$18,099. The participant left Bolivia on July 30, 1976 and returned on August 10, 1978. The GOB will not be able to bill this participant for the AID-financed training costs of \$18,099 because MACA did not include a provision in his scholarship contract that he would have to pay these costs.

We believe it is important, however, that MACA file a claim against this participant for salary costs (even though no AID-financed costs can be recovered) to serve as a deterrent to prevent other AID-financed participants from leaving their jobs before the end of their contractual period. This will help to assure that the GOB obtains the maximum benefit from AID-financed participants.

Recommendation No. 7

USAID/Bolivia should request MACA to file a claim against the returned participant who resigned from his job prior to complying with the employment terms of his scholarship contract.

C. Commodities

The GOB procurement, management and utilization of commodities can be improved. Excessive delays in the procurement of AID-financed commodities have adversely affected the implementation of many agricultural sector projects. Control over the receipt, storage, and distribution of commodities is weak. Claims for lost commodities are not promptly filed and recoveries are not used to replace commodities lost. Commodities are not promptly delivered to project sites so they can be used as intended.

1. Procurement

a. Delays

In general, excessive delays in the procurement of AID-financed commodities have adversely affected the implementation of many of the agricultural sector projects. For example, under the Exploratory Research project, the farm equipment arrived in January 1979 (28 months after the grant agreement was signed). This prevented the initiation of farm work at the research station in Trinidad and affected the morale of IBTA personnel. Under the Sub-Tropical Lands Development project, the purchase of equipment needed by INC personnel for the design of two roads took considerable time, slowing the design of the roads. Under the Agricultural Sector I project, action to purchase 35 vehicles was started in July 1976 but only 3 of those vehicles had been received as of December 20, 1979. This has reduced the level of service that could have otherwise been provided by IBTA's extension service. Under the Agricultural Sector II project, five tractors which were to be rented to farmers for planting under the landing clearing project, have not arrived yet even though the bid was awarded on June 12, 1978. This will make it difficult for farmers, whose land was cleared with project financing, to plant their crops.

A test check of commodities procured under the Agricultural Sector I project disclosed that it took an average of 678 days between the dates the Invitations for Bids were published and the dates the commodities were cleared from customs.

Excessive delays have occurred in the following steps of the procurement process:

- 1) Preparing the Invitation for Bids (IFBs)
- 2) Awarding bids
- 3) Approving contracts
- ~~4) Opening Letters of Credit~~
- 5) Shipping commodities
- 6) Clearing commodities from customs

~~Poor GOB management and cumbersome procedures have contributed to most of the unnecessary procurement delays. Short of taking the procurement process out of the hands of the GOB, the quickest way to speed it up is to try to get GOB to simplify its procedures for awarding and approving contracts and clearing commodities from customs.~~

i) GOB Approval of Contract Awards and Contracts

Frequently, the GOB is unable to award the contract within the 90 day period that the supplier guarantees the price after the bid

opening. Sometimes this results in price increases or rebidding the contract. The award of the contract is frequently delayed more than 90 days because a GOB committee must approve the award by a Supreme Decree signed by the Cabinet and President of Bolivia.

The GOB approval of the procurement contract has also contributed to procurement delays. After the procuring Ministry and supplier sign the procurement contract, it has to be approved by the Ministry of Planning and Coordination, the Office of the President, and the Office of the Controller. The procuring Ministry will not request the issuance of the letter of credit to the supplier until all approvals have been obtained.

In their response to our draft audit report the USAID stated it recognized that considerable time could be saved if the GOB adopted more simplified procedures for awarding and approving contracts. To correct this problem, the USAID has modified the terms in its new loan agreements to try to alleviate the most serious delays in the procurement process. However, it is too early to determine if these efforts will be effective.

ii) Custom Clearance

Changes in GOB custom clearance procedures could save a significant amount of time. A test check of time needed to clear vehicles from customs in 1979 disclosed that it took MACA an average of 187 days.

Several years ago, the GOB agencies were allowed to clear commodities from customs quickly by using bonds prior to submitting the formal liberating documents. However, since many GOB agencies abused this privilege, it was rescinded and now all agencies have to go through the formal procedure before they can get commodities out of customs. The formal procedure requires the preparation of a liberating document which is submitted to the Ministry of Finance with a consular and commercial invoice.

After approval is obtained, the documents are submitted to customs where 17 signatures are required before the commodities can be released from customs. The number of approvals required to liberate commodities provide ample opportunity to block or delay the processing of the documents. One reason controls are so tight is to try to prevent GOB agencies from adding commodities to the liberating documents which are not entitled to duty-free entry.

As a result of recent efforts made by the USAID/Director, the Ministry of Finance established an office in December 1979 to help international agencies with customs clearance problems. The USAID said that this office has helped in clearing some AID-financed commodities from customs.

In our draft report, we recommended that the USAID try to get the GOB to adopt simplified procedures for clearing commodities from customs. Since the GOB has established an office to help international agencies with customs clearance problems, we have withdrawn this recommendation. We believe, however, if this office is unable to substantially reduce the time AID-financed commodities are kept in customs, the USAID should try to get the GOB to adopt simplified procedures, such as a bonding arrangement with USAID assurances of compliance.

b. Procurement Plans

Unless the efficiency of the procurement process is improved, the USAID should consider increasing the lead time included in project procurement plans to make them more realistic. This should help to ensure that commodities are received when they are needed thus reducing instances where project implementation is adversely affected by the delayed receipt of commodities.

2. Commodity Management

GOB controls over the receipt, storage and distribution of commodities are weak. Also, claims for lost commodities are not promptly filed and recoveries are not used to replace lost commodities. The following is an analysis of significant weaknesses noted during our examination.

a. Receipt, Storage and Distribution of Commodities

AID-financed commodities are not being properly received, stored and distributed. Appropriate procedures have not been established and storage facilities are too small. Thus, AID-financed commodities may not be used in accordance with the terms and conditions of agreements.

MACA is in charge of clearing all commodities from customs, including those to be delivered to IBTA, CIAT and the Universities. MACA does not issue receiving reports for commodities received from customs. As items are received, only a check mark is placed on the vendors commercial invoice or packing list which in our view does not provide adequate internal control. Pre-numbered receipts should be used and signed by the receiving officer. Space should be provided on the receipt to note any damages or defects to commodities to serve as a basis for claims against suppliers, insurance companies, and carriers.

MACA storage facilities in La Paz are too small. Most commodities are delivered to the warehouse after they are cleared from customs. The storage facilities consist of two buildings - four by five meters in size. Our inspection of the buildings disclosed that the buildings were overcrowded. Since MACA does not have enough space, it prefers to keep some commodities stored in customs.

The MACA warehousing operation in La Paz has not established inventory controls. The warehouseman does not keep any inventory records to record receipts and deliveries. As a result, the warehouseman does not know what commodities are stored in the warehouse. Thus shortages can not be determined from physical inventories and distributions can not be made in an orderly manner. Commodities are distributed to agencies without issuing shipping notices.

IBTA and CIAT research stations at San Benito, Toralaya and Saavedra do not maintain property control records and do not have adequate storage facilities for AID-financed commodities. These stations do not know what commodities they are supposed to receive in the future.

We have not included a recommendation that MACA, IBTA and CIAT establish adequate control over AID-financed commodities because there is virtually no procurement remaining under the projects. Thus, to establish better controls at

this time would not be worth the effort. The USAID stated in their response to our draft audit report that they will require adequate controls for new projects.

b. Claims

We found several deficiencies in the processing of claims for lost commodities and the handling of refunds received from claims.

i) Unfiled Claims

MACA has not yet filed a claim for \$5,393.85 of Entomological laboratory supplies (financed under AID Loan 511-T-053) even though Lloyds Insurance Co. has certified that the commodities were lost. These supplies were purchased under IFB 3/77 dated October 26, 1977.

Also, MACA has not yet filed a claim for two HP 97 Packard printing calculators valued at \$2,080 which have not been received even though they were shipped on July 17, 1978. These calculators were financed under AID loan 511-T-053. They were purchased under IFB 2/77 dated July 15, 1977.

The failure to file claims reduces the amount of resources available for project activities.

Recommendation No. 8

USAID/Bolivia should ensure that MACA files claims for the Entomological laboratory supplies and the two printing calculators totaling \$7,473.85.

ii) Insurance Recovery

The National Institute of Colonization (INC) recovered \$4,889.67 from the Atlantic Mutual Insurance Co. for the shipping loss of 72 pieces of pipe purchased from Epayo under the Sub-Tropical Lands Development project. The funds recovered were deposited with the Central Bank of Bolivia on April 11, 1979 in Account No. 13-317. The project manager of INC said the funds will not be "...used to replace or repair any material damage or any loss of goods insured..." as required by Section 6.08 of AID Loan 511-T-050. We, therefore, believe that the USAID should request a refund as authorized under Section 8.06 of the Loan Agreement which states that AID may require the Borrower to refund "...any disbursement not made or used in accordance with the terms of this agreement..."

In their response to our draft audit report the USAID stated they will deduct the amount from the next voucher payable to INC. However, since this action has not yet been completed, we have retained our recommendation.

Recommendation No. 9

USAID/Bolivia should obtain a refund from INC of \$4,889.67 for insurance proceeds recovered but not used to replace the lost pipe.

3. Use of Commodities under Exploratory Research Project

IBTA has not delivered some commodities financed under the Exploratory Research project sites because of the lack of funds to pay for transportation costs. This has prevented the project from receiving the benefits that the commodities were intended to provide.

On March 14, 1980, we found that following commodities were stored at IBTA's Experiment station in Patacamaya.

- 1) One John Deere tractor
- 2) Two Forrage Choppers
- 3) One Disk Harrow
- 4) One Rotary Mower

These commodities were received by IBTA six months ago but had not been delivered for use at the experiment stations in Trinidad and Cobija because IBTA lacked funds to pay for transportation costs. We believe the USAID should require IBTA to promptly deliver the commodities to project sites so the commodities can be used as intended.

Recommendation No. 10

USAID/Bolivia should require IBTA to promptly deliver commodities financed under the Exploratory Research project to the project sites.

D. Technical Assistance

~~The implementation of agricultural sector projects has been adversely affected because the technical assistance being provided has suffered from (1) the lack of effective counterpart relationships, (2) the lack of Spanish language proficiency of some advisors, (3) inadequate work plans, (4) lack of timely recruitment of advisors, and (5) inadequate mix of technical skills to effectively respond to problem areas.~~

1. Counterparts

The lack of counterpart relationships has limited the effectiveness of technical assistance in upgrading GOB capabilities as planned under three contracts/projects. We did not find any evidence that the USAID has tried to correct these counterpart problems as of December 31, 1979.

a. Consortium for International Development (CID)

The Farm Management Economist employed under the CID contract (511-101) ^{1/} in December 1977 was not providing any assistance to upgrade the capability of IBTA's Research Division in Cochabamba to test the economic viability of research results and to recommend improved technologies. This activity was to have been the advisor's principal function according to his job description included in the contract. No assistance was provided as planned because IBTA did not have any counterparts working in agricultural economics. However, the advisor has been working with MACA officials on marketing problems which was an area also included in his job description.

CID has reported that without an agricultural economics staff it will not be possible for IBTA to know the economic factors that influence the farmers' activities, to know what new technology to emphasize initially, or to know the potential returns that would accrue from on-farm adaptation to an adoption of new technology. We thus believe that it is important that the USAID encourage IBTA to employ an economics staff. Also, the employment of such a staff will provide a counterpart to the CID advisor so he can achieve the principal function of his job description.

As of December 31, 1979, the USAID had not taken any action to encourage IBTA to establish an economics staff so the counterpart problem can be resolved.

Recommendation No. 11

USAID/Bolivia should (1) try to get IBTA to establish an economic staff to provide a counterpart for the Farm Management Economist and, if not successful, (2) ensure that MACA amends the CID contract (511-101) to either delete the position of Farm Management Economist or revise the job description so CID can meet its contractual obligations.

b. Chemonics International Consulting Division (Chemonics)

The Chief of Party/Sectorial Planning advisor employed under the Chemonics contract (511-111) ^{2/} in June 1979 has not been able to develop a counterpart relationship within MACA's planning offices. This has prevented the advisor from providing part-time assistance to MACA in the development of an agricultural planning, evaluation and control system and in the preparation of agricultural policy studies required by the Chemonics contract. The advisor has tried to establish a counterpart relationship with the Chief of the Planning Division but this official was too busy to work with the advisor.

^{1/} This is a host-country contract financed under the Basic Food Production and Marketing project (511-0451)

^{2/} This is a host country contract financed under the Small Farmer Production project (511-0481).

Recommendation No. 12

USAID/Bolivia should (1) try to get MACA to provide a qualified counterpart for the Sectorial Planning advisor and, if not successful, (2) ensure that MACA amends the contract (511-111) to revise the job description of the advisor so Chemonics can meet its contractual obligations.

c. Farm Policy Study Project

Counterpart relationships have not been established under this project (511-0485) with MACA's Planning Division to analyze data collected from six project-financed studies and to participate in the preparation of a new sector assessment.

MACA's Statistics Division was to participate in the data collection and tabulation of surveys. MACA's Sectoral Planning Division was to participate in data analysis. Between project inception in March 1978 and December 31, 1979, three surveys have been undertaken (Socio-Economic Farm Survey, Credit Analysis, and National Crop Technology Survey). MACA's Statistics Division has participated actively in data collection and tabulation with the USAID project manager and contractors in doing these surveys. However, the Planning Division has not performed any analysis of these survey results as well as a 1977 survey of the Southern valleys because no counterpart relationships have been established. The participation of the Planning Division in the project is needed in order to upgrade Bolivia's agricultural sectorial planning capacity (the subgoal of the project).

The USAID project manager believes that the Planning Division has a limited number of employees adequately qualified to assist in the analysis of survey results. However, the analytical capability of the Planning Division will be improved once the four participants being trained at the MS level return to their jobs.

Recommendation No. 13

USAID/Bolivia, in coordination with MACA's Planning Division, should develop a work plan which will identify MACA counterparts and their responsibilities in performing activities under the Farm Study Policy project (511-0485).

2. Spanish Language Capability of CID Advisors

Several advisors employed under the CID contract since June 1975 did not have adequate Spanish language proficiency which reduced their effectiveness in training counterparts. This problem was caused because there were no contract requirements establishing the level of Spanish proficiency needed.

As of December 31, 1979 one of the nine CID advisors in Bolivia can not speak Spanish. This, however, has not reduced the effectiveness of this advisor's assistance because his counterpart speaks English.

We have deleted a recommendation in our draft audit report that the CID contract be amended to establish adequate Spanish language requirements because the USAID advised us there is only one more technician scheduled to arrive under the contract and his Spanish is excellent.

3. Composition of CID Technical Assistance Team

The CID contract (511-101), which was amended in February 1980, no longer provides for the services of a research advisor to upgrade the policy-making capability of IBTA which is needed to develop better research programs.

Since inception of the CID contracts in July 1975 ^{1/} 37 work-months of assistance has been provided at the national and departmental levels of IBTA to develop the policy needed to design an adequate research program at the experiment station level. However, the effectiveness of some of this assistance was reduced because of the poor job performance of the first advisor.

According to CID, the National Director of IBTA and the Departmental Directors give very little policy guidance on the commodities and technical areas to emphasize in the development of a research program. As a consequence, the technical focus of research plans, which are mainly developed by technicians at the Experiment Station level, has been too narrow to give a high degree of productive research results.

The adverse effect of this lack of policy guidance was documented in a CID report prepared in July 1979. This report disclosed that of 351 experiments conducted by the three research stations in the project area during 1977 and 1978, only 25 percent of the experiments produced information that could be used as a basis for recommendations to farmers. The CID report also pointed out that 71 percent of the tests dealt exclusively with some aspect of crop variety improvement. Also, the technical staff at all research stations is almost exclusively oriented toward plant breeding and variety improvement. As a result of this, CID reported a long-term building program will be required to develop the needed expertise in other areas of plant pathology, entomology, weed science, soil science and economics.

To better improve the capability of IBTA to develop policy that will produce more useful research results, CID believes it is important to provide technical assistance in this area.

The CID contract has authorized the employment of a research advisor to carry out his function but his position has been vacant since October 12, 1978. Initially, IBTA did not want another research advisor. However, a research advisor

^{1/} The first CID contract (511-92) covered the period from July 1, 1975 to November 30, 1977 and the second CID contract (511-101) covered the period from December 1, 1977 to the present.

was finally nominated and approved to fill this position in December 1979 but CID cancelled the filling of this position because of uncertainty over the future of the CID contract due to AID/W cuts in grant funding for USAID programs.

In February 1980, the USAID obtained the concurrence of MACA to reduce the number of long-term advisors under the CID contract from 10 to 7 because the availability of grant funds for the project was reduced. In revising the project focus, the position of research advisor was eliminated from the project description because the Chief of Party provides part-time assistance to IBTA in policy development, the contract was to mainly focus on potatoes, and IBTA lacked adequate organizational stability and leadership.

We believe, however, that because IBTA does not have the capability to develop policy to produce more useful research results, the USAID should consider adding a position of a research advisor to the CID contract in the future if funding becomes available and it is determined that such assistance would be effective.

4. Measurement of CID Performance

One of the greatest problems that the USAID has with the CID contract is the difficulty in determining whether CID efforts are directed into the most productive areas and what benefits have been produced as a result of these efforts. We believe these problems can be largely resolved by modifying the content requirements to be included in CID's annual work plans and by revising the performance indicators included in the logical framework.

a. Work Plans

The annual work plans prepared by CID generally only listed the experiments and activities to be undertaken by CID technicians and their counterparts. Thus, it was not possible to determine whether the planned activities were being directed at the most productive areas and what benefit could result from the activities. We believe, therefore, that lists of activities should be supported ~~by a statement of the problems that the activities are expected to overcome and the benefits that could be produced from a correction of these problems.~~

We discussed the need for better work plans with the USAID and CID personnel in August and September 1979. On February 1, 1980, CID published a new annual work plan which included justifications and objectives for all activities ~~to be undertaken by CID advisors. We have, therefore, withdrawn the recommendation included in our draft audit report that CID improve its work plans.~~

b. Logical Framework

The logical framework prepared for the project financing the CID contract does not provide an effective means to measure CID performance. This problem is discussed in detail on page 41 of this report.

5. Delay in Contracting Technical Assistance

The Central Bank of Bolivia (BCB) has been without the services of a long-term technician since July 20, 1979 to advise in the implementation of the Agribusiness and Artisanry (A&A) project (511-0472). According to the USAID, this project has suffered from a lack of effective promotion which was to be one of the services to be provided by the contract advisor.

The project agreement authorized the financing of 2 years of long-term technical assistance for the A&A project. The services of one advisor were contracted for 12 months from July 21, 1978 to July 20, 1979 under a contract (511-104) with Servicios Técnicos del Caribe (STC). The advisor was to provide help in program promotion, implementation, evaluation, and rediscounting operations. According to the USAID, the promotional services provided by the advisor were not satisfactory and as a result the contract was not extended for an additional year. The USAID and BCB have made a couple of attempts to find another advisor but without success as of December 31, 1979.

On January 30, 1980, the BCB requested the USAID to contract directly an advisor under the A&A project for a period of one year. On February 12, 1980 the USAID requested other AID Missions in Latin America to submit information on individuals or firms that could provide technical assistance to the project.

Recommendation No. 14

USAID/Bolivia should promptly contract the services of an advisor for the A&A project.

E. Construction

Construction activities under the agricultural sector projects have moved much slower than planned. Out of 25 activities planned for the sector under AID loans 050, 053 and 059, 2 have been completed, 15 are in process and 8 have not been started as of September 30, 1979 (see Appendix F). According to the project papers for these loans, the construction activities were to have been completed by September 1978 under loans 050 and 053 and by October 1980 under loan 059.

Our review of construction activities financed under the agricultural sector projects disclosed (1) the GOB has not committed enough funds to complete two penetration roads which could delay the completion of the roads (2) the GOB has not provided sufficient funds to effectively maintain and operate project equipment which has delayed the construction of access trails (3) MACA has not promptly obtained land and land titles for eight facilities to be built under the Agricultural Sector II project which has delayed the start of construction and (4) GOB supervision and USAID inspections of construction activities have not been made frequently enough to assure that problems are promptly identified.

Delays in the completion of construction projects prevents farmers from receiving the benefits within the planned time frames and increases the cost of the projects because of inflation.

1. GOB Funding Deficit

There was a funding deficit of \$58,403 as of December 31, 1979 to complete the construction of the San Julian-Casarabe and Chane-Pirai penetration roads financed under the Subtropical Lands Development project (511-T-050) as shown below:

Revised contract cost estimates:		
Chane-Pirai Road		\$5,185,780
San Julian Road		<u>4,456,123</u>
		\$9,641,903
Less: Funds Committed		
AID Loan 511-T-050	\$6,517,500	
GOB Contribution (P.L. 401, Title III, GOB Counterpart and GOB Treasury)	3,066,000	<u>9,583,500</u>
Funding Deficit		<u>\$ 58,403</u>

This deficit could delay the completion of the roads and has occurred because INC has not yet agreed to fully cover an increase in the cost of the roads which has amounted to \$1,587,500. Costs have increased mainly because the plans of the Chane-Pirai road were changed to (1) add a bridge over the Chane River and (2) raise the roadbed and add more culverts to prevent flooding.

Considering the recent devaluation of the Bolivian peso and price and salary increases decreed by the GOB in December 1979, we believe that the cost of the roads and the funding deficit could increase further. The USAID is sending a form letter to all Borrowers reminding them that unit prices may have to be adjusted under construction contracts and urging them to appoint a team to review costs.

Under Section 4.02 of the Loan Agreement, the GOB has agreed to contribute any funds in addition to the loan required to complete the construction. Therefore, we believe that USAID should ensure that the GOB contributes the funds needed to complete the two roads.

Recommendation No. 15

USAID/Bolivia should obtain from INC revised cost estimates and a funding plan to cover the deficit in construction of the two roads.

2. Delays in Construction of Access Trails

The construction of access trails under the Subtropical Lands Development project (511-T-050) is far behind original projections which can delay the settlement of farmers into the project area. According to the project paper, INC using loan-financed equipment, was to build 800 kilometers of trails for 100 settlements by September 1978. The target for access trails has been

reduced to 210 kilometers because of a reduction in the project scope and errors in estimating the original number of kilometers to be built. As of September 30, 1979 only 90 kilometers of trails have been completed or about 43 percent of the revised target.

The main causes of the slow progress were (1) the procurement and use of five excess property Caterpillar D-8 tractors which did not give good service and (2) the lack of sufficient INC funds to adequately maintain and operate project machinery and equipment.

To resolve the equipment problems the USAID has (1) encouraged INC to build an equipment repair workshop which is under construction (2) agreed to purchase tools for the workshop and (3) purchased three new tractors with loan funds in 1978.

However, we could find no evidence that the funding problem has been resolved.

The INC auditor for the Santa Cruz area told us that funds received from the GOB in support of project activities have been insufficient to cover the cost of spare parts, supplies, fuel, and oil to keep construction equipment and machinery running. This condition was reported in prior AG Audit Report 78-15, dated 4/28/78. No recommendation was made in that report because the USAID said they had resolved the problem.

In summary, we believe INC needs more funds to maintain and operate its equipment to accelerate the construction of the access trails. The USAID indicated in their response to our draft audit report that they will continue to negotiate with INC to provide for equipment maintenance and operating costs.

Recommendation No. 16

USAID/Bolivia should ensure that INC allocates sufficient funds to adequately maintain and operate project equipment.

3. MACA Delays in Starting Construction Activities

Progress of planned construction activities has moved very slowly under the Agricultural Sector II project because MACA has not promptly obtained land and land titles. ~~Delays in the construction of the planned activities has~~ increased the cost of the facilities because of inflation and will prevent the farmers from receiving the benefits within the intended time frame.

~~The loan agreement was signed in November 1977 and the project~~ paper estimated that all construction should be completed in October 1980. As can be seen below, of the 11 construction activities planned for this project, only 2 have been completed, 1 is in process and 8 have not been started as of September 30, 1979 (see Appendix F).

<u>Construction Activity</u>	<u>Location</u>	<u>Percentage of Work Completed</u>
1) MACA Building (remodeling)	La Paz	100%
2) Potato Silo for Seed Plant	Betanzos	100%
3) Rural Electrification for Seed Plant	Betanzos	15% ^{1/}
4) Seed Processing Plant	Yacuiba	--
5) Seed Processing Plant	Zudañez	--
6) Housing for Seed Processing Plant	Betanzos	--
7) Agricultural Service Center	Tarija	--
8) Agricultural Service Center	Potosi	--
9) Seed Processing Plant (Improvements)	Tarija	--
10) Seed Processing Plant (Improvements)	Cochabamba	--
11) Seed Processing Plant (Improvements)	Warnes	--

As of November 30, 1979, MACA had not solicited proposals from consultants to design the eight unstarted projects. The project paper estimated that this should have been done in March 1978 (5 months after the loan agreement was signed) in order to have the construction completed within 31 months or by October 1980. If the procurement of the design work is started in May 1980, it will probably take until November 1983 (using the 31 month time frame estimated in the project paper) before construction is completed. This would mean that the project may have to be extended 12 months beyond its estimated completion date (November 24, 1982) in order to permit the completion of construction.

The main problems which have delayed the start of construction is that MACA has not promptly obtained the land or titles to land on which to build the two seed processing plants and the two Agricultural Service Centers (ASC). MACA has reported that it obtained land for the ASC in Tarija in January 1979, for the ASC in Potosi in November 1979, and for the Seed Processing in Yacuiba in August 1979. However, they have not yet presented evidence of clear title to the land to the USAID as required by condition precedent to disbursements for construction projects under Section 5.4(a) of the loan. MACA has not yet obtained any land for the seed processing plant in Zudañez.

~~At the request of the USAID, MACA prepared a revised implementation plan on October 9, 1979 for the construction of the six seed processing projects. A review of the plan indicates that it is unrealistic and that the time frames estimated to achieve the specific events will have to be expanded. Also, MACA has not taken any action to implement the plan. For example, the plan projected that the invitation for proposals for the contracting of an engineering firm would be prepared and approved by the USAID by November 20, 1979. This was not done as of December 31, 1979. According to the USAID project manager, MACA was unable to take action as planned because there were two changes in host government administration in November 1979.~~

1/ According to the USAID project manager, this facility was completed in October 1979.

In our view, design work could be started right away on the improvements to be made for the seed processing plants in Betanzos, Cochabamba, Tarija and Warnes because MACA has valid title for these properties. Also, it is possible that the design work could be started on the construction of the seed processing plant in Yacuiba and the ASCs in Tarija and Potosi if MACA can produce evidence of valid titles for the land. However, the start of work on the seed processing plant in Zudañez will be held up until MACA obtains the land for this facility. Continued delays in the construction of these eight projects increases the cost of the projects because of inflation, and prevents the farmers from receiving the benefits that these facilities were intended to provide. We believe, therefore, that the USAID should apply more pressure on MACA: (1) to prepare an invitation of proposals to contract a consultant to start design work for the construction of those facilities where MACA has land with valid titles, and (2) to obtain land and valid titles for the remaining construction projects.

Recommendation No. 17

USAID/Bolivia should require MACA to (1) promptly prepare an invitation of proposals to contract the services of a consultant for the design of facilities where MACA has land with valid titles and (2) obtain land and valid titles for the remaining projects.

4. GOB Construction Supervision

In general, we found that GOB was not supervising the construction of facilities under agricultural sector projects frequently enough to promptly identify problems.

a. Agricultural Sector I Subprojects

The construction of seven of the eight facilities financed under the Agricultural Sector I project are behind schedule as shown below:

<u>Activity (Location)</u>	<u>Percentage of Completion</u>		
	<u>Date</u>	<u>Projected</u>	<u>Actual</u>
Seed Processing Plant (Warnes)	7/79	27%	22% ^{1/}
Experimental Station (San Benito)	3/79	94%	23% ^{1/}
Experimental Station (Toralapa)	8/79	86%	65% ^{1/}
Experimental Station (Chinole)	7/79	100%	74% ^{1/}
Experimental Station (Saavedra)	9/79	25%	30%
Agricultural Service Center (Sucre)	9/79	31%	5%
Agricultural Service Center (Santa Cruz)	8/79	33%	25% ^{1/}
Agricultural Service Center (Cochabamba)	9/79	29%	5%

^{1/} According to the project manager the facilities were completed in 12/79, 11/79, 12/79, 10/79 and 1/80 respectively.

In September 1979, we visited projects at San Benito, Toralapa, Saavedra, Warnes, Chinoli, Cochabamba, and Sucre, where numerous buildings and other facilities were being constructed. Except in Warnes, Cochabamba and Sucre, we saw little or no construction activities at the locations visited.

IBTA and CIAT officials interviewed during our trips to Cochabamba, Sucre, and Santa Cruz stated that the contractors were making very little effort to complete the building on schedule. The majority of the construction items under the contracts have been sublet to various individuals. The contractor's participation in the construction has mainly been confined to the procurement of materials with very little supervision of the subcontractor's work.

MACA has responsibility for supervising the construction of improvements to the four experiment stations and the construction of the other facilities is being supervised by engineering firms.

IBTA and CIAT officials in charge of the four experiment stations told us that MACA and IBTA inspectors did not visit the construction sites on a frequent basis. As a result, the station Directors at San Benito and Saavedra had to spend a considerable amount of their time supervising construction activities. The responsibility to supervise the stations at San Benito, Toralapa and Chinoli was assigned to an IBTA engineer living in La Paz and the responsibility for the station in Saavedra was assigned to an engineer of the Development Corporation of Santa Cruz (CORDECRUZ). Also, two MACA engineers stationed in La Paz were supposed to help oversee construction activities but they did not visit any of the job sites during the last 4 months of 1979 because of the lack of travel funds and vehicles as well as political problems. In our view, MACA should increase the frequency of its supervision of the construction of the uncompleted experiment station in Saavedra and any new projects started so problems can be promptly identified and corrected.

Recommendation No. 18

~~USAID/Bolivia should work with MACA~~
to develop a plan to supervise AID-
financed construction projects.

b. Agricultural Service Centers (ASCs)

~~The construction of the two ASCs financed under the Subtropical~~
Lands Development is far behind schedule. The construction of the ASC in the San Julian area was scheduled to be completed on July 22, 1979, but only 55 percent of the construction had been completed as of September 28, 1979. The ASC in the Chane-Piray was to be completed on June 25, 1979 but only 78 percent of the construction was completed as of September 27, 1979.

Construction work has been delayed because of (1) heavy rains and flooding (2) contractor liquidity problems, and (3) the lack of materials, particularly cement. Also, INC did not establish an efficient system to process the contractors' pay requests which delayed payments to the contractor for work performed.

We also found that construction supervision was not made with sufficient frequency to promptly identify and correct problems.

INC had never assigned a resident engineer to supervise construction. The supervision of the construction of the ACSs was assigned to a topographer of INC but because of his multiple responsibilities he was not able to carry out his supervisory responsibilities in a satisfactory manner. After our field trip to the project area in September 1979, INC informed us they hired a resident engineer effective October 15, 1979, to do the inspection work in both the Chane-Pirai and San Julian-Casarabe areas.

5. USAID Inspection of Construction Projects

The USAID was not inspecting construction projects with sufficient frequency to assure that problems were promptly identified and that reliable information was obtained on construction status.

For example, we found that the USAID Monthly Activity Report for June 1979 did not accurately report the status of construction of an ASC financed under the Subtropical Lands Development project. The report stated that the contractor had begun painting and finishing work on the Chane-Pirai ASC. During our visit to the construction site on September 27, 1979, the painting and finishing had not been started and there was no construction activity. The report also stated that INC began work on foundations for the additional butler building at the Chane-Pirai ASC. We found that no such foundation had been started as of the date of our visit in September 1979. The USAID had obtained its data on construction status from INC project representatives rather than direct observation.

The USAID's surveillance over the construction activities of the Agricultural Sector I project has been limited. The frequency of field trips by USAID engineers was not sufficient to assure effective execution of the eight construction projects. During the first 10 months of 1979 the USAID averaged about 1 trip every 3 months.

USAID engineers do not believe they can increase the frequency of inspections over construction activities because of recent reductions in personnel. U.S. engineers have been reduced from 3 to 2 employees and local engineers from 6 to 4 employees. In order to assure that the number of inspections are not reduced because of staffing cuts, the Office of Engineering plans to assign inspection responsibilities on an area rather than a project basis.

To resolve the above inspection problem, we suggest that the USAID develop a schedule of inspections to visit construction sites which uses personnel from both the engineering and other USAID offices. All USAID offices should exchange copies of inspection reports prepared. While non-engineering personnel will not be qualified to verify whether the technical requirements of the project are being fulfilled, they should be able to ascertain many problems affecting construction progress. By using this combined approach, we feel the USAID should be able to mobilize enough resources to adequately inspect construction projects in order to promptly identify problems and adequately determine project status.

The USAID indicated in their response to our draft audit report that they are preparing a plan to inspect the various construction projects and inspection reports are shared with concerned offices. However, we believe procedures should be established to do this on a continuing basis. Therefore, we make the following recommendation:

Recommendation No. 19

USAID/Bolivia should establish procedures which provide for the preparation of inspection schedules for construction projects using personnel from various USAID offices.

F. USAID Management

Our review of USAID's management of Agricultural sector projects disclosed that improvements should be made in project evaluation procedures, implementation planning controls, the design of logical frameworks, and procedures used to control the implementation of recommendations made in evaluation and audit reports. In addition, USAID has not taken timely and effective action to (1) ensure that the GOB adopt pricing policies to provide greater production incentive for farmers to increase production as required under two AID Loans (see page 8) (2) require effective use of AID-financed soil testing equipment (see page 14) (3) resolve counterpart problems for contractors (see page 26) (4) increase the level of USAID inspections of AID-financed construction projects to identify problems more promptly and obtain reliable information on the status of construction (see page 31) (5) pressure MACA to promptly start planned construction projects (see page 31) and (6) verify that the Central Bank of Bolivia has used subloan repayments under the FRA I program for relending to small farmers as required under AID Loan provisions. By making changes in procedures and controls and obtaining actions and documents from GOB agencies, the USAID should be able to improve the management of its agricultural sector projects.

1. Project Evaluation

Our review of the project evaluations conducted by the USAID indicated that (1) the reports can be improved and published more promptly (2) the design of logical frameworks can be improved to provide more meaningful evaluations and (3) a follow-up system could be set-up to close recommendations to assure that they are implemented and documented in a manner satisfactory to top management.

a. Reports

Our review of the USAID evaluations of seven agricultural projects disclosed that (1) two of the reports were published without recommendations even though the project analysis discussed problems requiring corrective action (2) logical frameworks indicators included in one evaluation report were not evaluated and (3) some reports were not promptly published. The correction of these deficiencies should result in a better and more timely identification and correction of project problems.

i) Lack of Recommendations

The evaluation of the Basic Foods Production and Marketing project was published on July 11, 1978 without any recommendation. The report indicated that a "fine tuning" of the CID contract might be needed to assure that the work done by research stations is (1) more directly translated to the requirements of the small farmer and (2) producing results of direct utility to the target group. The covering memorandum to the evaluation report stated that a contract team reviewed the CID contract in April 1978 and that the recommendations of this team are under review for possible incorporation into the CID contract in the coming months.

The final evaluation of the Exploratory Research project dated May 25, 1979 indicated that there were several remaining project activities that should be undertaken with financing from other on-going projects. However, no recommendation was made to develop a plan to identify and implement these activities in the Project Evaluation Summary.

ii) Lack of Indicator Evaluation

The evaluation of the Agricultural Sector I project compared actual production and yields to the subgoal targets but provided no explanation why most of the targets were not achieved.

iii) Lack of Timely Evaluations

The evaluations of the Farm Policy Study and the Basic Food Production and Marketing projects were drafted by the USAID project managers in June and September 1979 but had not been published as of December 31, 1979.

The draft reports were submitted to the USAID Office of Development Planning and Evaluation but that office did not promptly review the reports.

~~Based on our draft report, the USAID established procedures to overcome the above deficiencies. We therefore make no recommendation in this final report.~~

b. Logical Frameworks

~~Our review of eight agricultural projects with estimated completion dates extending beyond CY 1980 disclosed that no logical framework has been prepared for the Subtropical Lands Development project and that there were some design problems in the frameworks for the other seven projects which can reduce the effectiveness of USAID evaluations. The seven projects with logical frameworks were:~~

- 1) Agricultural Sector II
- 2) Farm Policy Study
- 3) Agricultural Sector I
- 4) Basic Foods Production and Marketing
- 5) Small Farmer Organizations
- 6) Productivity Credit Guaranty Program (PCGP)
- 7) Agribusiness & Artisanry (A&A)

i) Program/Sector Goals

While the sector goals are essentially the same for the seven projects, some of the objectively verifiable indicators used to measure goal achievement (1) were not the same for most projects, (2) did not always relate to goal achievement and (3) were not always quantified.

The sector goal for the seven projects was to increase per capita income and standards of living of rural people except for two projects where the goal was expanded to also include the urban poor as part of the target group.

Although the USAID has standardized its sector goal, we found that most of the indicators used to measure goal achievement were not the same. We, thus, believe that the measurement of the sector goal would be facilitated if the USAID would also establish standard indicators to measure goal achievement.

The USAID is conducting income surveys under its Farm Policy Study project to obtain data to measure goal achievement which is a slow and costly process. In addition to income surveys, we believe that the growth in per capita GDP for agriculture could be used to indirectly measure goal achievement. The advantage of this indicator is that it can be obtained more quickly and at a lower cost from data published by the BCB at the end of each year. The disadvantage is that it may not measure the rate of change in per capita income as effectively as income data obtained from surveys.

ii) Subgoals

Our review of the logical frameworks disclosed that some of the subgoal indicators can not effectively measure the impact on the target group. They were also inconsistent between similar projects and were improperly used to measure the achievement of the broader sector goal (Four of the seven agricultural projects reviewed have subgoals which are used to measure the direct economic ~~impact on the target group~~).

The Agricultural Sector I and the Basic Foods Production and Marketing projects had the same subgoal and indicators (annual growth rates of yields and production for selected crops). However, growth rate targets were not the same for each project. Also, the growth rate targets were based on ~~production and yield estimates for the whole country rather than the target area~~ (intermountain valleys of Central Bolivia and Eastern lowlands). Thus, it was not possible to measure the achievement of the subgoal in the project area, using these indicators.

The indicator for the Farm Policy Study project did not provide an effective means to measure the achievement of the subgoal. The subgoal of the project is to improve GOB sectorial planning capacity through the collection and analysis of reliable rural base level information. The indicator was the successful completion of all seven project activities with new and presently employed GOB technicians. In our view those studies could be successfully completed without significantly upgrading the GOB planning capacity because of

limited GOB input. We believe, therefore, that a different qualitative indicator should have been developed to measure subgoal achievement.

We also found that subgoal indicators were being improperly used to measure the achievement of the sector goal for three projects (Small Farmer Organizations, PCGP and A&A). In the future, we suggest that when a subgoal indicator is established to measure the economic impact on the target group of a project that they be used to measure the achievement of a subgoal rather than the sector goal.

iii) Purpose and Outputs

Our review of the purpose and output targets and related indicators disclosed that some of the indicators did not effectively measure the achievement of the purposes and outputs.

The logical framework prepared for the Basic Foods Production and Marketing project does not provide any effective means to measure CID (Contractor) performance. At the subgoal level, annual growth rate targets were established for yields, production, and land area in production for basic crop and livestock products in the project area. If these targets are not achieved, CID cannot be held responsible because they have no control over whether improved technologies are adopted by the farmers. The project purpose for technology development is to develop improved technologies for use by the small farm sector in the project area. We believe the best way to measure the accomplishment of the project purpose (which is mainly under control of CID) is to calculate the current potential yields and net income per hectare from basic crops and livestock production based on existing technology and then estimate the growth rates that could be realized in potential yields and net income through the development of new technology. In this way the impact of new technology on yields and net incomes could be measured to determine whether the projected growth rates have been achieved.

~~The Agricultural Sector II project includes an output to improve sectoral planning which is not specific enough to serve as a good measure of performance. We believe this output should be expanded to include the five specific activities that were to be improved as outlined in the project description on the loan/grant agreement.~~

~~Based on our draft report, the USAID established procedures to review and correct deficiencies in logical frameworks but had not yet acted to establish a standard set of indicators to measure the achievement of the sector goal. We, thus, make the following recommendation:~~

Recommendation No. 20

USAID/Bolivia should establish standard indicators to measure the achievement of the sectoral goal.

c. Recommendations

Our review of 25 recommendations included in the project evaluation summaries for 5 projects disclosed that 2 of the recommendations were not implemented and that action taken to implement 4 recommendations were not documented in USAID files.

We believe the USAID should establish a follow-up system to close recommendations made in evaluation reports to help assure that required actions are promptly taken, are documented and are satisfactory to top management. Also, the follow-up files would serve as a source of information which could be used in subsequent evaluations.

Based on a recommendation in our draft audit report, the USAID set-up a follow-up system to monitor the closing of recommendations made in evaluation reports. We have, therefore, deleted the recommendation.

2. Implementation Planning

Our review of GOB implementation planning for eight agricultural sector projects with estimated completion dates after CY 1980 disclosed that current plans have been submitted for only the PCGP project as shown below:

<u>Project</u>	<u>Date Last Plan Submitted by GOB or Approved by USAID</u>
1) Subtropical Lands Development (511-T-050)	6/27/78
2) Basic Food Production and Marketing (511-0451)	3/11/76
3) Agricultural Sector I (511-T-053)	3/11/76
4) Small Farmer Organizations (511-T-055 and 511-052)	6/24/76
5) Agricultural Sector II (511-T-059 and 511-0481)	3/2/78
6) Agribusiness and Artisanry (A&A) (511-T-060 and 511-0472)	7/28/78
7) Farm Policy Study (511-0485)	None
8) Productive Credit Guarantee Program (PCGP) (511-0486)	12/7/78

No plan was submitted by MACA for the Farm Policy Study project because none was required by the grant agreement. We suggest that an implementation letter be issued to establish a planning requirement.

The plans for the other six projects are no longer realistic because of slippage in project implementation. To ensure that the actions required to carry out these projects are taken in an effective and efficient manner, we suggest that new implementation plans be prepared for these projects.

In the more recent agricultural projects (Agricultural Sector II, A&A and PCGP) the USAID has established a requirement by Implementation Letter that the GOB submit updated implementation plans by January 1 of each year. We believe this is a good idea and suggest that this requirement also be established by implementation letter for the other projects that will extend into CY 1981.

We also believe that the USAID Controller should establish an implementation planning control system to monitor GOB compliance with the submission of annual plans like they have done for progress reports. This should help to assure that implementation plans are current and realistic.

Recommendation No. 21

USAID/Bolivia should (1) obtain current implementation plans from the GOB for the six projects with outdated plans, (2) establish a planning control system to monitor GOB compliance with the submission of annual plans.

3. Prior Audit Recommendations

Our review of 24 prior audit recommendations disclosed that the GOB had not effectively implemented six of the recommendations. ~~These recommendations were closed based on action reported by the USAID. The four audit reports included in our review were:~~

<u>Report No.</u>	<u>Date of Report</u>	<u>Project</u>	<u>No. of Recommendations</u>
77-41	1-22-75	FRA I (511-L-042)	3
77-18	12-10-76	FRA I and II (511-L-042 & 052)	10
77-16	12-10-76	Agricultural Sector I (511-T-053 & 511-0451)	4
78-15	4-20-78	Subtropical Lands Devel. (511-T-050)	7
			<u>24</u>

We did not include in our review the recent audit of the Small Farmer Organizations project containing 19 recommendations (Report No. 79-22, dated August 28, 1979) because 18 of the recommendations were open as of September 30, 1979.

The prior audit recommendations which have not been effectively implemented are analyzed below:

a. Subtropical Lands Development (Audit Report 78-15)

i) Currency of Project Accounting Records and Independent Financial Audits

INC has not maintained its project accounting records on a current basis and arranged for timely independent audits of the project as requested under Recommendation No. 2. This recommendation was closed in August 1978 based on a USAID letter asking INC to comply with the recommendation.

In November 1979, we found that INC had only posted project transactions to its books through February 1979 and that project financial statements for 1977 and 1978 had not been audited. In response to our audit, the Mission indicated it will negotiate with GOB to attempt to fund audits with Loan Funds.

ii) Adequacy of Project Accounting Records

INC has maintained its accounting records and reports in conformance with the cost breakdown established in the project financial plan as required by Recommendation No. 3. However, these records were not maintained in an adequate manner. This recommendation was closed in August 1978 based on a statement made by the USAID that a new accounting system had been designed for INC and that the accounting records and reports were being maintained in a satisfactory manner.

We found that the ledger sheets for each loan component were incomplete and loosely filed. Also, many disbursements were posted without indicating the date of transaction, vouchers and the payees. INC said that the expenditure reports submitted to the USAID are summarized direct from paid vouchers rather than from the ledger sheets. The reports looked alright but they are not adequately supported by the accounting records.

iii) Project Accounting Records for GOB Contribution

INC has not established accounting records to show the GOB contribution to the project by the cost components of the financial plan of the Loan Agreement as required by Recommendation No. 4. This recommendation was closed in August 1978 based on a USAID statement that a new accounting system had been designed for INC to reflect the GOB contributions by cost component and that work implemented under the new system is virtually complete.

INC was in the process of preparing records to show the GOB contribution by cost components but this has only been done up to CY 1975.

iv) Calculation of GOB Contribution

INC has charged the salaries of 28 employees to the project payroll even though these employees do not work on the project. In addition, INC has not charged the salaries of 17 employees who work on the project to the project payroll. This is contrary to recommendation No. 5 and as pointed out in the prior audit report, this procedure overstates the GOB contribution to the project.

This recommendation was closed in August 1978 on a USAID statement that they had verified on a test basis that project payrolls only included employees working on the project.

Recommendation No. 22

USAID/Bolivia should ensure that project records maintained by INC are audited, updated, adequately supported, maintained in accordance with project cost categories, and only include charges related to the project.

b. FRA I (Audit Report No. 77-18)

i) Spare Parts

The problem of replacing some unsuitable spares for 101 jeeps purchased under the FRA I loan has not been resolved as was intended by Recommendation No. 6.

MACA purchased 101 CJ-6 jeeps for its extension service. The CJ-6 jeeps proved inadequate for conditions in Bolivia and the supplier replaced the jeeps with CJ-5s. About 50 percent of \$22,000 in spare parts were not suitable for the new model. Our follow-up on this problem disclosed that the supplier (Howson) agreed to replace the unsuitable spare parts. The supplier picked up the parts but has not yet delivered the replacement parts to MACA. This recommendation was closed in March 1977 based on a MACA letter to the USAID which stated arrangements had been made with the supplier to return the spare parts and receive comparable parts for the replacement jeeps.

Based on a recommendation in our draft audit report, the USAID followed up with the supplier and determined that half of the spare parts have been delivered to MACA and the other parts will be delivered soon. We have, therefore, deleted the recommendation.

c. FRA I (Audit Report No. 75-41)

The Central Bank of Bolivia has not periodically reconciled its accounts with its Intermediate Credit Institutions as recommended (Recommendation No. 3). Our review disclosed that there were substantial differences between the accounts of the Central Bank and the BAB and State Bank under the AID-financed credit programs (FRA I, FRA II and SFED). The failure of the Central Bank to regularly reconcile accounts with its Intermediate Credit Institutions leaves the reliability of accounting control over the credit funds in doubt.

This recommendation was closed in March 1975 based on a promise by the Central Bank to reconcile its accounts with Intermediate Credit Institutions on a quarterly basis.

Recommendation No. 23

USAID/Bolivia should obtain evidence from the Central Bank of Bolivia that adequate procedures are being implemented to regularly reconcile its accounts with the Intermediate Credit Institutions under AID-financed credit programs.

FINANCIAL STATUS OF ACTIVE AND PROPOSED PROJECTS DIRECTLY AND PARTIALLY RELATED TO AGRICULTURE 5/
As of 9/30/79

Projects	Start	Completion	Project Costs (\$)			AID Funding (\$)		
			Total	AID	GOB	Obligations	Disbursements	
I ACTIVE PROJECTS								
A. Directly Related to Agriculture								
Subtropical Lands Dev. (511-T-050) 4/	9/19/74	2/19/81	18,054,000	9,700,000	8,354,000	9,700,000	7,367,713	
Basic Food Production (511-T-052) 4/	4/24/75	3/2/80	9,963,855	6,963,855	3,000,000	6,963,855	6,234,464	
Basic Food Production & Marketing (511-0451) 4/	4/25/75	9/30/82	6,900,000	6,900,000	-	4,624,130	3,616,748	
Agricultural Sector I (511-T-053) 4/	4/24/75	9/22/80	14,850,000	9,200,000	5,650,000	9,200,000	7,172,866	
Small Farmers Organization (511-0452) 4/	4/29/76	5/31/80	3,417,000	3,417,000	-	3,346,851	2,480,109	
Small Farmer Organizations (511-T-055) 4/	3/24/76	3/24/80	13,850,000	7,500,000	6,350,000	7,500,000	3,387,070	
Exploratory Research (511-0464) 4/	9/30/76	9/30/80	690,000	500,000	190,000	458,643	314,532	
Agricultural Sector II (511-T-059) 4/	11/24/77	11/24/82	17,330,000	11,300,000	6,030,000	11,300,000	3,603,022	
Small Farm Production (511-0481) 4/	11/24/77	11/24/82	2,200,000	2,200,000	-	1,400,000	150,896	
Agribusiness & Artisanry (511-T-060) 4/	1/9/78	12/31/82	10,070,000	6,200,000	3,870,000	6,200,000	263,043	
Agribusiness & Artisanry (511-0472) 4/	1/9/78	12/31/82	400,000	400,000	-	400,000	59,467	
Farm Policy Study (511-0485) 4/	3/23/78	9/30/81	1,583,000	1,115,000	468,000	772,000	105,244	
P.L. 480, Title III (Local Currency) 4/	5/31/78	12/31/83	63,900,000	63,900,000	-	63,900,000	3,965,727	
Productive Credit Guaranty Program 4/	7/21/78	12/31/81	3,750,000	2,500,000	2/1,250,000	2,500,000	-	
Subtotal			166,957,855	131,795,855	35,162,000	128,265,479	38,718,901	
B. Partially Related to Agriculture								
Rural Access Roads I (511-T-056)	9/20/76	12/6/80	15,570,000	8,500,000	7,070,000	8,500,000	5,903,719	
Village Development (511-T-062)	8/23/78	8/23/83	23,260,000	15,300,000	7,960,000	15,300,000	1,013,520	
Village Development (511-0499)	8/23/78	8/23/83	300,000	300,000	-	300,000	65,744	
Rural Access Roads II (511-T-061)	8/30/78	8/30/83	22,800,000	13,000,000	9,800,000	13,000,000	-	
Rural Access Roads II (511-0466)	8/30/78	8/30/83	300,000	300,000	-	300,000	-	
Departmental Dev. Corp. (511-T-065)	9/20/79	9/20/84	13,500,000	10,000,000	3,500,000	10,000,000	-	
Subtotal			75,730,000	47,400,000	28,330,000	47,400,000	6,982,983	
Total Active Projects			242,687,855	179,195,855	63,492,000	175,665,479	45,701,884	
II PROPOSED PROJECTS DIRECTLY RELATED TO AGRICULTURE								
Agricultural Credit (511-0538)	FY-80	-	17,000,000	17,000,000	-	17,000,000	-	
Improvement of Agr. Extension (511-0502)	FY-80	-	7,000,000	7,000,000	-	7,000,000	-	
Agriculture Dev. in Coca Zones (511-0500)	FY-80	-	4,000,000	4,000,000	-	4,000,000	-	
Small Farmer Org. II (511-0489)	FY-80	-	3,800,000	3,800,000	-	3,800,000	-	
Subtotal			31,800,000	31,800,000	-	31,800,000	-	
Grand Total Active & Proposed Projects			274,487,855	210,995,855	63,492,000	207,465,479	45,701,884	

NOTES:

- 1/ This amount only includes agricultural programs. The Title III program is for a total of \$75,000,000.
- 2/ AID and GCB guaranty authority.
- 3/ Data is not available.
- 4/ Included in audit.
- 5/ Data was obtained from loan and grant agreements.

ANALYSIS OF YIELDS PER HECTARE FOR ALL CROPS IN BOLIVIA ^{6/}
From 1964 to 1978

	Yields Per Hectare in Kilos				Annual Growth Rates ^{3/}		
	<u>1/</u> 1964	<u>2/</u> 1972	1975	1978	1964 to 1972	1972 to 1978	1975 to 1978
Cereals	981	1,094	1,140	1,066	1.37	(.43)	(2.21)
Tubers ^{4/}	5,305	7,128	7,011	6,764	3.76	(.87)	(1.19)
Vegetables	2,740	3,366	3,358	3,253	2.61	(.57)	(1.05)
Fruit	12,701	13,007	12,637	11,821	.30	(1.58)	(2.20)
Production for Industry ^{5/}	1,231	1,445	1,360	1,512	2.02	.76	3.59
Stimulates	822	898	962	1,009	1.11	1.96	1.60
Forages	5,735	6,992	7,613	6,851	2.51	.34	(3.45)
Total Excluding Sugar Cane	2,653	3,308	3,343	3,255	3.75	(.27)	(.89)
Sugar Cane	40,222	39,947	45,501	41,000	(.09)	.43	(3.41)
Grand Total	<u>3,823</u>	<u>4,887</u>	<u>5,405</u>	<u>5,876</u>	<u>3.12</u>	<u>3.12</u>	<u>2.82</u>

NOTES:

1/ Average for 3 year period from 1963 to 1965

2/ Average for 3 year period from 1971 to 1973

3/ Negative rates of growth are shown in brackets

4/ Potatoes, yuca, etc.

5/ Soybeans, cotton, peanuts, tobacco, and rubber

6/ Data from 1964 to 1975 was obtained from Bulletin No. 2 publisher by MACA's Statistics Division. Data from 1976 to 1978 was obtained from unpublished information provided by MACA's Statistics Division.

APPENDIX C

ANALYSIS OF PRODUCTION OF ALL CROPS IN BOLIVIA ^{6/}
From 1964 to 1978

Crop Categories	Production in Metric Tons				Annual Growth Rates ^{3/}		
	^{1/} 1964	^{2/} 1972	1975	1978	1964 to 1972	1972 to 1978	1975 to 1978
Cereals	443,693	500,271	591,980	569,775	1.51	2.19	(1.27)
Tubers ^{4/}	746,367	969,305	1,179,660	1,221,650	3.32	3.92	1.16
Vegetables	226,527	294,796	331,765	325,690	3.35	1.67	(.62)
Fruit	347,285	534,293	610,520	644,500	5.53	3.17	1.82
Production for Industry ^{5/}	11,308	77,890	102,469	99,755	27.29	4.21	(.89)
Stimulates	11,691	23,160	29,785	46,358	9.10	12.02	15.89
Forages	260,667	479,000	526,500	548,110	7.90	2.27	1.35
Total Excluding Sugar Cane	2,047,538	2,879,015	3,372,679	3,455,228	4.35	3.09	.81
Sugar Cane	998,833	1,566,480	2,366,500	3,246,620	5.79	12.91	11.12
Grand Total	3,046,371	4,445,495	5,739,179	6,701,848	4.84	7.08	5.30

NOTES:

^{1/} Average for 3 year period from 1963 to 1965

^{2/} Average for 3 year period from 1971 to 1973

^{3/} Negative rates of growth are shown in brackets

^{4/} Potatoes, yuca, etc.

^{5/} Soybeans, cotton, peanuts, tobacco and rubber

^{6/} Data from 1964 to 1975 was obtained from Bulletin No. 2 published by MACA's Statistics Division.

Data from 1976 to 1978 was obtained from unpublished information provided by MACA's Statistics Division.

ANALYSIS OF LAND USED FOR ALL CROP PRODUCTION IN BOLIVIA
From 1964 to 1978

Crop Categories	Hectares in Production				Annual Growth Rates		
	^{1/} 1964	^{2/} 1972	1975	1978	1964 to 1972	1972 to 1978	1975 to 1978
Cereals	452,372	457,158	519,020	534,200	.13	2.63	.97
Tubers ^{4/}	140,684	135,980	168,246	180,500	(.42)	4.83	2.37
Vegetables	82,677	87,563	98,795	100,100	.72	2.26	1.44
Fruit	27,341	41,076	48,310	54,520	5.22	4.83	4.11
Production for Industry ^{5/}	9,182	53,894	75,295	65,980	24.76	3.43	(4.31)
Stimulates	14,206	26,116	30,930	45,918	7.91	9.86	14.08
Forages	45,449	68,500	69,150	80,000	5.26	2.62	4.98
Total Excluding Sugar Cane	771,911	870,287	1,009,746	1,061,218	1.51	3.36	1.70
Sugar Cane	24,833	39,213	52,010	79,186	5.88	12.43	15.04
Grand Total	<u>796,744</u>	<u>909,500</u>	<u>1,061,756</u>	<u>1,140,404</u>	<u>1.67</u>	<u>3.84</u>	<u>2.41</u>

^{1/} Average for 3 year period from 1963 to 1965

^{2/} Average for 3 year period from 1971 to 1973

^{3/} Negative rates of growth are shown in brackets

^{4/} Potatoes, yuca, etc.

^{5/} Soybeans, cotton, peanuts, tobacco and rubber

^{6/} Data from 1964 to 1975 was obtained from Bulletin No. 2 published by MACA's Statistics Division.

Data from 1976 to 1978 was obtained from unpublished information provided by MACA's Statistics Division.

ANALYSIS OF GROSS DOMESTIC PRODUCT FOR BOLIVIA^{4/}
FROM 1972 TO 1978

APPENDIX E

Year/Period	Gross Domestic Product				Gross Domestic Product Per Capita			
	<u>1/ 3/</u> Total	Annual Growth Rate	<u>1/ 3/</u> Agriculture	Annual <u>2/</u> Growth Rate	<u>1/</u> Total	Annual Growth Rate	<u>1/</u> Agriculture	Annual <u>2/</u> Growth Rate
1972	\$694,950	-	\$125,600	-	\$164.50	-	\$ 29.80	-
1973	743,000	6.9	131,400	4.6	172.35	4.8	30.45	2.2
1974	788,500	6.1	136,250	3.7	178.80	3.7	30.90	1.5
1975	832,050	5.5	145,350	6.7	184.40	3.1	32.20	4.2
1976	885,500	6.4	149,550	2.7	191.85	4.0	32.40	.6
1977	917,150	3.6	144,500	(3.4)	194.25	1.3	30.60	(5.6)
1978	945,850	3.2	147,800	2.3	195.80	.8	30.60	-
1972 to 1978	-	5.3	-	2.8	-	3.0	-	.4
1975 to 1978	-	4.4	-	.6	-	2.0	-	(1.7)

1/ Dollars converted from 1970 constant pesos

2/ Negative growth rates are shown in brackets

3/ Thousands of dollars

4/ Data from 1972 to 1977 was obtained from the BCB statistics bulletin No. 233.
Data for 1978 was obtained from unpublished information provided by the BCB.

STATUS OF CONSTRUCTION PROGRAM
FOR AGRICULTURAL SECTOR AS OF 9/30/79

Description	Location	Date Started	Estimated Cost \$	Work Progress 5/	
				Date	Percent Completed
I. Construction in Progress					
A. Agricultural Sector I (Loan 511-T-053)					
Seed Processing Plant	Warnes	6/79	140,819	7/79	22%
Experimental Station (Improvements) 1/	San Benito	11/78	106,347	3/79	23%
Experimental Station (Improvements) T/	Toralapa	10/78	142,418	8/79	65%
Experimental Station (Improvements) T/	Chinoli	10/78	59,736	7/79	74%
Experimental Station (Improvements) T/	Saavedra	6/79	146,360	9/79	30% 2/
Agricultural Service Center	Sucre	7/79	152,713	9/79	5% 2/
Agricultural Service Center	Santa Cruz	6/79	85,472	8/79	25%
Agricultural Service Center	Cochabamba	6/79	544,284	9/79	5% 2/
B. Agricultural Sector II (Loan 511-T-059)					
MACA Building (Remodeling)	La Paz	12/78	27,530	4/79	100%
Potato Silo for Seed Plant	Betanzos	10/78	9,880	8/79	100%
Rural Electrification for Seed Plant	Betanzos	7/79	7,117	9/79	15% 2/
C. Subtropical Lands Development (Loan 511-T-050)					
San Julian-Casarabe Road (100 kilometers)	San Julian	5/78	4,456,123	6/79	40%
Chane-Pirai Road (77.25 kilometers)	Chane-Pirai	9/77	5,185,780	6/79	57%
Access Trails (210 kilometers)	San Julian	n/a	1,106,000	9/79	43% 3/
Potable Water Wells (50 wells)	San Julian	n/a	277,000	9/79	72% 3/
Agricultural Service Center	San Julian	4/78	112,900	9/79	55% 4/
Agricultural Service Center	Chane-Pirai	4/78	112,900	9/79	78%
D. Rural Access Roads I (Loan 511-T-056)					
216.5 kilometers of roads (10 projects)	Various	9/78	2,808,828	9/79	53%

Description	Location	Date Started	Estimated Cost \$	Work Progress 5/	
				Date	Percent Completed
II. Construction Planned but not yet Started					
A. Agricultural Sector II (Loan 511-T-059)					
Seed Processing Plant	Yacuiba	10/80	n/a	-	-
Seed Processing Plant	Zudañez	5/80	n/a	-	-
Housing for Seed Processing Plant	Betanzos	5/80	n/a	-	-
Agricultural Service Center	Potosi	n/a	n/a	-	-
Agricultural Service Center	Tarija	n/a	n/a	-	-
Seed Processing Plant (Improvements)	Cochabamba	n/a	n/a	-	-
Seed Processing Plant (Improvements)	Tarija	n/a	n/a	-	-
Seed Processing Plant (Improvements)	Warnes	n/a	n/a	-	-
B. Rural Access Roads I (Loan 511-T-056)					
983.5 km. of roads	Various	n/a	12,761,172	-	-
C. Rural Access Roads II (Loan 511-T-061)					
1000 km. of roads	Various	n/a	23,100,000	-	-
Total			51,343,379		

- 1/ Consists of training centers, dormitories, offices, library, workshop greenhouse, etc.
- 2/ Estimated by auditors during field trip at end of September 1979.
- 3/ Estimated by GOB officials.
- 4/ Estimated by USAID and Contractor.
- 5/ Based on Contractors progress payments.

DESCRIPTION AND ACCOMPLISHMENTS OF AGRICULTURAL SECTOR PROJECTS ^{1/}
AS OF SEPTEMBER 30, 1979

Presented below are project descriptions and accomplishments for (a) 14 active projects directly related to agriculture (b) 6 active projects partially related to agriculture and (c) 4 proposed projects partially related to agriculture.

1. Active Projects Directly Related to Agriculture

In general, the goal of all projects directly related to the agricultural sector was to increase the per capita incomes and standards of living of the small farmers or rural poor.

a) Subtropical Lands Development

This project is financed with AID Loan 511-T-050 dated September 17, 1974 for \$9,700,000. The total estimated project cost including the GOB contribution is \$18,054,000. The National Institute of Colonization (INC) is the implementing agency for the project. The estimated completion date for the project is February 19, 1981.

The objective of the project was to help 4,000 new farmers settle in an area north of the city of Santa Cruz over a 4 year period in addition to providing some supporting services to 6,000 farmers already in the area plus an estimated 1,000 farmers who would spontaneously move into the area.

This project has moved much slower than planned. The USAID has extended the project two years to February 19, 1981 to permit the completion of 177.25 kilometers of access roads, 210 kilometers of access trails and two agricultural service centers. The major problems that have affected the timely completion of construction activities have been contracting delays, inadequate design of roads by INC, ~~poor weather conditions, lack of GOB support to INC for operating expenses, and lack of contractor liquidity.~~

As of September 30, 1979, 1,440 new farmers have been settled into the area. At the project completion, the USAID estimates that 2,000 new farmers will be settled versus an original target of 4,000. While INC plans to settle another 600 farmers in the area after project completion, ~~it will not be possible to reach the original target of 4,000 farmers because some of the land was too low to permit settlement and other land was privately owned.~~

~~The USAID only disbursed \$149,656 out of \$500,000 planned for a credit program established under the project. In May 1979, the USAID terminated the credit program because the BAB was not able to promptly move and recover subloan~~

^{1/} In this section, pesos have been converted to dollars at the rate of \$b20.38 to \$1.00.

funds. Repayments of funds subloaned are to be put into the BAB's Small Farmer Credit Program (SFCP) which is to supply the credit requirements of farmers in the project area.

b) Basic Food Production and Marketing

This project is financed under AID grant 511-0451 dated April 25, 1975. The total estimated cost of the project is \$6,900,000 with an estimated completion date of September 30, 1982. MACA is the implementing agency for the project.

The purpose of the project was to provide technical assistance to MACA, IBTA and CIAT to increase production of basic foods crops and livestock products and to increase factor productivity in the small farm sector of the intermountain valleys of central Bolivia and developing agricultural areas of the lowlands in Bolivia.

The specific objectives were to strengthen, improve, and coordinate in the regions of interest (1) agricultural research (2) agricultural extension (3) sector planning and (4) higher agricultural education.

Technical assistance has mainly been provided through MACA contracts with Consortium for International Development (CID) starting on June 27, 1975.

Our review of the technical assistance provided by CID under this contract indicates that good progress has been made in assisting IBTA and CIAT develop new technologies and upgrading higher agricultural education. However, little has been achieved in sector planning and agricultural extension because of a lack of qualified counterparts and GOB support. For this reason assistance to MACAs Planning Division was terminated in January 1979 and assistance to the extension service will be phased-out once the current advisor's tour is over. To improve the GOB extension service, the USAID plans to start a new project (see page 65).

c) Agricultural Sector I

~~This project is financed under AID loan 511-T-053 dated April 24, 1975 for a total of \$9,200,000. MACA is to be implementing agency for the project. The total cost of the project including the GOB contribution is \$14,850,000. The estimated completion date for the project is September 22, 1980.~~

~~The subgoal of the project was to increase production and factor productivity of basic food crops and livestock produced in the small farm sub-sector of the intermountain valleys of central Bolivia and the developing agricultural areas of the lowlands of eastern Bolivia.~~

~~Loan funds were to be used for:~~

- ~~1) The construction and equipping of three Agricultural Service Centers and two seed processing plants.~~
- ~~2) Physical improvements and equipment for four experiment stations.~~

- 3) Supporting equipment and vehicles for public sector agencies and universities.
- 4) Capital of \$5,000,000 to start a Small Farmer Credit Program (SFCP) to be managed by the BAB.
- 5) Training personnel.

The project completion date has been extended one year to September 22, 1980 because of slow implementation of some project components. As of September 30, 1979, we found that all eight construction activities had been started but not had been completed, (see Appendix F). Construction activities have not been completed as planned because the MACA did not promptly obtain land titles and did not adequately design the facilities to be constructed. Of the 79 participants to be trained under the project, 62 have completed their training and 17 are still in training. The USAID and GOB contributions to the SFCP were disbursed one year ahead of schedule or by August 1978.

d) Basic Food Production

This project is financed under AID loan 511-T-052 dated April 24, 1975 for \$8,000,000. The total estimated cost of the project including the GOB contribution is \$11,000,000. The Central Bank of Bolivia (BCB) is the implementing agency for the project. The estimated completion date for the project is March 3, 1980.

The project consists of making funds available through the Agricultural Refinancing Fund (FRA II) of the BCB for relending to small farmers and agribusiness to increase the production of basic food items. Loan funds were to be made available to subborrowers through participating Intermediate Credit Institutions (ICIs) for production credits, the purchase of machinery and equipment, and processing and marketing loans. ICIs were to include private and public banks, the BAB, and non-banking financial institutions.

~~This project has been extended 18 months to March 3, 1980 and \$1,036,145 of the loan was deobligated by the USAID in February 1979 because of the slow movement of loan funds by the BCB. Since less than 50 percent of the AID loan had been disbursed by June 1979, the USAID temporarily increased the interest spread going to the BAB (from 8 to 10 percent) and suspended disbursements to the BAB under the SFCP. These actions provided adequate incentives for the BAB to move loan funds and as a result, the AID loan was fully disbursed by December 31, 1979. Also, the subloans outstanding and commitments made by the BCB as of September 30, 1979 exceeded the capital of the FRA II Fund by \$4,299,936 which the BCB will have to cover from its own resources.~~

~~The goal of the project was to increase the production of basic food commodities to meet the additional food needs arising out of demand shifts resulting from population growth and higher per capita income. The goal contemplated that additional food supply requirements could be met from domestic production rather than higher import levels. It was also assumed that only about 22 percent of the credit required to achieve the production targets would come from the FRA II project and the balance from other sources.~~

As can be seen below, the annual growth rate targets for production from 1975 to 1978 were not achieved except for animal proteins and oilseeds.

	Annual Production Growth Rates	
	Targets	Actual from 1975 to 1978 ^{1/}
1. <u>Cereals</u>		
Wheat	3.4	(4.96)
Corn	3.4	2.78
Rice	3.4	(11.21)
Quinoa	3.4	(5.94)
2. <u>Oil Seeds</u>		
Soybeans	4.5	30.02
Peanuts	4.5	4.68
3. <u>Potatoes and Other Tubers</u>	4.8	1.16
4. <u>Animal Proteins</u>		
Milk	6.2	6.80
Eggs	5.9	n/a
Poultry	8.7	7.88
Pork	5.1	5.27

^{1/} Calculated from data obtained from MACA's Statistics Division

The low rates of growth during the 1975-78 period was mainly the result of poor weather conditions and GOB pricing policies.

As a result of the failure of production to increase at a sufficient rate to satisfy domestic demand, wheat and flour imports increased by 54,464 metric tons from 1975 to 1978. Also, the GOB has had to import potatoes in 1978 and rice, corn and potatoes in 1979.

e) Small Farmer Organizations

The project is financed under AID loan 511-T-055 dated April 29, 1976 for a total of \$7,500,000 and AID grant 511-0451 dated March 1, 1976 for a total of \$3,417,000. The National Community Development Service (NCDS) is the implementing agency for the project. The estimated completion date of the project is May 31, 1980. The total estimated cost of the grant/loan project including the GOB contribution is \$17,267,000.

The purpose of project is to help NCDS (1) develop four viable Integral Cooperatives (ICs) and other small farmer organizations, (2) strengthen the managerial and technical capabilities of NCDS and other cooperative development agencies; and (3) assist cooperatives and "non-cooperative" rural community groups in developing small enterprises and economic infrastructure projects.

The membership of each IC was anticipated to average 1,500 members by the end of project (September 1980). The ICs are to provide agricultural credit, and technical and marketing assistance to their members.

Grant funds were to be mainly used to provide technical assistance to NCDS to carry out the project. On May 13, 1976, NCDS contracted Robert T. Nathan Associates (RNA) to provide technical assistance to the project. As of September 30, 1979, RNA has provided 27.1 work years of long-term technical assistance to the project.

As pointed out in our recent audit of the Small Farmer Organizations project, we did not believe that the USAID investment in the NCDS contract with RNA as of March 31, 1979 was worth the cost. This was caused by (1) the poor quality of some assistance provided (2) lack of GOB budgetary support and (3) time spent by the contractor on activities not directly related to the current project during the first 15 months of the contract because the project was redesigned by the USAID in August 1977.

Loan funds were to be mainly used to establish a Revolving Credit Fund (CROFOC) (\$5,453,000) to provide agricultural loans to the ICs for relending to its members.

The project has moved slightly slower than anticipated. Four integral cooperatives were formed as of September 1979 (slightly behind projections) with a total membership of 3,279 farmers. As of September 30, 1979, \$2,262,292 of the AID loan had been disbursed to CROFOC for subloans to cooperatives versus projected disbursements of \$4,290,000.

On December 19, 1979, AID/W approved a revision of the project paper which will transfer the responsibility for implementing the project to the National Federation of Savings and Credit Cooperatives (FENACRE) and reduce the size of the long-term technical assistance team from 9 to 4 members. In addition, the completion date for the loan/grant project is to be extended 18 months to September 24, 1981. The NCDS contract with RNA is to be terminated on December 31, 1979 but will be converted to a direct AID contract and extended to August 30, 1981.

f) Exploratory Research in Farming System

This project is financed under AID grant 511-0464 dated September 30, 1976 for \$500,000. The total estimated cost of the project was \$690,000. The implementing agencies for the project were IBTA, the Development Corporations of the Beni (CODEBENI) and the Development Corporation of Northeast (CORDENO). The estimated completion date was September 30, 1980.

The principal purpose of the project was to assist the GOB develop appropriate technology for small farms of the north and central lowlands in the Departments of the Beni and Pando. Grant funds were to be used to provide long-term technical assistance, commodities and training to upgrade three agricultural research stations located in Trinidad, Riberalta and Cobija. The stations in Trinidad and Riberalta were managed by IBTA and the one in Cobija by CORDENO.

The project was terminated in April 1979 because of the unscheduled departure of the project advisor. It was decided to finance the several remaining project activities from other on-going USAID projects.

g) Agricultural Sector II

The project is financed under AID loan 511-T-059 and grant 511-0481 dated November 24, 1977. The loan is for \$11,300,000 and the grant for \$2,200,000. The total estimated cost of the loan/grant project including the GOB contribution is \$19,530,000. MACA is the implementing agency for the project. The estimated completion date is November 24, 1982.

The purpose of the project was to (1) increase the availability of needed inputs to the small farmer and provide the farmers with credit to finance the inputs (2) to develop the sector's human resources and (3) to improve sector management and coordination.

Loan funds were to be used mainly for:

- 1) The construction and equipping of three seed processing plants and the upgrading of three existing facilities.
- 2) The construction and equipping of 3 Agricultural Service Centers.
- 3) Training
- 4) Capital of \$250,000 for the MACA seed fund
- 5) Additional capital for the SFCP of \$5,950,000 which included a special line of credit of \$2,450,000 for clearing 10,000 hectares in the humid Chaco.

Except for the training and SFCP components of the project, progress has been slower than anticipated. The project paper estimated that the eleven construction activities for the project would be completed by October 1980. However, ~~only two have been completed, one is in process and eight have not been started~~ as of September 30, 1979. Construction activities have been delayed because MACA has not promptly obtained land and land titles.

Also, only 658.5 hectares have been cleared under the land clearing project as of September 30, 1979 versus a target of 2,687.5 hectares because of ~~(1) overly restrictive sub-loan requirements (2) the lack of harvesting equipment (3) delays in paying farmers for crops sold to the GOB oil processing plant and (4) lack of sufficient land clearing equipment.~~ Of the 39 participants trained under the project, 20 are in training and 19 are being processed. The USAID has ~~disbursed \$1,722,962 under the SFCP which is \$772,962 more than planned as of~~ September 30, 1979. The USAID has not disbursed any funds for the Revolving Seed Fund because MACA has not increased its seed production.

Grant funds were to be used to provide technical assistance to the project. On May 4, 1979, MACA contracted Early California Industries Inc. represented by Chemonics International Consulting Division of Chemonics Industries

(Chemonics) to provide the technical assistance to the project. The contractor was to assist MACA with (1) seed technology development (2) sectoral planning, data management, organization and methods (3) the expansion of the SFCP program and (4) the project to clear 10,000 hectares in the humid Chaco.

The contract period was for two years with a possible extension for a third year. Chemonics was to provide the services of seven long-term advisors (150 work-months) and up to 30 work-months of short-term advisors during the first two years of the contract.

h) Agribusiness and Artisanry (A&A)

The project was started on January 9, 1978 and is financed under AID loan 511-T-060 for \$6,200,000 and AID grant 511-0472 for \$400,000. The Central Bank of Bolivia (BCB) is the implementing agency for the project. The estimated completion date for the project is December 31, 1982. The total estimated cost of the loan/grant project including the GOB contribution is \$10,470,000.

The project purpose was to establish an integrated program of loans and technical assistance for agribusiness (which benefit small farmers) and urban and rural artisanry through refinancing and technical assistance funds to be managed by the BCB.

The refinancing fund was to consist of an initial capitalization of \$9,000,000, of which \$6,000,000 was to be provided by AID loan funds and \$3,000,000 by the GOB. These resources were to be used to refinance eligible subloans made by the private and public banking system in Bolivia, as well as other non-banking financial institutions which were accepted by the BCB as Intermediate Credit Institutions (ICIs).

The Technical Assistance Fund (FAT) was to be used to finance (1) technical assistance to subborrowers for preinvestment studies and subproject implementation (2) the promotion of the program (3) training of ICI personnel, and (4) studies to identify potential projects.

~~The FAT was to receive an initial contribution of \$400,000 over four years and also receive a portion of the interest earned on each subloan made under the project. The initial contribution to the FAT was to be made up of \$200,000 from the BCB and \$200,000 from the AID grant.~~

~~As of September 30, 1979 \$652,057 of subloans have been refinanced versus a target of \$1,275,000 estimated in the project paper. Factors that have slowed the program are (1) a 7 month GOB delay in satisfying conditions precedent (2) delays in project promotion (3) a lack of ICI liquidity caused by fear of a devaluation of the Bolivian peso and (4) competition from FRA II funds which offered the ICI's a higher interest spread of two percent for the same type of loans as granted under the A&A program.~~

Because of the devaluation of the peso in December 1979, which should alleviate the liquidity problem, we feel this program will move funds rapidly if the interest spreads earned under the A&A and FRA II programs are equalized and the program is effectively promoted.

i) Farm Policy Study

This project is financed under AID grant 511-0485 dated March 23, 1978 for \$1,115,000. MACA is the implementing agency for the project. The estimated completion date for the project is September 30, 1981. The total estimated cost of the project including the GOB contribution is \$1,583,000.

The subgoal of the project is to improve Bolivia's rural sectoral planning capacity through the collection and analysis of reliable base level information.

The project is to finance technical assistance to assist MACA in the preparation of six studies and a new sector assessment.

Since project inception in March 1978 to December 31, 1979, three surveys have been undertaken. In addition, a 1977 survey of the Southern Valleys was to be analyzed under this project. MACA's Statistics Division has participated actively in data collection and tabulation but the Planning Division has not performed any analysis of survey results. The participation of the Planning Division in the project is needed in order to upgrade Bolivia's agricultural sector planning capacity. No studies have been completed as of December 31, 1979 and the project is about 1 year behind schedule.

j) P.L. 480, Title III

This project in effect represents a grant of \$75,000,000 in local currency to be generated from the sale of agricultural commodities imported under P.L. 480 Title I. Of this total, \$63,900,000 is to be used for 12 projects directly related to agriculture. The agreement was signed on May 31, 1978 and has an estimated completion date of December 31, 1983. The agreement provides that if the GOB uses the local currency sales proceeds from the commodities imported and financed under P.L. 480 Title I for a Food for Development Program, the debt will not have to be repaid as authorized under Title III of P.L. 480.

In order to assure that the efforts financed under the Title III program will be additional to those that Bolivia is presently undertaking, the GOB agreed to establish a goal to increase the public sector investment budget by 100 percent for the five year period 1978-1982 compared to the 1973-1977 period.

Many of the Title III projects complement and expand other AID grant loan projects and are to be used as GOB counterpart contributions for new AID projects.

As of September 30, 1979 \$3,965,727 has been disbursed to Title III subprojects compared to projected disbursements of \$9,000,000.

k) Productive Credit Guaranty Program (PCGP)

On July 21, 1978 the USAID entered into a Productive Credit Guaranty Program under project 511-0486 with the Central Bank of Bolivia (BCB). The estimated completion date of the program is December 31, 1981.

The principal objective of the PCGP program is to provide institutional credit to persons or groups who presently lack access to such credit because they possess insufficient collateral to meet the normal requirements of the lending institutions. A guaranty fund (PCGP Fund) was to be established in the BCB for the purpose of guarantying 75 percent of eligible loans made by private financial institutions under the PCGP program in Bolivia. The PCGP Fund was to be capitalized with a guaranty commission paid on each loan made under the system, and will be supported with up to \$2.5 million in AID guaranty authority and up to \$1.25 million from the BCB. Funds for lending under the guaranty program will come from the resources of the participating lending institutions or from established refinancing lines of credit administered by the BCB.

The loans to be guaranteed under the PCGP program are for agriculture, agribusiness, artisanry, rural housing and community development projects.

This program has guaranteed loans at a slighter faster rate than projected. As of September 30, 1979, the program had guaranteed loans for a total of \$895,385 versus a target of \$500,000.

2. Active Projects Partially Related to Agriculture

a) Rural Access Roads I and II

Rural Access Roads I project is financed under AID loan 511-T-056 dated September 20, 1976 for a total of \$15,570,000.

Rural Access Roads II project is financed under AID loan 511-T-061 and grant 511-0466 dated August 30, 1978. The loan is for \$13,000,000 and the grant for \$300,000.

The total project cost for Rural Roads I is \$15,570,000 and the cost for Rural Roads II is \$23,100,000. The estimated completion date for Rural Roads I is December 6, 1980 and the date for Rural Roads II is August 30, 1983. The implementing agency for both projects is the National Road Service (SNC).

The purpose of both projects is to (1) improve access to the small farm sector by upgrading 2,200 kilometers of local roads to all weather standards (1,200 kilometers under Rural Roads I and 1,000 kilometers under Rural Roads II) and (2) expand and improve the capacity of SNC and participating institutions to carry out a rural road program. At end of both projects, it is expected that 52,000 small farm families will be benefited by improved access to input and product markets.

The Rural Roads I project is to focus its activities in the Departments of La Paz, Cochabamba, Chuquisaca and Santa Cruz and the Rural Roads II project in Chuquisaca, Potosi and Tarija.

SNC is to help to upgrade the roads with loan-financed equipment and materials and the local communities are to contribute labor. The Departmental Development Corporations (DDCs) are to be responsible for the feasibility analysis of road subprojects and the organization of community labor under the Rural Roads II project. The National Community Development Service (NCDS), also, has this

responsibility under the Rural Roads I project.

As of September 30, 1979, only the equivalent of 115 kilometers of roads were completed versus a target of 687 kilometers under the Rural Access Roads I project. No disbursements have been made under the Rural Access Roads II project because the conditions precedent were recently satisfied on May 11, 1979.

b) Village Development

The project is financed under loan 511-T-062 and grant 511-0499 dated August 23, 1978. The loan is for a total of \$15,300,000 and the grant for \$300,000. The estimated cost of the loan/grant project including the GOB contribution is \$23,560,000. The estimated completion date is August 23, 1983. The National Community Development Service (NCDS) is the implementing agency for the project.

The purpose of the project is (a) to assist the GOB in the development and execution of about 1,225 rural economic and social infrastructure projects through community action, (b) to promote the permanent initiative of rural communities to maintain, through adequate organization, completed projects and to execute self-help projects, and (c) to strengthen the promotion capability of NCDS.

Economic infrastructure projects are to consist of roads, bridges, small irrigation systems and river or erosion defenses. Social infrastructure projects are to consist of schools, health posts, potable water systems and latrines.

Loan funds are to be used mainly to cover the cost of the infrastructure projects. The communities are to provide at least 40 percent of the total sub-project cost in labor, materials or cash.

As of September 30, 1979, \$1,013,520 has been disbursed under the loan and \$65,744 under the grant.

c) Departmental Corporations

This project is financed under AID loans 511-T-064 and 511-W-065 dated September 20, 1979 for a total of \$10,000,000. The total estimated cost of the project including the GOB contribution is \$13,500,000. The estimated completion date is September 20, 1984. The nine Departmental Development Corporations (DDCs) are to be implementing agencies for the project under the overall supervision of the Ministry of Planning and Coordination (MPC).

The goal of this project is to improve the standard of living of the rural and urban poor (target group). The purpose of the project is to enhance the outreach capability of the DDCs to identify and implement subprojects which will be of direct benefit to target group communities.

Loan funds are to be used to cover the cost of subprojects for agricultural development, storage facilities, agroindustry, water resources/water control, land improvement, marketing facilities, potable water systems, re-forestation, rural electrification and urban development.

At the end of the project it is estimated that 35 to 50 subprojects are to be completed.

Technical assistance to help the DDCs improve their capability to implement subprojects is mainly to be provided under the USAID's Rural Development Planning project financed under AID grant 511-0471.

3. Proposed Projects Directly Related to Agriculture for FY 1980

a) Agricultural Credit (511-0538)

The proposed project consists of a loan of \$15,000,000 and a grant of \$2,000,000 for FY 1980. The executing agencies for the GOB are to be the Agricultural Bank of Bolivia (BAB), the National Federation of Credit Unions (FENACRE) and La Merced Multipurpose Cooperative. The project is estimated to have a 4 year implementation period.

The goal of the project is to increase the net income and standard of living of small farmers and the rural poor of Bolivia. The purpose of the project is to strengthen the capacity of Bolivia's public and private sector institutions to meet a large and rapidly expanding small farm sector demand for credit.

The project is to channel \$14,100,000 in agricultural credit to the BAB, \$10,450,000 of which will be available for expansion and reinforcement of its Small Farmer Credit Program (SFCP). Of the remaining funds, the BAB is to subloan \$3,000,000 to FENACRE, which in turn will make these funds available to its member credit unions for small farm lending. The La Merced cooperative is to receive \$650,000 in loan capital during years three and four of the project from the BAB for its campesino credit program.

The project is to provide \$2,000,000 in grant-funded long-term technical assistance to help strengthen the administrative structures and credit management capabilities of the BAB and FENACRE.

The loan and grant agreement for this project were signed on January 9, 1980.

b) Improvement of Agricultural Extension (511-0502)

This proposed project consists of a loan for \$5,000,000 and a grant for \$2,000,000 for FY 1980.

The purpose of the project is to improve and expand the flow of communication of appropriate technology to small farmers, and to ensure that the problems of the small farmers are properly understood and researched.

IBTA and CIAT currently have about 100 extensionists that provide technical advice to farmers. Assuming that each extensionist can work with 50 farmers only about 5,000 out of the estimated 530,000 small farmers can be reached by the extension service.

This project proposes a new, low cost small farmer technology communications system. The first element is to be the employment of trained farmer para-technicians, who, working under the supervision of an expanded extension staff, will perform almost all direct contracts with farmers. The second element will be the introduction of modern audio-visual equipment and techniques including the use of mass media, and the development of appropriate extension messages.

The project contemplates the expansion of IBTA's extension staff to 400 agronomists and the training of 2,000 farmer para-technicians. The extensionists are to supervise the para-technicians who will work directly with the farmers. It is estimated that the para-technicians will be able to effectively reach 100,000 small farmers.

c) Agricultural Development in Coca Zones (511-0500)

The proposed project consists of a loan of \$3,500,000 and a grant of \$500,000 for FY 1980. The purpose of the project is to implement agricultural marketing, production and agro-industry activities which will allow farmers in coca growing zones to maintain or improve present income levels when coca production is reduced to legal in-country consumption levels.

The target group is to consist of 70,000 small farm families and residents of the small towns of the Yungas and Chapare zones.

d) Small Farmers Organization II (511-0489)

The proposed project consists of a grant of \$3,800,000 for FY 1980. The purpose of the project is to provide technical assistance (1) to expand the number of integral cooperatives started under Small Farmers Organization project I (see page 58) from 4 to 16 and (2) to assist in the development of a national cooperative organization.

LISTING OF RECOMMENDATIONS

Recommendation No. 1 - Page 8

The AA/LAC should consider not authorizing any new agricultural projects for USAID/Bolivia until the GOB provides adequate budgetary support to its public agencies to ensure that AID-financed assistance is being used effectively under existing agricultural projects.

Recommendation No. 2 - Page 10

USAID/Bolivia should (1) urge the GOB to adopt pricing policies as required by section 5.05 of AID Loans 511-T-052 and 053 and (2) assist the GOB in price policy analysis.

Recommendation No. 3 - Page 12

USAID/Bolivia should take action to try to implement the recommendations of the IFDC study.

Recommendation No. 4 - Page 14

USAID/Bolivia should work with MACA, the BAB and the BCB to help them develop plans to increase the demand for certified seed so AID-financed production capacity is effectively used.

Recommendation No. 5 - Page 16

USAID/Bolivia should ensure that IBTA develops a strategy to resolve the operational problems of its soil testing laboratories in order to effectively use AID-financed soil testing equipment and meet the needs of a more modern agricultural sector.

Recommendation No. 6 - Page 20

USAID/Bolivia should encourage (1) MACA, IBTA and CIAT to increase the salaries of its professional employees to levels that are competitive with other public agencies and (2) MACA, IBTA, NCDS and the BAB to establish a policy of providing salary increases to returned participants with advanced degrees.

Recommendation No. 7 - Page 21

USAID/Bolivia should request MACA to file a claim against the returned participant who resigned from his job prior to complying with the employment terms of his scholarship contract.

Recommendation No. 8 - Page 25

USAID/Bolivia should ensure that MACA files claims for the Entomological laboratory supplies and the two printing calculators totaling \$7,473.85

Recommendation No. 9 - Page 26

USAID/Bolivia should obtain a refund from INC of \$4,889.67 for insurance proceeds recovered but not used to replace the lost pipe.

Recommendation No. 10 - Page 26

USAID/Bolivia should require IBTA to promptly deliver commodities financed under the Exploratory Research project to the project sites.

Recommendation No. 11 - Page 27

USAID/Bolivia should (1) try to get IBTA to establish an economic staff to provide a counterpart for the Farm Management Economist and, if not successful, (2) ensure that MACA amends the CID contract (511-101) to either delete the position of Farm Management Economist or revise the job description so CID can meet its contractual obligations.

Recommendation No. 12 - Page 28

USAID/Bolivia should (1) try to get MACA to provide a qualified counterpart for the Sectorial Planning Advisor and, if not successful, (2) ensure that MACA amends the contract (511-111) to revise the job description of the advisor so Chemonics can meet its contractual obligations.

Recommendation No. 13 - Page 28

USAID/Bolivia, in coordination with MACA's Planning Division, should develop a work plan which will identify MACA counterparts and their responsibilities in performing activities under the Farm Study Policy project (511-0485).

Recommendation No. 14 - Page 31

USAID/Bolivia should promptly contract the services of an advisor for the A&A project.

Recommendation No. 15 - Page 32

USAID/Bolivia should obtain from INC revised cost estimates and a funding plan to recover the deficit in construction of the two roads.

Recommendation No. 16 - Page 33

USAID/Bolivia should ensure that INC allocates sufficient funds to adequately maintain and operate project equipment.

Recommendation No. 17 - Page 34

USAID/Bolivia should require MACA to (1) promptly prepare an invitation of proposals to contract the services of a consultant for the design of facilities where MACA has land with valid titles and (2) obtain land and valid titles for the remaining projects.

Recommendation No. 18 - Page 36

USAID/Bolivia should work with MACA to develop a plan to supervise AID-financed construction projects.

Recommendation No. 19 - Page 38

USAID/Bolivia should establish procedures which provide for the preparation of inspection schedules for construction projects using personnel from various USAID offices.

Recommendation No. 20 - Page 41

USAID/Bolivia should establish standard indicators to measure the achievement of the sectoral goal.

Recommendation No. 21 - Page 43

USAID/Bolivia should (1) obtain current implementation plans from the GOB for the six projects with outdated plans, (2) establish a planning control system to monitor GOB compliance with the submission of annual plans.

Recommendation No. 22 - Page 45

USAID/Bolivia should ensure that project records maintained by INC are audited, updated, adequately supported, maintained in accordance with project cost categories, and only include charges related to the project.

Recommendation No. 23 - Page 45

USAID/Bolivia should obtain evidence from the Central Bank of Bolivia that adequate procedures are being implemented to regularly reconcile its accounts with the Intermediate Credit Institutions under AID-financed credit programs.

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