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Analysis and Recommendations for a Project Identification Document for Agricultural Marketing and Productivity in Bolivia

La Paz, Bolivia
September 1988

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ANALYSIS AND RECOMMENDATIONS FOR A PROJECT IDENTIFICATION DOCUMENT FOR AGRICULTURAL MARKETING AND PRODUCTIVITY IN BOLIVIA

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SUMMARY REPORT

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INTRODUCTION

This report presents findings and recommendations from analyses undertaken to assist the United States Agency for International Development Mission to Bolivia (USAID/Bolivia) in preparing a Project Identification Document for an Agricultural Marketing and Productivity Project (AM/P). Several background papers were prepared by a team of experts in agricultural policy, marketing information, market organizations, marketing infrastructure, agricultural production, natural resources, agribusiness, institutional development, and agricultural education. The summary report is a synthesis of those background papers, but does not coincide with all of the recommendations of the experts' papers, particularly regarding institutionalization issues.

During the course of the field work by the analysis team, issues regarding rural financial markets were identified as critical. Discussions with USAID/Bolivia staff also revealed their concern for rural credit issues. Since these issues are so vital to agricultural marketing and productivity, one of the team members was asked to undertake a rapid assessment of rural financial markets. The principal recommendations of that assessment have been incorporated into this report.

The summary report consists of several sections: a statement of the background and the problem, the rationale and strategy for the project, a description of the project, institutionalization issues, and some suggestions of issues and personnel requirements for project design. This report is intended to be used by USAID/Bolivia personnel in preparing a project identification document; it is not intended to be the project identification document itself.

The analysis team has worked within the mandate of USAID/Bolivia's agricultural development strategy as being "marketing-led" rather than "productivity-led". The team concurs with USAID/Bolivia's assessment that improvements in efficiency in the marketing system will have a greater beneficial impact on rural incomes and food costs than would increases in production alone. An efficient marketing system will transmit incentives for adoption of technological improvements, and an improved marketing system will cause the necessary inputs to become available at the farm gate. An improved marketing system should

synchronize in a coordinated and intergrated manner three fundamental flows--information, finance, and commodities. To this end this report has been prepared.

BACKGROUND AND PROBLEM STATEMENT

Bolivia is one of the poorest countries in the western hemisphere and in the world, as evidenced by low per capita incomes and substandard caloric availability. With a skewed distribution of income, all this implies that many people live under extreme poverty conditions. Many of the very poor are dependent on the performance of the agricultural sector for their survival because they earn their living from the production of agricultural commodities or are engaged as petty entrepreneurs in the agricultural marketing system.

Recently, Bolivia has become increasingly dependent on its agricultural sector for its overall economic well-being. The collapse of its mineral sector, the consequences of its courageous New Economic Policy (NEP), and the persistent international debt burden have forced more people to depend directly on the agricultural production and marketing systems for their livelihood. The country as a whole has increased its dependence on these systems for export earnings, raw materials for its manufacturing sector, for sources of income, and, of course for food. Currently agriculture produces one fifth of the nation's value added and one sixth of its exports; it directly employs half of the labor force. An additional five percent of Gross Domestic Product (GDP) is produced by the agro-industrial sector. A large part of the services and informal sectors are engaged in marketing food and fiber products.

However, the performance of the sector has been stagnant. Its basic productivity is low relative to its natural potential. The present system is vulnerable to climatic distress and to inefficiencies in the marketing system which were partially induced by the erratic economic policies of the past. Facilitative services for marketing, if they exist, are grossly uncoordinated. At present, Bolivia's agricultural production and marketing systems lack the institutional and entrepreneurial skills, knowledge, and organization to respond to the challenge of their new role in transforming the agricultural sector into an engine of growth for

the economy and a principal source of well-being for its poorest people in rural and urban settings.

The New Economic Policy has improved the structure of incentives faced by agricultural and agribusiness activities. There is further scope for improving these incentives through even better economy-wide and sectoral policies. This situation creates an excellent and unique opportunity to stimulate economic growth, with equity, through the development of the agricultural sector. However, given the long history of official intervention in agriculture, many of the economic agents in the agricultural production and marketing system, particularly the poorest, have failed to perceive or benefit from the improved structure of economic incentives that they face. Undoubtedly many private agents don't trust that the improved incentives will be permanent.

The evidence from highly aggregated data suggests that the purchasing power of agricultural output has fallen since 1985, in spite of the NEP. Possible explanations are that the marketing system is poor at transmitting information about prices or that there are other technical and economic inefficiencies that prevent the farmer from receiving the benefits of a market oriented pricing regime.

Even if the improving incentives are being perceived by some, most persons in the sector lack the knowledge, skills, and resources to respond effectively to the evolving opportunities for increased incomes. Differential perception of opportunities and differential access to information and resources will aggravate the income distribution problems of the country and will prevent the society from receiving the full benefit from its human and natural resources. The lag in the response to improving incentives represents income sources that are forever forgone, because the present system "mines" the human and natural resource base.

The inefficient and ineffective marketing system has been identified by many as one of the principal impediments to the economic incorporation of small scale farming households from the Altiplano and the Valleys. The present marketing system exacerbates household food insecurity for these families and is a disincentive to production for the market and to commodity specialization. As a result, these household enterprises produce a variety of products for home consumption at high real costs; thus, they are forced to forego the higher real incomes that specialization

and trade could bring. Such gains cannot be realized without reliable markets for their products, and reliable and low cost markets for their purchases of food and other goods; these markets for commodities, in turn, cannot evolve without functional rural markets for savings and investments.

The principal problems with Bolivia's agricultural marketing system, particularly in the highlands and valleys, are knowledge-based rather than resource-based. Resource problems are significant in terms of fragile environments, a notoriously poor transportation system, primitive marketing and processing facilities, and misallocated financial resources. However, these problems are secondary to or caused by the exceedingly weak institutional and human resource base engaged in agricultural production and marketing. Until the institutional and human resource problems are solved, attempts to increase resource flows through production, infrastructure or credit programs will be futile.

Many analyses, including this one, have concluded that technologically-based approaches to increased output in the highlands and valleys will have little if any impact until the marketing problems are solved. However, for more than thirty years agricultural development in these regions has centered on attempts to increase the productivity of land; currently there are close to 200 production projects being executed by the government, international donors, and private voluntary agencies. Only recently, the donor community has begun to recognize the need to focus on the marketing system and on institutional and human resource aspects.

USAID/Bolivia's Country Development Strategy Statement for the 1989-1993 time period identifies several problems limiting development of the agricultural sector, including:

- a weak market for agricultural products
- institutional weaknesses
- lack of effective sector policies
- fragile finance systems
- poor technology
- limited availability of modern inputs
- inadequate public and private investment in the agricultural sector.

Accordingly, USAID/Bolivia intends to improve the efficiency of the production/ marketing system in order to lower food costs, to raise small farmer incomes, and to

increase agricultural exports. Wisely, USAID/Bolivia has opted for an agricultural development strategy that is marketing-led rather than a productivity-led.

In 1987 a working group of the United Nations Food and Agriculture Organization and the International Bank for Reconstruction and Development (FAO/IBRD) recommended that World Bank assistance for the Altiplano and Valley regions be directed at maintaining productivity and creating an environment in which this productivity can improve in response to market demands. Marketing services including information, rather than infrastructure, were the major limitations to development in the highlands. In the valleys, where the bad roads are a major impediment, the FAO/IBRD report questioned whether the major investments underway were justifiable given the poor institutional framework. In arriving at a strategy for the World Bank, they concluded that productivity increases are limited by marketing constraints. They also saw an urgent need for an improved market and price information system.

The USAID/Bolivia strategy statement and the World Bank strategy recommendations for the Altiplano and Valleys both stress that Bolivian agricultural productivity is limited by the dysfunctional marketing system. The agricultural marketing system is characterized as a high cost and disarticulated system that fails to transmit clear signals to farmers and marketers alike.

Bolivia's natural barriers to a well-integrated and coordinated marketing system have been exacerbated by the effects of the hyperinflation of the early 1980s and the propensities of previous governments to intervene in the price formation processes. These barriers have robbed the marketing system of one of its most important functions, the transmission of the value of goods and services to producers, marketers, and consumers across time and locations. Marketing systems provide this information through the price formation processes. When these are distorted and contain uncertainties, they lead to sub-optimal behavior by all participants. While some favorably situated participants may gain, the society as a whole loses. It is a fallacy to believe that a pronouncement of market-oriented polices are sufficient to correct the economic and technical inefficiencies in the marketing system.

In the present situation in Bolivia, farmers produce the wrong products, with inappropriate techniques and inputs, sell them in the wrong places at the wrong prices. Typically their inability to foresee improvements in the "rules-of-the-game" causes them to exploit the natural resource base and to forego even the most minimal of investments. Likewise, marketing agents make short-run decisions and internalize the uncertainties and risks in the system into high operating costs; some of these costs include efforts to control the market and to reduce competition. At the retail end, many traders operate at low levels of capitalization, thus offering limited selection of qualities and quantities of commodities. The production, marketing, and consumption channels lack vertical coordination; therefore, per unit costs are high. Even the consumers face high transaction costs.

On the exporting side, the dysfunctional marketing system causes producers and traders not to perceive evolving opportunities, such as the willingness of international markets to pay premia to reliable suppliers of high quality commodities. Thus the inadequate domestic marketing system aggravates the geographical isolation of Bolivia.

On the importing side, the high cost marketing system and the persistently overvalued exchange rate promote dependence on imports for Bolivia's food supplies. Tax rebate measures to promote exports of selected commodities aggravate their import dependence through their indirect but strong depressive effect on the relative prices of import competing agricultural commodities.

A further major constraint to marketing and agricultural development has been an underdeveloped rural banking system. Past policies have focussed primarily on pumping cheap rural credit into agriculture; these have disregarded completely the building of self-sustaining rural banks which are based on their own savings and prudent lending policies. Recent hyperinflation has brought serious problems to the few existing savings and credit cooperatives into serious problems. Past policies have resulted in distorted and underdeveloped rural financial markets which constitute a serious obstacle to the development of improved marketing systems.

The previous history of economic and political instability caused a severe under-investment in humans and institutions, particularly for agriculture. This sector was punished, directly and indirectly, by economy-wide policies that depressed the

incentives for agricultural production and marketing. Improved incentives arising from the more neutral economy-wide policies will be insufficient to cause the response that Bolivia needs from its entrepreneurs in its agricultural production and marketing systems.

What Bolivia urgently needs are:

- improved agricultural and commercial policies that are consistent with the New Economic Policy
- assistance to the private sector in perceiving the improved incentives and in identifying opportunities for increased profits and incomes
- stability in the incentives' framework to create confidence in the private sector and to stimulate private investment
- knowledge-based responses to the new opportunities for production and marketing of agricultural products
- strengthening of private and public sector institutions in order:
    - to formulate and implement a policy framework that is coherent and persistently seeks to guide private decisions towards economically efficient behavior
    - to stimulate the development of entrepreneurial skills throughout the agricultural sector
    - to provide the necessary public and institutional services that support private entrepreneurial initiative.

PROJECT RATIONALE AND STRATEGY

An evolving marketing system can be an engine of growth for the economy. In many countries, the development of agricultural marketing systems has been retarded because of the fallacious notion that private entrepreneurs acting in their own best interest will always act to the detriment of the general economic development of the country. It is now clear that without private entrepreneurial activities, many countries would be worse off than they are.

Bolivia's private sector must be assured that new policies will be in place for a long period of time and that the rules of the game will not be changed arbitrarily. In addition, previous incentives have not favored private sector participation; therefore, currently private sector entrepreneurs do not have the information and

know-how necessary to respond to the opportunities that arise from improved incentives.

This project will identify or help identify those opportunities that might arise and become possible from the new incentives. Through technical assistance, training, experimentation, demonstration, and promotion, the project will help develop the necessary know-how within Bolivia's private sector.

It is very important that policy reforms arising from continued progress in implementing the NEP be accompanied by a concerted effort to support the private sector through the identification of opportunities, the provision of information, and applied research that will demonstrate the profitability of new business ventures. In this context it is very important to recognize that Bolivia's private sector consists of millions in poor rural and urban households, as well as a few, more favorably situated entrepreneurs.

Bolivia will continue to rely on the small farmers, traders, and petty merchants of the Altiplano and Valley regions for most of the food and fiber requirements. Additionally, products from these regions, such as wool, hides, coffee, and cacao, can become significant exports and sources of foreign earnings. As the production and marketing systems of these regions become better integrated with the urban consumption centers, with the other regions, and with the other productive sectors, they will contribute to overall economic growth.

Accordingly, the direct actions of the project are centered on improving the sources of income for the enterprises engaged in agricultural production and marketing in the Altiplano and Valley regions. By assisting the households or enterprises engaged in these activities in these regions, the project will contribute to the development of the national agricultural marketing system. In achieving this, the project will contribute to the solution of the poverty problems of some of the poorest people in the world.

The project will improve the efficiency of the agricultural marketing system in these regions by identifying and promoting income-generating opportunities that have arisen and will arise from an improved policy framework. The actions and resources for responding to these opportunities will come primarily from the private sector

itself; secondarily the project will serve in a catalytic role to mobilize existing or planned donor and public resources. Only a limited amount of USAID/Bolivia's resources will be used to finance "seed money" for demonstration ventures. The project will carry out its activities through the private sector who will be asked to establish an Agricultural Marketing Development Center (AMDC).

The strategy of the project is to develop capabilities in the private sector to respond to the new opportunities. These households will need assistance in perceiving the new opportunities, assistance in restructuring their enterprises through the use of new techniques, and institutional support in achieving access to information, credit, technologies, etc. The principal emphasis of the project will be on working with and through the private sector. Where public action is required, it will be the responsibility of the project's private sector participants to advocate for such action.

The project will transform the agricultural marketing system by creating the means for assessing and promoting the improving policy framework for agriculture that emanates from the new economic policy. It will promote policy dialogue at the highest level to insure that the policy "playing field" continues to be leveled for agriculture viz a viz the other economic sectors in view of the intrinsic openness of the Bolivian economy. Because Bolivia appears committed to continue to open its economy to market forces, the initial policy analysis efforts will be directed at translating the impact of the NEP into sector specific opportunities for private sector initiative; i.e., the private sector will be the principal recipients of the policy advice.

The project will transform the agricultural marketing system by assisting the private sector to respond to the evolving new opportunities with more productive enterprises.

The project will promote the transformation of the marketing system by developing a system of information collection and dissemination which will place all transactors in the marketing system on an even footing. By providing continuous and reliable market news and information, the project will help create confidence in the new policy framework. In the longer run, these actions will reduce transaction costs to all participants in the marketing system.

The implementation strategy involves two phases. In the first phase (of approximately two years duration), the project will develop the private sector base for project activities. Through this base, the project also will develop the core analytical capability, the market news and price information system, the central technical assistance capability, training, and work with the private sector on selected high payoff opportunities in specific markets and specific commodities.

The second phase will institutionalize the lessons learned in the first phase and will assist the strengthened private sector institutions to extend the scope and coverage of the project activities to the rest of the target areas and the other important commodities and enterprises. During the second phase, the Bolivian private sector will be assisted in developing self-financing means so that it can assume full responsibility for the technical and information services.

PROJECT DESCRIPTION

Relationship of Project to Goals of the Government of Bolivia and USAID/Bolivia

The agricultural sector in Bolivia is going through a number of positive changes. To date, several macro-economic actions taken by the Government of Bolivia (GOB) have improved investment in the sector by eliminating controls on prices and interest rates, liberalizing import and export policies and tariffs, setting a more realistic exchange rate. In addition, the GOB has taken several actions related specifically to the agricultural sector:

- reorganization of the Ministry of Rural Affairs and Agriculture (Ministerio de Asuntos Campesinos Agropecuarios - MACA) to achieve better private sector participation
- reorganization of the Bolivian Agricultural Development Bank (BAB)
- elaboration of a new Agricultural Development Law that is expected to be passed in 1988 and that will better define the legitimate role of private and public sector institutions promoting agricultural development in Bolivia.

The project supports the GOB's goals of economic reactivation by strengthening the private sector institutions that are engaged in productivity and marketing issues. The GOB is keenly interested in grouping together small-scale farmers to increase

productivity so that there can be more efficient private sector services to those farmers. Improved marketing services could become a vehicle for this.

USAID/Bolivia's principal agricultural development goal is to increase the sector's role in and contribution toward the overall improvement of the country's GP and expand the benefits of economic growth within the agricultural sector. Its objective is also to facilitate the sale of increased production through the provision of technical assistance, infrastructure support, marketing development, and improved systems and policy reform.

USAID/Bolivia has opted for a marketing-led strategy for the highlands and valley regions of Bolivia. This project addresses the Mission's strategy by:

- helping modernize Bolivia's traditional market structure
- improving the market information system to provide crop and livestock reporting of price and demand information, as well as crop forecasting, so that better production and marketing decisions can be made
- setting up mechanisms for better policy and economic decisions that can affect positively the agricultural marketing system
- strengthening private sector organizations fostering marketing changes with their corresponding clients.

Goal and Purpose

The goals of the project are to increase incomes of some of the poorest persons in Bolivia, to contribute to overall economic growth, to improve caloric intake and food security at the national and household levels, and to contribute to foreign exchange earnings and/or savings.

The purpose of the project is to improve the efficiency of the agricultural marketing system in response to improved economic incentives. In turn, this will improve the productivity of land, labor, and other resources in the overall agricultural production and marketing system. Increased productivity will occur primarily because private sector agents such as small and large scale farmers, traders, other intermediaries, petty merchants, and consumers will make better resource allocation decisions in response to improved incentives.

Project Outputs

It is proposed that the project accomplish the following outputs during the project period:

- An Agricultural Marketing Development Center (AMDC) will be created by the private sector. The AMDC will develop and coordinate the institutional resources to improve the agricultural marketing system.
- A Policy Monitoring and Economic Analysis Unit (PMEA) will be established and made operational to provide services to private sector institutions in the areas of economic analysis, rural finance, and agricultural marketing ventures.
- A national agricultural market news and price information system will be established and made operational,
- A system of grades and standards will be adopted.
- Producers, agribusinesses, and related institutions will be strengthened in marketing/productivity with improved financial intermediation services through the transfer of technological and managerial innovations.
- There will be increased human resource investment in areas of policy development, rural finance, economic analysis, marketing, management, and technology utilization.

Project Inputs

Project inputs will include the following:

- **Long-Term Technical Assistance**
  - Agricultural Marketing Economist
  - Agribusiness Specialist
  - Rural Financial Market Specialists
  - Economic and Policy Analysis Coordinator
  - Agricultural Information Specialist
  - Human Resource Development Specialist

- **Short-Term Technical Assistance**
  - Short-term technical assistance as specified below in the descriptions of the components.

- **Training**
  - Short-term courses, workshops in Bolivia
  - Short-term courses, workshops in US or third countries
  - Observation visits, internships outside Bolivia
  - Long-term masters and PH.D. training in U.S. or third countries

- **Commodities**
  - Portable computers for all project components
  - Project vehicles
  - Telex machines
  - A-V equipment and other training equipment
  - Technology transfer equipment and supplies

- **Other Costs**
  - Seed money for market plans, feasibility studies, case studies, project development
  - Journal development of articles
  - Journal publication
  - National professional and support staff
  - Printing for agricultural information services

- **Contingencies**

Project Components

The Agricultural Marketing and Productivity Project will improve the efficiency of the marketing system, and through this improve the ability of the agricultural

production system to respond to new market-led and policy induced income opportunities. The focus for action is on improving the ability of private sector agents to perceive and respond to new opportunities with improved business ventures and technologies that enhance productivity.

The project will provide knowledge and information; it will not transfer resources. However, project funds will be used to fund certain demonstration efforts and to provide seed money for a few selected high payoff ventures. The project is primarily a technical assistance project that will be mainly focused on developing private sector institutions and the human resource base to support development of the agricultural marketing system.

The principal functions of a marketing system are to transmit information, to coordinate production with consumption, and to integrate the flow of commodities and services at all stages in the production, harvesting, assembly, processing, transportation, distribution, retailing, and consumption chain. Technologies, and human, physical, and financial resources are all engaged in these stages. Therefore, the project components will be integrated; the Marketing Strategies Component will be the central focus and the integrating mechanism.

The project components are:

- Marketing Strategies
- Policy Monitoring and Economic Analysis
- Market News and Price Information Systems
- Technical Assistance for the Improvement of Rural Financial Markets

Marketing Strategies

The Marketing Strategies component will be the principal means for assisting the private sector to identify and respond to improved business and agricultural production opportunities. Other project components will support the Marketing Strategies component.

Project activities will be focused on removing key bottlenecks in the marketing system by creating the capacity within the private sector to mobilize their own,

donor, and other national resources. Project interventions will be sustained by the actions of the private sector participants. Thus, the project will focus on strategic elements of marketing systems development, and the private sector institutions and individual households and enterprises will provide the technical and resource elements.

To identify strategic points of intervention, the Marketing Strategies component will use information from the Market News and Price Information Systems component and analyses from the Policy Monitoring and Economic Analysis component to identify broad classes of opportunities for improving the efficiency of marketing system. Then by applying analytical capability and entrepreneurial "know-how", strategic actions will be identified and promoted through the participating private sector institutions.

The project will work with the private sector to create an Agricultural Marketing Development Center (AMDC) during the first phase of the project. The AMDC will be responsible for coordinating all project activities and services. As the institutional development and training proceed and as the information and policy components develop, the private sector will assume complete responsibility for the project's services.

The project will be managed by the private sector participants through the AMDC, established as a national coordination and administrative unit. Project actions will be executed through private sector organizations at the departmental levels in the six focus departments. The participating organizations will be represented in the board of directors of the AMDC, headquartered in La Paz. The AMDC will consist of the international technical assistance team and a cadre of Bolivian private sector analysts and implementors. The board of directors will elect its own officers and these in turn will designate a chief operating officer for the AMDC.

The Marketing Strategies Component will work horizontally (across commodities) with a focus on enterprises in certain market places (e.g. Tarija and La Paz), as well as vertically within a commodity system, (e.g. livestock or coffee). In the first phase, markets and commodities will be carefully selective so as to maximize the learning opportunities. Careful analysis will be required during the development of

the project paper to specify criteria for selection of sites and commodities and to determine a plan of work for the first phase. The criteria for commodity selection could include:

- potential impact on farm incomes
- importance of commodity in the consumers diet
- food security
- international comparative advantage
- the prospects for eliminating the identified marketing bottlenecks.

USAID/Bolivia assistance to the marketing strategies component will consist of a core of three international technical assistance experts. One expert will focus on marketing economics aspects. Another will specialize in agribusiness and entrepreneurial approaches to marketing. A third will serve as the team leader and project director for the technical assistance contractor.

USAID/Bolivia local currency funding will be necessary during the first phase of the project to support the operations of the AMDC. The participating private sector organizations will be required to assume an increasing share of the AMDC's local currency costs during the second phase of the project. At the project assistance completion date (PACD), the AMDC will be fully supported by the private sector.

Promotional efforts with the many interested private sector organizations will have to be undertaken during the preparation of the project paper. The PP should include draft by-laws and proposed participation agreements for incorporating the AMDC and the board. A Conditions Precedent (CP) for the project should require that the AMDC be formed by the private sector and be given legal status as a not-for-profit corporation.

The AMDC should be structured so as to receive grant and contract funds from sources other than USAID/Bolivia. Initially USAID/Bolivia grant funds should provide the local currency costs for three years of operations; subsequently grant funds from USAID/Bolivia should be limited to half of the next four years of operations. After project completion, USAID/Bolivia, the GOB, and other Agencies could contract with the AMDC on a full cost reimbursement basis for other project implementation or analytical tasks. The AMDC will be expected to be self sustaining after PACD.

In addition to providing for the services of the long-term technical assistance team, the project will provide dollar-funded costs necessary for internationally contracted technical assistance for specific short-term efforts, for international training, for international travel and for a few commodities to support project operations e.g. computers, audio visual equipment, radios, etc. Short-term technical assistance will be required in the following areas:

- Input Marketing and Production
- Marketing Infrastructure
- Strategic Planning
- Venture Capital and Privatization
- Retailing and Chain Store Operations
- Agricultural Production Systems
- Post Harvest Handling, Packaging, Processing
- Livestock Marketing
- Market Structure, Conduct, and Performance

Policy Monitoring and Economic Analysis (PMEA)

Under the PMEA component, there will be three levels of economic and policy analyses:

- The first level will monitor macro-economic and economy-wide policy developments and proposals to report on their implications for agricultural marketing and production incentives.

- The second level will monitor sector and commodity specific issues to identify opportunities and to prepare position papers for policy advocacy.

- The third level will conduct specific enterprise and market level analyses for assessing the economic viability of proposed or potential project interventions.

The principal users of these analyses will be the AMDC staff and the participating private sector groups.

The project will provide funding for four years of a long-term policy analysis advisor and for 5-12 person years of short-term economic and policy advisors during the full life of the project. Local currency costs through the AMDC would provide funds for six full-time policy analysts and for subcontractors with domestic private sector economic analysis firms.

The long-term policy advisor would coordinate international technical assistance and serve as the Technical Director of the PMEA Component until being replaced by a Bolivian Technical Director in the third year of the project. He would serve as an advisor for the balance of his tenure.

The modus operandi would be two-fold. One part would carry out a research agenda on a continuing basis to assess the impact of economy-wide and sectorial policies, to monitor the evolving structure of incentives, and to provide early warning on emerging opportunities or constraints. The other part would provide a quick response capability to the AMDC and through it to participating institutions. The quick responses would focus on specific ventures and position papers for policy advocacy.

The economy-wide issues that would be on the agenda include:

- analyses of real effective exchange rates by commodity, for example to measure the distorting effects of export promotion incentives.
- general exchange rate policies
- transport, industrial, and service sector policies
- financial policies and conditions
- tax and other fiscal policy effects on agriculture
- trade and commercial policies and their incidence on agriculture
- export promotion policies, in conjunction with analyses of comparative advantage and real effective exchange rates
- general macro-economic projections
- studies of international comparative advantage.

Sector specific issues would include:

- wheat pricing and importing policies
- milk marketing and pricing issues
- export tax rebate policies and schemes
- food security and consumption issues
- the structure, conduct, and performance of commodity and rural financial markets.

Prototypical quick response issues could include analyses such as:

- impacts on the Bolivian economy of international economic shocks
- impacts of proposed PL-480 imports
- analysis of ventures proposed by the participating private sector groups.

The PMEA unit of the AMDC would seek strong collaborative arrangements with other economic and policy research groups in the private and public sector; this would include the Economic Policy Unit (Unidad de Análisis de Políticas Económicas - UDAPE), and any policy analysis capability that might develop at the Ministry of Rural Affairs and Agriculture (MACA). The project would seek to strengthen its activities through these collaborative efforts, including sharing of the short-term international technical experts with them. Another important vehicle for institutionalizing the project activities, through the private sector, would be to subcontract some of the analytical and research tasks to firms, universities, and individuals in Bolivia.

Agricultural Market News and Price Information System

At present, the agricultural information system only has some attributes of an effective system. Currently, it consists of a number of fragmented activities. Several non-integrated public and private institutions undertake data acquisition and some data processing activities, but dissemination is poor and sometimes contradictory. One of the major problems of the existing information system in Bolivia is that it is oriented to the public sector rather than the private sector. The authorities involved regard themselves as control and administration units rather than service-oriented institutions.

The key public institutions that are currently involved to some degree in the collection, processing, and dissemination of national agricultural information are: the Ministry of Rural Affairs and Agriculture (MACA), the National Statistics Institute (INE), the Ministry of Industry, Commerce, and Tourism (MICT), and the Ministry of Planning and Coordination (MPC). The capability of personnel varies, as do financial resources and extent of coverage of the agricultural sector.

While these institutions need strengthening, this would not be a primary focus of this project. The AMDC's relationship to these institutions would be collaborative rather than direct.

A shortcoming of the present market news services is the lack of information on volume of deliveries and trade by commodities. Obviously, these quantitative data are difficult to collect. With a trained, experienced corps of reporters, at least qualitative observations of the volumes of commodities in the market could be included in the market news reports. Market news emanating from the wholesale markets could be supplemented with data obtained and reported from retail markets farmer's markets, or assembly markets. This supplementation and coordination could be much more effective with a single agency providing leadership in market news.

Price data and related market information could be strengthened by several types of activities. These include:

- getting the agricultural chambers, associations, and regional agencies together to introduce more uniformity into their market news services
- promoting widespread adoption of the standards and grades adopted in the central markets to facilitate the exchange of price information both vertically and horizontally in the markets
- arranging educational programs to facilitate more uniform improvements in the coverage, timeliness, and accuracy of data issued from the smaller local markets
- arranging for the effective interchange of data among markets.

Lack of analytical and outlook information at the present time is due to major problems including lack of a strong data foundation on which the analysis must depend. This deficiency is found among most commodities. In addition, the demand side of the price equation is most neglected. Consequently, the agricultural sector is not getting useful information. The provision of market news and price information on a timely basis would strengthen the opportunities for farmers to make intelligent independent production plans and marketing decisions. Furthermore, the farmer gets little guidance on when to market advantageously from a price point of view. As a result, farmers have little knowledge of their alternatives to sending their produce to local markets at the most convenient times.

The project would provide a technical advisor to develop a private Market News and Price Reporting System through the AMDC and the collaborating regional institutions. The Market News system would be national in scope but would give priority to fulfilling the needs of the Altiplano and Valley regions. The technical advisor and the AMDC local staff would collaborate with and advocate for strengthened public sector providers of the other important sources of agricultural information.

Tentative institutional responsibilities for implementing a reliable agricultural information system in Bolivia are shown in Table 1.

Table 1: Agricultural Information Activities and Implementation Responsibilities

Type of Information	Primary Responsibility	Cooperating Institutions	Output
Benchmark	INE	MACA	Agricultural Census
Current Supplies Estimates	MACA	INE Producers Producers Associations Agricultural Chambers	Estimates of Monthly Production for Major Species
Market News	Private (AMDC)	MACA, INE, MICT Producers Associations Agricultural Chambers Departmental Development Corporations	Daily reports and Weekly summaries
Outlook	MACA	Agricultural Chambers Departmental Development Corporations	Outlook reports

This should be used by the project paper team as a basic guide in exploring the institutional capabilities. Different institutions may have data collection and processing responsibilities. It may be desirable for the project to provide technical assistance and material support to upgrade and standardize capabilities so that the public sector institutions can better support the private sector.

The major functions of the market information unit at the AMDC headquarters will be:

- to organize and promote the development of a national Market News and Price Reporting System within the private sector
- to serve as a liaison between all public and private institutions for collection, analysis, and dissemination of all information on agricultural production and marketing, and other information
- to cooperate with other private and government agencies in compiling information related to the agricultural sector, and in designing and implementing benchmark data collection and analysis
- prepare and distribute periodic publications for dissemination to the appropriate public and private institutions and interested individuals, possibly for a fee to cover cost of production of these publications.

In order to ensure that the market news system is effective and functioning well, it should be based on grades and standards that are widely understood and accepted by the trade. On the other hand, one of the strongest instruments for getting the widespread understanding and use of uniform grades and standards will be the adoption of more effective methods for disseminating standardized price and related data collected in the major markets.

In Bolivia, there are no formal and uniform grades and standards for most agricultural commodities. Middlemen usually impose their own grading on sellers, but this varies within and across markets. Furthermore, the presence of varying weights and standards reduces the efficiency of the marketing system. A single reporting service has a better chance of adopting uniform weights, measures, grades and standards and of training a force of reporters to use them effectively. The adoption of these standards by reporters would be a major step toward getting them recognized and used throughout the market. If a more uniform, comprehensive, dependable and objective service can be established initially in the principal markets it would serve as good basing point for corresponding improvements in the other wholesale centers. This would facilitate comparisons between markets, levels of marketing and producing areas to rationalize food distribution. A well-designed grading and standardization system can pass valuable information back to producers and other market participants.

The market news system will be designed so that a central facility established at the AMDC in La Paz will receive and process data collected by employees of the private organizations in the designated departments and at other key locations. The collection of price and other market data will be according to uniform methodology.

The central staff will assemble, analyze, and dispatch the information through various media means, and thereby, re-distribute the information among users.

In order to make the market news system operational, the following steps must be taken as early as possible during its development:

- assign responsibility for data collection at the various producing areas and selected markets in all departments in Bolivia. This should include an established schedule for collection, transmission and release of information
- assign supervisory responsibility for data reception and verification, and for the overall daily operation of the system
- establish clear forms and codes in order to facilitate efficient and consistent data collection and transmission, including the development of "operational manual"
- form a users' advisory board.

This activity should be institutionalized in or closely linked to the PMEA unit proposed under the project. There will be need for both long-term and short-term technical assistance and training, in order to implement an operational and reliable agricultural information system. The required Long-Term Technical Assistance will be a Market News Specialist to assist in the following:

- design, development, and implementation of a market news reporting system
- selection of markets and commodities
- design of forms and reports
- selection of communications tools and identification of media and other dissemination methods.

Technical Assistance for Development of Rural Financial Markets

Agricultural credit is fundamental to increasing production and efficiency of the sector. It acts as lubricant in the transfer of technology and in the marketing process. While the formal agricultural credit system expanded quite rapidly during the 1970s and early 1980s, only an estimated 6% of farm families received credit from formal sources. A large percentage of Bolivia's farmers still use informal sources of

credit. Because of the informality of these transactions, their extent and magnitude are not adequately documented.

A number of problems with the formal credit channels have to be recognized, which include excessive targeting of credit, partly due to requirements of donor agencies, which has resulted in high administrative costs and in a diversion of funds. The system has been inflexible with regard to institutional and regional distribution of agricultural credit. Furthermore, the question has to be raised whether or not there are more efficient and flexible ways the Banco Central de Bolivia (Bolivian Central Bank - BCB) should be involved in the refinancing of agricultural credit. Furthermore, the Rural Finance Department of the BCB has neglected its role to promote and monitor the development of efficient and viable rural financial institutions.

For example, the Bolivian Agricultural Bank (BAB), founded in 1942, is the most important rural financial institution in Bolivia, with a network of 10 regional branches and 52 provincial agencies. As of March 1986, 65% of its loans were in delinquent status. At present, the BAB is not a viable institution due to high overhead costs, narrow spreads on its operating capital, and imprudent credit policies. Current restructuring efforts aim at establishing the Bank as a full-fledged Agricultural Bank that can mobilize savings and operate on a self-sustaining basis. Necessary changes include restructuring to:

- decentralize operations
- improve the efficiency of the regional branches
- assign capital to each regional branch
- adopt an accounting system that conforms to standard accounting principles for each regional and provincial agency
- establish a strategy that would permit depositors and borrowers of the bank to participate in the ownership and policy making of the institution.

Up to now, the formal agricultural credit system in Bolivia has relied nearly exclusively on external sources and Bolivian Central Bank refinancing. USAID/Bolivia has been a major source of rural credit through its PL-480 program. Other external sources for agricultural credit have been other multi-lateral and bilateral aid agencies.

The Government of Bolivia gives high priority to the development of efficient rural financial markets and institutions. It has established the Junta Nacional de Credito Agropecuario (JUNCA), which aims at promoting and coordinating rural finance. MACA, the Bolivian Central Bank (BCB), private banks, and the Departmental Development Corporations (DDCs) are represented in JUNCA. Furthermore, the Government has proposed in September 1988 to establish a Fondo Nacional Agropecuario, including a Fondo de Garantia to facilitate financing of Agriculture.

It is recommended that the project include a rural finance component with emphasis on policy and practical assistance to the establishment of rural banks. This component would include:

- long-term technical assistance - a rural finance consultant for 4 years to advise and assist in building up the proposed Rural Finance Department in the Bolivian Central Bank (including the establishment of an effective monitoring service, advice and assistance in training)
- long-term technical assistance - a consultant for 4 years to advise and assist in strengthening rural banks in a selected department
- short-term technical assistance to advise on specialized subjects, such as management of rural banks, computerization of rural banks, evaluation methods, training, applied research
- a number of fellowships in rural finance and banking.

Review of existing or proposed related projects financed by other multi-lateral or bilateral agencies suggests that the proposed project would be complementary to other projects. In fact, the services to be offered by the proposed project would greatly enhance the effectiveness of existing projects.

The following policy and institutional issues would be the focus of this component:

- **Multiple institutional structure**. There are four principle classes of financial institutions, namely the Bolivian Agricultural Bank (BAB), Commercial Banks, the Financial Credit Units (UCFs), and credit unions of the type of FENACRE and CACEN. The latter groups should be given a high priority in technical assistance, since they are the most suitable type of financial institutions for small farmer and rural development. They have to be rural based and should be controlled by rural people; i.e., FENACRE/CACEN are cooperatively owned. There is also room for private rural banks as, for instance, developed in the Philippines and Ghana, provided they have the necessary professional qualification as rural bankers. Also, training programs

should be made available as adequate training, effective inspection, and supervision are preconditions for the development of viable rural financial institutions.

- **Non-financial service institutions.** The traders have to be considered as important financial intermediaries for small farmer development. The trade is able to provide short-term credit to small farmers at lower transaction costs and more efficiently including recovery of loans than the banker. The rural trader has this advantage because he is in constant contact with the small farmer, can judge his credit worthiness, and can facilitate repayment of loans when the trader purchases his produce. It is obvious that low financial intermediation costs depend upon the degree of competitiveness in the rural financial market; this can be achieved through various well known instruments, such as clear distinction between the price of the commodity and the price of the financial services. In order to make full use of the trade as an efficient financial intermediary, it is important that the agricultural trade has access to credit from financial institutions. The trader will pass on credit to small farmer, for instance, for the purchase of inputs or storage of grains, if rural markets are competitive.

- **Working Group on Rural Finance.** Consideration should be given to the establishment of a working group consisting of representatives of MACA, Ministry of Finance, Ministry of Planning, Ministry of Commerce, Bolivian Central Bank, and of private banks (FENACRE, CACEN, ASOBAN). Its objective should be the formulation of a strategy document and medium-term action plan for the development of effective rural financial markets, including financial institutions. This document should be fully discussed to achieve a broad national consensus and reduce the present confusion. The strategy would spell out priorities and guide the international aid community on their related programs. Such a commonly adopted strategy and action plan would greatly assist in mobilizing local and international resources and would make better use of them. The proposed strategy document should facilitate changing from a supply-led credit policy to a demand-led policy and should emphasize institution building, namely the promotion of autonomous and viable rural banks of cooperative or private ownership in which farmers would have confidence.

- **Commercial Banks.** These can only reach a comparatively small part of the farm population and then only the larger farmers. However, commercial banks can play an important indirect role in small farmer credit development by financing the agricultural trade, which would pass on the credit to farmers.

- **FENACRE and CACEN.** Credit unions have the greatest potential in reaching the mass of small farmers if they are rural based. They require considerable technical and some financial support for training of staff and farm members in order to extend their network of rural banks. It is recommended that a training center in FENACRE be established for training of rural bankers, as have been established in other developing countries. Donors should be approached to support such a program for a number of years.

- **Second-story banking and refinancing.** The numerous credit lines now in operation have resulted in a serious distortion of the rural financial markets, have discouraged savings mobilization, and have contributed to excessive operational costs of the present financial institutions administering the credit lines. The uncoordinated pumping of "cheap credit" by donors into the Bolivian rural financial market has made major contributions to the present rural financial crisis in the country and the lack of viable rural financial institutions. The present supply-led agricultural credit strategy of donors has to be replaced by a demand-led finance policy, aiming at promoting viable rural financial institutions based on their own savings mobilization.

- **Reduced targeting.** There are other development instruments, such as improved marketing, input supply, and extension that are more effective to achieve development objectives than subsidized and targeted credit promotion.

- **Training, technical assistance, and research.** A Rural Finance Department should be established at the Bolivian Central Bank to promote, monitor, and evaluate the development of the rural financial market and its institutions. The project should provide training, technical and research assistance to the rural financial system through this department.

- **Appropriate interest rate policy.** The rural banker should be autonomous in setting his interest rates according to the market. The interest policies of the donor agencies should be reviewed.

- **Mobilization of savings.** The mobilization of savings should have a much higher priority. Experience in other developing countries has shown that if priority is given to savings mobilization and if rural financial markets are not distorted by cheap external credit, a substantial number of the present constraints to rural finance development in Bolivia can be solved without major problems. Emphasis on savings would change behaviors of farmers and rural bankers, and would lead to more prudent lending, higher credit repayment discipline, and avoidance of diversion of funds. Loan delinquency, which has been a chronic problem of Bolivia, would be reduced considerably if borrowers knew that the funds came from the savings of their neighbors.

- **Promotion of voluntary groupings of farmers.** Low-cost financial intermediation to small farmers can be achieved if voluntary groupings of farmers (say about eight to fifteen farmers) can be promoted. They would administer their savings mobilization on a voluntary basis, as for instance, the savings clubs in Zimbabwe, Africa, and also would manage their credit program. Bolivia could benefit from the considerable experience with voluntary farmer groupings has been gained in Asia.

Training

Training is not a separate component because it will be accomplished within each component to strengthen the providers and users of the AMDC services. The focus will be on project-related training that provides skills, attitudes, and general preparation to accomplish project activities. All training programs will have specific designs, modules, expected outcomes, and desired impacts so that training can relate to specific project components.

First, there will be training as the project begins to prepare project staff for tasks they will perform. This will include short-term workshops, policy dialogue, long-term overseas training and observation visits to similar projects in Latin America. Project staff will train trainers who can conduct workshops and seminars during the project.

Training activities will occur throughout the duration of the project for producers, wholesalers, producer association managers, business entrepreneurs, retailers, and other private agricultural organization members. A combination of workshops, seminars, and observation visits will be planned.

For the Marketing Strategies component, a good deal of training will be at the departmental level or will be for department-level people. For example, entrepreneur training workshops in productivity, marketing, quality control, and business plans will be held for entrepreneurs, retailers, and association staff.

Internships and observation visits to the U.S. and other Latin American countries will facilitate observation of successful marketing and processing projects. Skill training will be provided for conducting feasibility studies, business plans, case studies, and market strategies so that department-level professionals can carry out marketing strategies themselves. On a case-by-case basis, there will be direct technical assistance interventions with businesses, associations, and other clients to assist them to resolve a specific marketing issue.

The Economic Analysis and Policy Monitoring component will include policy seminars to inform private sector participants of the opportunities being created by Bolivia's market-oriented strategies and policies. These will be held especially at the

project outset and also at strategic times to assess new opportunities or constraints arising from policy measures.

Several potential staffers will study economic and policy analysis at the masters or Ph.D. level in the United States. Long-term advisors will conduct high-level workshops in economic and policy analysis for staff members and leading analysts of public and private sectors.

To strengthen the Market News and Price Information Service, a series of on-the-job workshops will be held in collecting data, and implementing market news services. Several observation visits are planned to countries where agricultural market news systems are in operation.

Finally, in order to upgrade human resources in the agricultural marketing sector, several training activities having long-term impact will be planned. University student and young professional internships at successful private marketing business ventures will provide on-the-job training for future entrepreneurs. Some university professors will receive training in marketing/commercialization through in-country workshops or seminars and through long-term formal training in masters/Ph.D. programs in the U.S; upon completion of training, these professors will introduce new marketing, business plans, and other marketing-related topics into existing agronomy departments at two or three Bolivian universities.

Project Benefits

By improving the efficiency of the marketing system the project will promote increased productivity and production at the farm level, because farmers and livestock producers will face improved marketing opportunities for greater quantities and qualities of commodities. Farmers and livestock producers will also face lower costs and more reliable supplies in the input markets. They will be better informed as to the markets' valuation of their products and they will make better resource allocation decisions. The producing households will have increased opportunities for investment because the project will help reorient the rural financial markets to create opportunities for savings and to meet the credit needs of producers under a

financial markets regime that is driven by market forces and not by institutional dictates.

Many of the farm households are also engaged in off-farm income generating activities. For many of these families the only off-farm employment opportunities are in the agricultural marketing system; this has become increasingly so with the collapse of the mining industry. Also, many of the urban poor find their only means of livelihood in the sale of foodstuffs. A significant number of low income persons also derive their income from the processing of food and fiber products, e.g. arts and crafts. Many of these households will face increased income opportunities arising from larger volumes of economic activity and from working with higher value products.

The private initiative fostered by the project activities will improve the purchasing power of the households and enterprises engaged in agricultural production and marketing. If the deterioration of purchasing power experienced during the 1980s (approximately 20%) were corrected over the life of the project, this could imply an increase in the growth rate of agricultural value added of approximately three percent per year. With multiplier effects in the industrial and service sectors this increased agricultural value added could add approximately 1.5% per year to Bolivia's GDP. The annual flow of gross benefits would equal about $60 million (1988) dollars by the fifth or sixth year of the project. Significant growth impacts would be realized during year three of the project.

The fundamental assumption is that the policy framework of the new economic policy continues to be implemented and improved. A policy reversal to pre-1985 conditions would cancel out most project impacts except the effects of training and possibly the market news system.

Other obvious benefits are the large number of persons to be trained in entrepreneurial and analytical skills. The strengthened rural financial markets would make more effective use of domestic savings and of international donor's credit lines. Other donor's and USAID/Bolivia activities in the agricultural sector would also be positively leveraged, e.g. export promotion.

The additional income generated would tend to accrue to the poor, although no targeting efforts, other than regional, are intended. The improved amount and distribution of income would reflect itself in improved caloric intake, particularly in the lowest income households. A preliminary estimate is that the caloric intake of the poorest third of the population would increase from 10 to 15%. On a national basis caloric intake would increase by approximately five percent by the end of the project.

Given the private sector orientation and the potentially large income increases to be derived, it is reasonable to believe that many of the project services could be placed on a self financing basis by the project assistance completion date (PACD). Successful examples of this have been achieved in Colombia by the National Society of Agriculture, The Rice Growers Federation, The Coffee Growers Federation, The Cattle Producers Federation and The National Federation for Development. Similar successes appear possible in the Dominican Republic and Ecuador. The project design team should study this matter in detail during the preparation of the project paper.

The indirect benefits of developing a dynamic private sector capability to influence and guide policy formulation and institutional development are non measurable. The incorporation of the poor into this process will greatly contribute to Bolivia's democratization process.

PROJECT IMPLEMENTATION

Possible Arrangements with Participating Institutions

Implementation arrangements for the project have been the subject of individual as well as group analysis and the subject of intense debate among the members of the team preparing this report. It is recognized that selecting the proper "home" for the project is paramount to its success. At this stage in project development there are too many unresolved issues to firmly establish a definite project home. Many different homes for the project have been explored and must receive much further attention during the development of the project paper.

The team preparing this report recommends a private sector approach, on the basis of the currently available information.

Option A: Private Sector Implementation of the Project

There is general agreement that public sector institutions, especially MACA, are weak and not highly effective. USAID/Bolivia has recognized this severe constraint to development programs and has placed much greater emphasis upon implementing projects through the private sector. Fortunately, Bolivia has a large number of department-level private-sector or quasi-private-sector agricultural organizations. These organizations currently are receiving assistance from USAID/Bolivia's Private Agricultural Organization Project.

Further analysis will determine if this project should be implemented through formal collaborative agreements with the regional private sector organizations and the Departmental Development Corporations (DDCs). The DDCs are not federated, nor do they need to be for the purposes of this project. Team members preparing this report agreed completely that the project should be implemented through the DDCs, regional agricultural chambers, or other suitable organizations at the departmental level.

Under this option, the AMDC will be established in La Paz to represent the interests of the collaborating institutions at the national level and to guide project implementation. The AMDC will be staffed by private sector employees of the collaborating institutions.

USAID/Bolivia will need to explore further the issues of this option which advocates that the AP/M project be implemented primarily through the private sector. In addition, if option A is selected, promotion of the concept to the private sector will be necessary, as well as development of the pro-forma agreements under which the project would operate.

Option B: Quasi-Public and Private Sector Implementation

Under this option, the project would be administered through a special coordinating unit under the Ministry of Planning and Coordination. This would be similar the present administrative arrangements established for two other agricultural sector projects that are precursors to this project, USAID/Bolivia's Market Town Capital Formation Project (No. 011-0573) and the Private Agricultural Organizations Project (No. 011-0589). This project will support and build on the experiences and progress of those projects, and complement the institution-building, studies, and marketing strategy progress during those projects.

This option was rejected by the team preparing this report in favor of option A because it is important that the private sector become capable of supporting its own development. Under option B there exist a high risk that the project would become another public bureaucracy and/or forever dependent on USAID/Bolivia.

Option C - Public Sector Approach

The third option considered was to place the project at the Ministry of Rural Affairs and Agriculture (MACA). This option was discussed and studied repeatedly and was rejected by the team preparing this report in favor of Option A.

MACA is the central government organization for agricultural affairs in Bolivia. As such, it will play a vital role in the project under any of the implementation options. A preliminary assessment of MACA as a possible venue for this project was undertaken by the team preparing this report. The team studied MACA's present situation, potential future, and possible roles in the project. The assessment is based on review of documents, interviews with MACA and USAID/Bolivia officials, and discussions with a large number of professionals in Bolivia.

USAID/Bolivia's Agricultural Sector Assessment devoted 33 pages to MACA:

- Assessment of the role of MACA as a public institution in the agricultural sector (pp. 75-79)
- Assessment of the institutional constraints of MACA (pp. 123-130)
- Assessment of the constraints to effective planning and policy analysis as related to MACA (pp. 130-134)

- Assessment of the institutional reform required of MACA including the decentralization of MACA (pp. 171-172)
- Assessment of possibilities of institution-building of MACA in strategy concepts (p. 189)
- Proposals to support the policy analysis and statistical services of MACA as a concept paper (pp. 208-210)
- Assessment of institutional resources of MACA/SPAR (Appendix F, pp. 1-5)
- Assessment of current proposal for restructuring of MACA (Appendix G, pp. 1-5)

The team preparing this report also reviewed the World Bank Agricultural Sector update, June 20,1986, that assessed the MACA functioning and operations. Finally, we reviewed the draft report "MACA Restructuring Report," by Chemonics, August 1987.

The conclusion of those documents can be summarized as follows:

- MACA is a highly political government organization that has gone through five reorganizations since the 1952 Revolution.
- MACA has been most concerned with dealing with political agricultural issues(farmer organization laws, agrarian reform), at the expense of policy strategy and planning as well as specific areas such as marketing.
- MACA vacillates between wanting to be a planning organization and an implementation organization.

Other conclusions relate to its poorly paid staff of professionals and ineffective organization. The main points are that its delivery of services is uneven, that it is ineffective, and that it does not have respect in the development community or with its intended clients in the private sector.

Possible Roles for MACA

MACA is attempting a remarkable re-structuring of its organization. It is spearheaded by the Internal Coordination Mechanism for the Organic Reorganization of the MACA (MICRO). Since 1986, MICRO has been instrumental in setting up new MACA organizations, and importantly, new strategies. In mid-1988, it has streamlined personnel and is beginning to figure out how to provide services at the departmental level. MACA is also attempting to put into place regional agricultural councils at each department level. These agricultural councils would be headed by MACA and include both public and private sector organizations for the purpose of strategy

planning at the department level. In mid-1988 some arrangements have been made in Santa Cruz department and initial conversations have started in Cochabamba department. The regional agricultural councils are designed to have local authority but not decentralization of authority of MACA.

MACA is also re-structuring some divisions that are related to the proposed agricultural marketing project:

- The Marketing and Commercialization Division will have a more active role in planning and coordination.
- The Agricultural Information Division will be strengthened and will carry out some of the functions related to the project.
- The Policy and Planning Division will carry out strategy papers and write new agricultural reform laws.

If MACA were to have a role in the new project, the extent of its involvement needs to be explored more fully by the project design team. There is a big difference between "intention" and "fulfillment"; MACA's track record since 1952, documented in the Agricultural Sector Assessment, suggests that one should approach MACA's intentions with some skepticism.

MACA officials and others have argued that any agricultural project in Bolivia should be handled by MACA. Also, if MACA were to play a major role in the project or to house the project, its newfound directions might be solidified. On the other hand, others have argued that MACA should be excluded from this project because of its poor record in the past. Many people interviewed believe MACA is part of the problem rather than helping to alleviate marketing issues. Some interviewed feel strongly about not cooperating with MACA.

Perhaps MACA could be involved in the project from the beginning and should try to prove itself to other "colleague" public sector institutions as well as the private sector organizations and clients. The team preparing this report recommends the project design team consider its involvement carefully, including the following possibilities:

- MACA could play an active role in the policy activities providing information to the AMDC staff to assist in policy studies. Two or three MACA employees could be assigned full time or part-time to work on specific agricultural policy issues. MACA employees would participate in project-related training for policy workshops and would be eligible for out-of-country participant training. In two or three

years MACA would be strengthened by its involvement in the project and also its own policy departments would be strengthened. Then possibly MACA could play an active role in future policy decision-making.

- The project will rely on MACA's capability in gathering agricultural information, agricultural census, and other bench-mark data. MACA could also be a participant in the Market News System. It could have a very important role in institutionalizing the grades and standards once they had been developed by the trade. MACA employees will be trained in all workshops envisioned for the agricultural information component of the project.

- MACA could provide three or four full-time employees to work with the AMDC staff, including agronomists, marketing specialists, and commodity specialists. MACA employees will also participate in all training programs, of relevance to the interest and roles.

- MACA could play an active role in project implementation at the department level. Each department will function differently but with common central guidelines. For example, it is possible that MACA can house the implementation office in one department, coordinate the implementation with the agricultural councils in another department, or simply participate as a cooperating institution in yet another department.

Possibly after three or four years, MACA could begin to take over some of the project's truly public activities. It is hoped that MACA employees would become involved in all marketing and commercialization activities. MACA could be involved in this project in an evolutionary manner. It must prove itself in the marketplace as a viable and trustworthy institution, through demonstrations of a positive attitude toward marketing and commercialization and a willingness to cooperate. To a large extent, MACA's involvement in the project will be based on its own internal decision to participate. In the end, with its continued involvement and with newly trained personnel, MACA may be able to incorporate the project principles and experiences into its institution and take over some of the public functions such as information and economic analysis.

Implementation Strategy

The project implementation strategy has two phases. In the first two years the project will develop the private sector base for project activities. Through this base the project will also develop the core economic analysis and policy monitoring

capability, the market news and price information system, the central technical assistance capability, training, and work through the departmental offices on selected opportunities in specific markets or specific commodities. The second phase will extend the expanding project activities to the other regions of Bolivia. The project will coordinate activities with concerned public sector entities such as The National Institute of Statistics for Benchmark data, MACA in crop forecasting. These Activities will not be funded by the project,but the project could provide modest amounts of technical and material support to upgrade this activities and to promote collaboration. Where public action is required to ameliorate identified constraints or policy issues it will be the responsibility of the project's private sector participants to advocate for such action.

The Marketing News and Price Reporting Unit will be organized and managed by the AMDC in La Paz, in collaboration with agricultural associations, agricultural chambers, DDCs, and concerned public sector institutions, such as MACA.

The Economic Analysis and Policy Monitoring unit will be within the AMDC, to serve its private sector clients, primarily.

The AMDC staff will coordinate and integrate all the project activities, under general guidance from its private sector Board of Directors and with the assistance of the long-term advisors.

Long-term advisors will provide direct technical assistance to the centrally organized units in La Paz that will be staffed by qualified Bolivians, preferably from project participant organizations.

In general, project coordination, strategies, policies, and direction will rest with the staff of the AMDC. The AMDC Project Director will be appointed by the Board of Directors. The long-term advisors in the AMDC will work with their counterparts at the AMDC; with the counterparts they will also work directly with the Altiplano and Valley departmental implementation offices.

Department offices will be established initially in four departments. Each department office will have two or three long-term Bolivian employees assigned to the office by the DDCs and private sector organizations. Originally the project may

contribute to the costs of these offices and staffs. The intent is for the organizations to eventually bear the full local costs of the project. The department offices will direct and implement the marketing strategy interventions, agribusiness business plans, productivity projects, feasibility studies, other marketing strategy activities, and project-related training in each department.

The administrative arrangement for each project department office will differ because of the personalities, configuration of institutions, and priorities of each department. In general, the most pragmatic configuration will have the project department office housed in the offices of the DDCs. In essence the project activities in the department office will become the marketing activities of the DDCs. In departments where this is not feasible, other possible homes should be explored. The team preparing this report assessed the institutional capabilities in the target departments, which will serve as the point of departure for the project design.

DESIGN STRATEGY

The Project Paper (PP) should be developed by a team that will collaborate with representatives of the potential sponsoring institutions to elaborate jointly the specific project components and the agreements under which the project will operate.

Prior to arrival of the PP team, a consultant will be hired for four to six weeks to facilitate discussion and provide in-depth analysis concerning the institutional arrangements for the project. This process will involve holding in-depth meetings with leading public and private sector institutions to ascertain their interest and involvement in the project. Facilitating workshops and dialogue would be an important part of these discussions. Institutions would be requested to express their interest and capability of bringing staff and institutional commitment to the project. The consultant would write a project-specific conclusion of this work and provide this information to the PP team. The consultant would be knowledgeable of Bolivian public and private agricultural marketing institutions and be capable of facilitating a process that would encourage collaboration by the private sector.

Core Team

The project design team will consist of core team of five specialists addressing specific project components. The core team will be composed of the following specialists:

Institutional Specialist/Team Leader	8 weeks
Marketing Infrastructure Specialist	3 weeks
Rural Finance Specialist	6 weeks
Agricultural and Food Market Specialist	6 weeks
Agricultural Production/ Natural Resource Specialist	4 weeks

The **Institutional Specialist/Team Leader** will design the institutional arrangements, implementing mechanisms, and coordination procedures for the project. The consultant will take the previous work done and assess further any unresolved issues, working closely with USAID/Bolivia and the collaborating institutions. As Team Leader, the consultant will coordinate closely with USAID/Bolivia in the project design requirements. An additional assignment is to finalize issues regarding project-related training.

The **Marketing Infrastructure Specialist** will formulate a technical assistance program, including phasing and cost estimate to improve marketing infrastructure (rural roads, physical marketing facilities, assembly stations, rural markets, wholesale markets, storage, processing and transport facilities) with particular reference to aspects of policies, institutional arrangements, management and operation, financing, and training. The consultant will discuss these matters with the appropriate ministries and government agencies, municipalities, regional development corporations, regional rural development projects, private associations, Chambers of Agriculture, and relevant private sector involved in marketing infrastructure.

The **Rural Finance Specialist** will formulate a technical assistance program in rural finance, including phasing and cost estimates, to structure the rural financial markets and institutions. This will include review of rural banks and informal financial markets with particular reference to aspects of policies of monitoring systems. There will be intensive review of institutional arrangements of the Bolivian Central Bank, rural banks, and the informal sector. For all institutions the consultant will review management operations and viability, financing, savings, refinancing,

credit, and training. The consultant will discuss these matters with the appropriate ministries and government institutions, private banks (ASOBAN), Cooperative Credit Unions, money lenders, other financial institutions, private associations, and private sector institutions interested in efficient rural financial services. This consultant will specify the catalytic role to be played by the project in light of the many donor activities and the general disarray in the credit and rural finance area.

The **Agricultural Marketing Economist** will formulate a technical assistance program on agricultural and food marketing, including phasing and cost estimates, which includes strengthening of agricultural and food marketing systems. The consultant will also provide intensive review and project design of agribusinesses, including input marketing, with particular reference to policy aspects. A review will be made of institutions such as chambers of commerce and their legislation to support food marketing. Other areas of review will include operation and management, financing, access to institutional credit, and training. The specialist will discuss these matters with ministries and government agencies, regional development corporations, chambers of agriculture and commerce, private associations, farmers, and agribusiness enterprises. The consultant will design the marketing strategies component for this project, and select the specific commodities and market systems to be the focal points for development during the first phase of the project.

The marketing economics consultant will provide economic and policy analysis arrangements, including design, phasing, and specific policy issues to be addressed in this project. This consultant will provide all economic, budget, and financial analysis needed and will analyze the national counterparts ability to support the project.

The **Agricultural Production/Natural Resource Specialist** will have broad practical background and experience in designing and implementing projects in agricultural production and natural resources will be needed. After receiving guidance on which specific crop and livestock enterprises or production systems that are likely to respond to new marketing opportunities, the production specialist will, with the assistance of host country nationals and concerned members of the project design team, select the specific areas and implementing organizations for the selected productivity activities to be undertaken by the collaborating private sector organizations or the DDCs. The consultant will develop, with the implementing organizations, specific time-phased activity criteria. This documentation will contain

objectives, identify required actions, determine costs, establish technical assistance requirements and forecast probable results. In doing the above, the consultant will work with other members of the project design team to assure that these activities are complementary to other project elements.

Issues

The following issues need to be addressed prior to or during the preparation of the project paper.

Institutional Home for Project

The degree of involvement of the GOB institutions and their capability and interest in agricultural marketing has not been determined at this stage. They have not demonstrated much interest in the past, and it may take considerable investment to bolster and sustain that interest. Related to the above is the issue of centralization of agricultural marketing versus placing strong implementation interest at the department level and with private sector institutions and agricultural producers. It would be risky to think that the restructuring of MACA will be effective and in place by the time the project is to come on line. Furthermore with the coming election, MACA, a notoriously politicized institution, could be in throes of the political transition when the project most needs a strong home. On the other hand, placing the project in the hands of a private non-profit agricultural marketing development center is a bold move and would require considerable assessment and conditions precedent for project implementation.

Marketing Infrastructure

The lack of adequate rural roads is still a major obstacle to marketing of farm produce, although some efforts have made in recent years to build and improve rural roads. The project design team has to study the institutional aspects of feeder road building and maintenance for institutionalization and involvement of the beneficiaries for the building and maintenance of the feeder roads. Furthermore, the team should explore the options for improving financing of feeder road building and road maintenance to determine the catalytic role to be played by the project.

While from a national point of view, road building has to have the highest priority, the crucial bottlenecks are the institutional aspects. The project focus must be limited to technical assistance leading to decentralization and to encouraging rural people to participate more actively in building, improving, and maintaining roads.

In addition, a special fund, to be funded from a petrol tax and an increased car tax, should be considered as a means to finance rural road building and maintenance. Furthermore, there is also scope for designing financing instruments to finance rural roads, once the proposed rural financial institutions have become viable.

The so-called physical marketing facilities, such as market centers, storage and processing facilities can be financed in future by the private sector, if they are assisted in the preparation of bankable projects. If banks are sure that the proposed investments are viable and loans will be repaid with interest, financing should not be a problem, as experienced in other parts of the world.

Rural Finance

The rural financial markets suffer from heavy distortions and a lack of viable rural banks, which is a major obstacle to agricultural and rural development. The PP team should study this issue and strategy options on how to build up viable rural financial institutions to which farmers have easy access and confidence. The strategy should include policy and institutional aspects. It should define technical assistance required and policy and implementation/operational level including assistance for small farmer access to financial resources.

As the team preparing this report noticed, everyone in Bolivia cries for cheap agricultural credit, without considering rural financial institution building. The past two decades have been characterized by a supply-led agricultural credit policy, which has resulted in the present disastrous situation, namely: no viable rural financial institutions, a completely underdeveloped rural banking network, wrong concepts on rural finance which have disregarded savings, prudent lending, the need for lowering transaction costs, the promotion of viable rural banks and adequate training in rural banking, and the establishment of effective inspection and supervision of the rural banking sector.

This is aggravated by the low level of knowledge of the Government and the Donor Community as to how rural financial markets and institutions can be developed. Local farmers and businessmen have been spoiled by "cheap agricultural credit" provided by external funds, which has lead to wrong attitudes and behaviors and resulted in serious indebtedness of the country. There is considerable practical experience gained in Asian as well as in some African countries (Kenya, Rwanda, Zimbabwe)from which Bolivia could benefit.

At present USAID/Bolivia appears to be primarily interested in promoting short-term credit to agriculture. It should be emphasized that traders and other intermediaries also need access to institutional credit which would facilitate marketing, processing, and storage, in particular, if the trade would pass on short-term credit directly to small farmers. In many instances the only credit some farmers and petty merchants receive is from intermediaries. Given the risks created by the institutional weaknesses and the policy uncertainties, the costs of these transactions has to be high. By helping the traders and intermediaries to achieve access to improved financial markets the project could do more to help small farmers and petty merchants than by giving cheap credit.

MARKETING INFRASTRUCTURE

Prepared by:

Hans J. Mittendorf

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This paper presents a brief overview of the situation of feeder roads, assembly and market centers, storage and processing facilities in Bolivia. This is followed by an analysis of the major issues and recommendations for action and a detailed action program.

FEEDER ROADS

The lack of adequate and well-maintained feeder roads is one of the major constraints of agricultural marketing in Bolivia. Although great efforts have been made during the last decades to build feeder roads, there are still many farm areas where farmers have no adequate access to markets because of inadequate farm to market roads.

According to the National Road Service of the Government of Bolivia, the road system in Bolivia consists of the following roads:

Table 2: Road System Bolivia, 1988
(Kilometers of roadway)

Type of Road	Primary Roads	Secondary Roads	Rural Roads	Total
Paved	1,242	38	114	1,394
Gravel	2,988	1,660	3,338	7,986
Dirt	1,461	3,222	25,757	30,440
Total	5,692	4,921	29,210	39,820

As Table 2 indicates, only four percent of the total road network is paved. In addition, less than 25 percent of the roads are open all year.

Local authorities, departmental development corporations (DDCs), and the National Department of Rural Roads of the National Road Service (SNC) have taken major initiative in building and improving rural roads with support of foreign aid. USAID/Bolivia has financed rural road projects (Rural Road Projects I and II). The World Food Programme (WFP) has supported the construction and improvement of

rural roads through the Food for Work Projects; in 1985/87 it assisted in building of 1,865 kilometers of new roads and in improving 1,730 kilometers of rural roads.

In August 1988, construction of major feeder roads in the Bolivian highlands, consisted of unskilled labor provided through Title II Food for Work (FFW) and rental of construction equipment (with operator) from a contractor who is paid from Title I and Title II funds. Devres estimated the cost per kilometer of different contract modes for construction of a typical highland feeder road as follows:

Table 3 - Cost Estimate of Feeder Road Construction in the Highlands (August 1988)

Contract Mode	Average Cost/km
FFW labor with equipment rental from a contractor	$23,400
Contract through the current SNC program for small contractors using capital intensive procedures	$38,100
Contract led by competitive bidding to the private construction sector using capital intensive procedure	$35,300

The Devres preliminary report indicates that savings exceeding 50% may be obtained by combining FFW with equipment rental. The report mentions that construction costs vary considerably based on terrain, haul distance, market competitiveness, and other factors, which makes it difficult to obtain comparable bid prices.

One of the major issues of the present feeder road strategy is the lack of attention to institutional aspects of the planning, building, and maintenance of feeder road. Maximum participation of the users and beneficiaries is needed particularly with regard to maintenance of feeder roads. It has been reported that only about 10% of the total 29,000 kilometers of rural roads receives regular maintenance.

Although the SNC is responsible for the maintenance of all roads including feeder roads, it is unable to meet the maintenance requirements. The GOB has foreseen the need for road maintenance activities by farmers, as evidenced in the so called "prestacion vial" requirements whereby farmers are required to work three days of the year without pay on road construction and maintenance. However, it appears that this program is ineffective. This is due in part, to the fact that

campesinos are allowed to pay Bs 15 instead of the required three days work. Many of them do so since there is at present no incentive for them to make a major contribution to the maintenance of feeder roads.

Since the Central Government and local authorities are unable to take full responsibility on feeder road building and maintenance, the author of this report recommends that a higher priority be given to institutional aspects of feeder road building and maintenance. Investments must be made in feeder road building, improvement, and maintenance, making full use of available local human and financial resources. Various types of institutional arrangements meeting different local requirements have to be developed and tested, and subsequently technically supported.

One possible approach might be to give the rural market centers major responsibility for improving feeder roads, in cooperation with traders and farmers under the guidance of the local community. This model is practiced successfully in India, where a 2% tax on the produce value is charged at rural markets for the purpose of feeder road improvement or maintenance.

It is important that the institutions responsible for the local feeder roads are fully supported by local people, run on business lines, and operating with a clear budget and a program that provide adequate incentives to improve performance. Rural road institutions should have a stable source of income (from taxes and/or road tolls) and should have an budget which aims at reducing cost through self-help approaches. There also may be scope for organizing feeder road development through privatization. In any case, the proposed rural road institutions have to avoid bureaucratic procedures.

Maintenance of certain rural roads cannot be effectively covered by farmer/trader groups because of the low density of the rural population in those areas. Therefore, the government must take major responsibility for maintenance of feeder roads in certain areas.

The financing of feeder road building and maintenance should be supported by the establishment of self-supporting rural banks, which are based mainly on local savings. Experience in other developing countries has shown that rural banks can make a major contribution to financing market infrastructure, if road institutions are

developed in such a way that feeder road projects become bankable and credit is repaid. Another option for financing of roads would be to establish a special fund for road building through an extra tax on petrol.

Prototypes of rural institutions for the promotion of feeder road building and maintenance should be developed, tested, and promoted, with the aim of more self-help and self reliance in feeder road development.

MARKET CENTERS

Wholesale Markets

As the agricultural marketing system develops in Bolivia, wholesale marketing will play an increasingly important role. Wholesalers are major coordinators of the marketing channel; their performance has a major impact on agricultural development in general and on the dynamics of market development in particular. While other Latin American countries have taken major initiatives to develop efficient wholesale marketing enterprises and wholesale markets, relatively little has been done in this field in Bolivia.

A feasibility study was carried out by the United Nations Food and Agriculture Organization (FAO) in 1979 for the city of La Paz which was considering investment in three wholesale market centers. The project has not been implemented and no progress has been made in wholesaling of perishable food since.

In September 1988, the city of Santa Cruz was considering the establishment of a central wholesale market. The Japanese aid agency has been identified as a possible source of technical assistance to carry out a feasibility study and support the investment in the market facilities.

In view of the lack of wholesale facilities for perishable agricultural products in the three major cities (La Paz, Santa Cruz and Cochabamba), it is recommended that a survey be conducted to identify the major constraints with regard to physical infrastructure and institutional arrangements of wholesale markets for perishable food. On the basis of the survey, a five-year development plan should be formulated

in close cooperation with wholesalers and municipalities to promote efficient wholesale market facilities. Consultant services are required to support this proposed development effort.

Bolivia could benefit greatly from the experience in other Latin American countries, for example Brazil, Colombia, and Argentina. It should participate in the FAO working group on wholesale market development, which is coordinated by the FAO regional office in Santiago, Chile.

Rural Market Centers (Ferias)

Rural market centers (ferias) are important transaction places for small farmers. The performance of these rural markets has an impact on the prices farmers receive and on the prices farmers have to pay for inputs and consumer goods. Furthermore, rural markets are important communication centers for small farmers and could become an important point for the dissemination of innovations.

There is at present no strategy to improve the performance of rural market centers. The improvement of rural market centers is not a question of investment in physical facilities (which should always be kept to the minimum); rather it is a question of providing advice on proper product handling and of improving the pricing process.

A number of rural development projects in Bolivia have established farmer markets (mercados campesinos) either in the project area or in the nearby urban areas to sell directly to consumers. Recently G. Mendoza of Instituto Interamericano de Cooperación para la Agricultura (IICA) reviewed two projects financed by IFAD. The project designers focuses exclusively on physical infrastructure in farmers markets, without taking into account more important aspects of marketing organization, such as grading, transport, cooperation with traders, and sales promotion. This has resulted in the infrastructures remaining unused. According to Mendoza, the farmers markets established in urban areas have been a complete failure as they were incorrectly located and could not attract customers.

To demonstrate a more effective and viable approach, the proposed Agricultural Marketing and Productivity Project could cooperate with a few rural development projects to organize assembly marketing on efficient lines in close cooperation with the trade.

Commodity Assembly Stations

In the last decade, international development agencies and the Ministry of Rural Affairs and Agriculture (MACA) have given particular attention to improving the collection of agricultural produce in ruraL areas. A number of development agencies, including the United Nations Food and Agriculture Organization (FAO), have conducted feasibility studies on the establishment of produce assembly stations (centros de acopio). Private traders in the department of Santa Cruz have invested in grain silos to facilitate assembly. MACA has developed a plan to strengthen assembly activities through the establishment of centros de acopio.

An Argentinean-financed project aims at establishing 14 centros de acopio in the major cities of Bolivia with an investment of US$16 million. The standard facilities consist of major gowdowns, refrigeration facilities, farmers rest houses, and an administrative building. The cost of each center is estimated at more that US$ 1 million. All of the centers established so far are idle. It appears that they are wrongly conceived and cannot be used for the purpose intended.

A number of rural development agencies have established produce assembly stations which lack integration with the marketing system. As a result, they have not met expectations.

The same problems have occurred with regard to produce assembly stations as with rural farmer markets. Physical infrastructure has been overemphasized, without fitting it into the overall marketing system and without any cooperation with the trade.

Technical knowledge on improving rural market centers and commodity assembly stations (centros de acopio) is scarcely available in Bolivia. In order to identify more clearly the potential role of assembly stations and improved rural markets, it is

recommended that a survey be carried out on rural markets to identify constraints and that a development strategy is formulated. An action program should include an effective training program. The same refers to assembly stations.

STORAGE FACILITIES FOR GRAINS

The network of grain storage facilities has to be extended continuously as the demand for services increases. Where there are adequate incentives for the trade and for farmers, it can be expected that the private sector will make the necessary investments.

USAID/Bolivia's recent Agriculture Sector Assessment noted that there had been limited incentive for the private sector to invest in storage facilities under previous policy regimes. The new policy environment has corrected that problem. Nevertheless, studies should be carried out to analyze why the trade and the milling industry do not invest adequately in storage facilities where a shortage persists.

For the time-being, there are adequate storage facilities for wheat and rice, according to information provided by the U.S. PL 480 office in Bolivia and the Ministerio de Industria, Comercio, y Turismo (MICT). The milling industry and the private trade take care of storage of grains. In the Santa Cruz area, the existing storage facilities for rice are managed by the Camara Agropecuaria del Oriente (CAO). In the Altiplano, a 3000 ton silo owned by Corporacion de Desarrollo de La Paz (CORDEPAZ) has been idle since 1980. Near El Alto, another silo with 18,500 ton capacity built with Argentinean assistance has been idle since 1978. A number of silos built for wheat and rice with outside assistance have never been used. The Subsecretary of Commerce has suggested that these facilities should be sold to the private trade; this has not yet been approved by Bolivian Parliament.

As far as quinoa is concerned, MICT feels that there are no major losses, since the product is moving fast.

As the demand for storage increases, there may be scope in future with increasing demand for storage, for using some of the empty silos as bonded storage facilities.

There appears to be no immediate need for outside technical assistance at least for large-scale storage facilities. The situation of storage facilities in the highlands may have still to be assessed.

AGRICULTURAL PROCESSING FACILITIES

It is widely reported that only 30% of the present capacity of agricultural processing facilities is utilized. Part of the oilseed processing and milk processing plants use only 10-20% of capacity. In most cases these investments, which were supported by government funds, have been made on the basis of wrong assumptions about marketing opportunities and availability of raw materials.

For example, in the Department of Santa Cruz, a number of processing industries are under-utilized; some are even idle and require substantial operational subsidies. Apparently a shortage of qualified personnel meant that realistic and reliable, feasibility studies, particularly with regard to marketing, were not carried out.

Based on the available information, the author recommends that a training program be organized on how to carry out feasibility studies on investment in processing facilities. Training in the management of agro-processing plants, including marketing of processed products, should also be strengthened. Support of this training may require short-term technical assistance funded by the Agricultural Marketing and Productivity Project.

INFRASTRUCTURE FOR EXPORT

The government of Bolivia and international development organizations are giving high priority to the promotion of non-traditional exports. In Bolivia, the main constraints to agricultural exports include transport, bureaucratic procedures, and lack of access to credit.

A number of initiatives have been undertaken to facilitate exports. A major investment program, financed by USAID/Bolivia, included establishment of major silos

at the port of Puerto Quijarro. This program intends to facilitate the export of cereals and soybean via waterway (Rio Paraguay) to the Atlantic. In addition, the export facilities for Bolivian products will be improved by the so called Terminal Granelera "Aguirre Lavayen" and the neighboring Terminal de Carga and silos.

The Meat and Cattle Association of Santa Cruz has prepared a project proposal to establish a slaughter/meat processing plant, including refrigeration facilities, which would enable it to export meat to Peru and northern Chile. The feasibility study for the project has been completed and still has to be reviewed. An FAO Mission is expected to arrive in Bolivia in September 1988 to study export possibilities for meat from Bolivia.

Under the Private Agricultural Organizations (PAO) Project of USAID/Bolivia, the private sector of Beni and the U.S. consulting firm of Ronco are exploring a joint venture with an experienced Costa Rican meat export company to manage the slaughterhouse in Beni and to promote export of hides.

Other products from the highland and the valleys that have been identified as having potential for export include wool products from llamas and alpacas, cut flowers, quinoa, garlic, strawberries, achiote, beans, rabbit furs, and high quality seed potatoes. Studies on the feasibility of exporting these products include the following efforts:

- At present the European Economic Community (EEC) is carrying out a detailed survey the potential market for alpaca wool.
- The Departmental Development Corporation of Santa Cruz (Corporación de Desarrollo de Santa Cruz - CORDECRUZ) has carried out a feasibility study on export of carnations.
- At the end of 1987, FAO organized a seminar in Bogota, Colombia on exports of fruits, vegetables, and cut flowers from Latin America.
- Recently CORDECRUZ studied the possibilities for exporting fruit and vegetables to Argentina. The study indicated that refrigerated rail road wagons could be hired from the Argentinean railroads, if exports were feasible.
- Under the PAO project, Ronco is studying the export of rabbit furs and hair.
- Another international consulting group, Development Associates,Inc., is financed by USAID/Bolivia to support export promotion.

At present, it appears that requirements for investments in physical facilities for these products are yet to be identified. If these investments are proven to be viable, they could be financed from existing credit sources without serious problems. Long-term technical assistance proposed in the Agricultural Marketing and Productivity Project could assist in the identification of investment projects and opportunities.

SUMMARY OF RECOMMENDATIONS

The major constraints in improving marketing physical infrastructure can be grouped under three major categories:

- institutional
- technical know-how
- financial.

The acceleration of building and maintenance of feeder roads depends to a large extent upon the creation of the right type of institutional arrangements which provide for adequate incentives to maximize the participation of the beneficiaries. Road building should have the highest priority in marketing infrastructure investment, since it would reduce transport costs considerably. Consideration should be given to the establishment of a fund for road building to be financed from a tax on petrol. Road building should be subcontracted as much as possible to private contractors on the basis of competitive bidding.

Technical know-how is required to study the building of new wholesale markets and the improvement of rural markets. There have been many ill-conceived investments in rural farmer markets, produce assembly stations, and storage and processing facilities. Because these investments were undertaken on the basis of mistaken marketing concepts, a large part of the established capacity is underutilized or idle, and requires excessive subsidies to operate. It is suggested that those storage and processing facilities that are presently government-owned be privatized, if they can be proven economically viable. Possible technical assistance to be provided under the Agricultural Marketing and Productivity project recommended could provide local personnel with knowledge to improve the preparation of investment projects for marketing facilities.

The financing of marketing infrastructure could be greatly improved if the Government would give higher priority to the establishment of a viable network of rural banks, which would mobilize their own resources through savings and improved financial intermediation. A considerable part of the required marketing infrastructure could then be financed by the proposed rural banks.

Problems with financing marketing facilities are not so much a question of lack of financing as a matter of technical know-how to prepare an adequate number of bankable projects. The proposed project will make a major contribution to the financing of marketing infrastructure by speeding up the preparation of bankable investment projects. Some seed money will be required for demonstration of pilot projects and for technical assistance. Under the project, investments in marketing facilities should pay their own way and not require subsidies.

Rural road building and maintenance are a high priority for use of public funds. The private sector, if technically supported, can finance marketing facilities.

There is an urgent need to arrange for appropriate training courses on the development of adequate marketing infrastructure. These courses should take place at policy, investment decision, and operational levels.

An important objective in the proposed project should be to promote cooperation between government institution and private traders and trade groups including cooperatives and farmers. Work with national and local professional associations can try to strengthen their technical advisory services to their members. The project should disseminate technical know-how and contribute to institution building of the following relevant associations:

- Proposed associations (to be established)
  - Association of rural feeder road institutions
  - Association of rural market centers
  - Association of wholesale markets
- Existing associations
  - Association of agricultural processors
  - Association of grain marketing enterprises
  - Association of exporters of agricultural products

LIST OF PROPOSED ACTIVITIES IN MARKETING INFRASTRUCTURE

Feeder Roads

Constraints

- lack of adequate institutional arrangements to strengthen the participation of rural users and beneficiaries so that they will contribute more actively to the planning, building, and maintenance of feeder roads.

Strategy

- develop a number of pilot projects (20 in each department) to test and demonstrate adequate institutional arrangements for the planning, building, and maintenance of feed roods through a maximum of self-help
- prepare guidelines on the formulation and management of adequate institutional arrangements
- support training in this area
- study the establishment of a fund for road building to be financed by a tax on petrol

Cooperating Agencies

- National Service of Feeder Roads of the Servicio Nacional de Caminos
- MACA
- Ministry of Finance
- Departmental Development Corporations (DDCs)
- Chambers of Agriculture
- Farmers Association
- Chambers of Commerce and Industries
- Banks
- Rural municipalities, in particular rural marketing centers
- multilateral and bilateral development agencies including Food for Work Programs (FFW) and non-governmental organizations (NGOs)

Estimated Costs

- International Consultants for 12 months
- Local consultants for 48 months

Expected Outputs

- 20 feeder road institutions in each department enabling farmers and truckers to participate actively in the planning and maintenance of feeder roads
- feasibility study to establish a fund for feeder roads

Commodity Stations and Rural Markets (Ferias)

Constraints

- lack of knowledge to organize assembly of agricultural products effectively
- inadequate marketing infrastructure
- inadequate organization and methods of product handling including
  - grading and packing
  - market information
  - pricing

- input supply
- marketing extension
- market forecasting
- planning and mobilization of self-help

Strategy

- develop 20 pilot projects in each department to test and demonstrate the following:
  - the provision of adequate marketing infrastructure, such as rural market centers and commodity assembly stations, on a self-supporting basis, through a maximization of self-help including financial services and incentives
  - the provision of adequate marketing services to small farmers, mainly through self-help
  - the development of sustainable institutional arrangements for commodity assembly centers

Cooperating Agencies

- farmer and trader groups
- multilateral and bilateral development agencies
- MACA
- regional Chambers of Commerce
- Regional Chambers of Trade
- Departmental Development Corporations (DDCs)
- rural municipalities, particularly market centers
- banks

Expected Output

- about 1200 self-sustainable commodity assembly stations and rural market centers, providing optimum marketing services to small farmers

Food Wholesale Markets

Constraint

- lack of adequate wholesale market facilities for fruits and vegetables, meat, eggs, poultry and fish in La Paz, Santa Cruz, Cochabamba which represents a major obstacle to marketing development

Proposed Activity

- identify the major constraints of efficient wholesaling of perishable food in the three cities, outline a medium-term development plan, and prepare a pre-feasibility study on the establishment of wholesale markets in these

Cooperating Agencies

- Municipalities of La Paz, Cochabamba, Santa Cruz
- Departmental Development Corporations
- Wholesaler Association
- MACA

Estimated Costs

- International Consultants: 10 months
- Local Consultants: 16 months
- Fellowships: 6 months

Expected Output

- Improved perishable food wholesaling activities, which will have a major impact on marketing and will lead to a whole marketing system capable of providing better services to farmers, consumers, and traders.

Food Retail Markets

Constraint

- lack of technical knowledge to plan and operate food retail markets that are economically viable and could operate on a self-sustaining basis

Proposed Activity

- prepare guidelines on the planning and operation of viable food retail markets operating under different sets of conditions,
- provide technical assistance, training, and practical demonstration in this field

Cooperating Agencies

- Food Retailers
- Municipalities
- MACA

Estimated Costs

- International Consultant: 6 months
- Local Consultants : 24 months
- Fellowships: 6

Estimated Output

- 30 improved food retail markets

Voluntary Food Marketing Chains

Constraint

- lack of vertical coordination and integration of food marketing chains resulting in excessive marketing costs, losses of products, inadequate coordination between productive and marketing.

Proposed Activity

- promote the development of voluntary food marketing chains through technical advice, training and practical demonstration

Cooperating Agencies

- Farmer groups
- Association of Food Wholesalers and Retailers
- MACA
- Ministry of Industries, Commerce, and Tourism (MICT)

Estimated Cost

- International Consultant: 12 months
- Local Consultants: 24 months
- Fellowships: 12 months

LIST OF IMPORTANT RURAL MARKETS (FERIAS) IN SELECTED DEPARTMENTS IN BOLIVIA

Concepto	Canton	Semanal	Anual	Productos Agropecuarios que se Comercializan
DEPARTAMENTA DE LA PAZ				
Ciudad de La Paz		Miércoles-Sábado		Abastecimiento general
Provincia Camacho	Puerto Acosta	Domingo-Jueves	17 de enero	Ganado vacuno, ovino, lana papa
Provincia Omasuyos	Achacachi	Jueves-Domingo	29 de junio	Papa, pescado, hortalizas, frutas de Sorata (valle)
	Ancoraimes		Dic(Sta.Lucia)	Ovinos
	Ancoraimes	Domingo	2 de agosto	Papa, ganado, lana
	Huarizata	Domingo	-	Papa, chuño, cebada
	Santiago de Huata	Domingo-Jueves	-	Papa, ganado, lana
Provincia Los Andes	Pucarani	Domingo	5 de octubre	Carne, papa, chuño, cebada, ganado vacuno, ovino
Provincia Ingavi	Batallas	Sábado	3 de mayo	Carne, papa, chuño, cebada, ganado vacuno
	Viacha	Domingo	5 de mayo	Ganado ovino, vacuno, porcino, papa, cebada
	Guaqui	Domingo	30 de Novbre	Papa
	Pto. Acosta	Miércoles	-	Papa, haba, carne ovino, ganado, vacuno,camélidos
Provincia Murillo	El Alto de La Paz	Domingo	Domingo de Ramos	Papa, chuño, pescado, ganado vacuno, ovino, porcino, equino.
Provincia Aroma	Patacamaya	Domingo	15 de agosto	Papa, cebada, quinua, haba, lana, carne ovina, camélida, fruta, ganado vacuno, ovino, porcino
	Lahuachaca	Miércoles	-	Ganado vacuno, ovino, camélido, papa, cebada, chuño
	Umala	Domingo	16 de julio	Ganado vacuno, ovino, camélido, papa, cebada

Concepto	Canton	Semanal	Anual	Productos Agropecuarios que se Comercializan
DEPARTAMENTA DE LA PAZ				
Provincia Inquisivi	Inquisivi	Sábado	5 de octubre	Café, cítricos, racacha, hualusa, tomate, bananos, ganado vacuno
	Tablachaca	Viernes	-	Papa, ocas, frutas, ganado ovino, vacuno, porcino, camélidos, aves
Provincia Loayza	Luribay	Domingo	-	Frutas, hortalizas, legumbres
Provincia Manco Kapac	Copacabana	Sábado-Domingo	5 de agosto	Haba, arvejas, papa, vacunos, porcinos, ovinos
Provincia Muñecas	Chuma	Domingo	5 de octubre	Goma, quinua, maiz, frutas
Provincia Nor Yungas	Coroico	Domingo	20 de octubre	Frutas, café, cacao, carne, charque, chalona
	Caranavi	Sábado	5 de agosto	Frutas, cacao, coca, madera, café
	Coripata	Sábado Domingo	16 de julio	Yuca, plátano, arroz, maiz, café, cocoa
Provincia Pacajes	Corocoro	Domingo	15 de agosto	Papa, quinua, cebada, ovinos, auquénidos, chuño
	Caquiaviri	Domingo	13 de enero	Papa, ganado vacuno, lana, cmélidos
Provincia Saavedra	Gral. Pérez	Domingo	-	Maiz, yuca, hualusa, madera, coca
Provincia Villarroel	S. Pedro de Curahuara	Domingo	14 de mayo	Quinua, ganado, ovino,

Concepto	Canton	Semanal	Anual	Productos Agropecuarios que se Comercializan
DEPARTAMENTO COCHABAMBA				
Ciudad Cochabamba	Ciudad	Miércoles-sábado	-	Abastecimiento general
Provincia Quillacollo	Quillacollo	Domingo	-	Hortalizas, legumbres tubérculos, granos, frutas, ganado acuno, porcino, caprino, aves de corral.
	Vinto	Lunes o martes	-	Hortalizas, legumbres, tubérculos, granos,frutas, ganado vacuno, porcino, caprino, aves de corral.
	Sipe-Sipe	Domingo	-	Hortalizas, legumbres, tubérculos, granos, frutas, ganado vacuno, porcino, caprino, aves de corral.
Provincia Chapare	Sacaba	Domingo	-	Hortalizas, legumbres, tubérculos, granos, frutas, ganado vacuno, porcino, caprino, aves de corral.
Provincia Punata	Punata	Martes	-	Papa, maíz, trigo, cebada, haba, arveja, hortalizas, legumbres, tubérculos, ganado vacuno, ovino, porcino, aves de corral, frutas
	Puente	Lunes	-	Papa.
Provincia Jordán	Cliza	Domingo	-	Maíz, trigo, papa, cebada, haba arvejas, ganado vacuno, porcino, ovino, hortalizas, legumbres, frutas
	Toco	Viernes	-	Maiz, trigo, papa, ganado vacuno, ovino, porcino, frutas.
Provincia Aranni	Arani	Jueves	-	Hortalizas, legumbres, papa, maiz, trigo, cebada, frutas, ganado porcino, ovino.
Provincia Capinota	Capinota	Domingo	-	Hortalizas, legumbres, maíz, trigo, papa, frutas, ganado vacuno, ovino, porcino.
Provincia Esteban Arce	Tarata	Jueves	-	Trigo, maiz, papa, hortalizas, frutas, ganado porcino, ovino.
Provincia Campero	Aiquile	Domingo	-	Hortalizas, legumbres, papa, frutas, ganado vacuno, lanar, caprino, porcino
Provincia Carrasco	Totora	Domingo	-	Hortalizas, legumbres, granos tubérculos, ganado vacuno, ovino, porcino, caprino.

Concepto	Canton	Semanal	Anual	Productos Agropecuarios que se Comercializan
DEPARTAMENTO DE SANTA CRUZ				
Ciudad de Santa Cruz	Ciudad	Domingo	-	Abastecimiento general
Provincia Wanres	Warnes	Domingo	-	Arroz, soya, maiz, carne vacuna, aves, fruta, papa, yuca.
Provincia Ichilo	Yapacani	Domingo	-	Carne vacuna, verduras, hortalizas, yuca, papa, arroz, maíz, soya.
	Buena Vista	Domingo	-	Carne vacuna, verduras, hortalizas, papa, soya, arroz maíz, frutas.
Prov. O. Santiesteban	Montero	Domingo	-	Abastecimiento general
	Mineros	Domingo	-	Arroz, maíz, soya, carne vacuna, aves de corral.
Provincia Sara	Portachuelo	Domingo	-	Carne vacuna, avez de corral, verduras, papa, yuca, arroz, maíz, soya.

Concepto	Canton	Semanal	Anual	Productos Agropecuarios que se Comercializan
DEPARTAMENTO POTOSI				
Ciudad de Potosí	Ciudad	Domingo		Abastecimiento general
Provincia Bustillos	Uncia	Domingo	29 de Septiembre	Abastecimiento general
Provincia C. Saavedra	Villa Betanzos	Domingo	24 de Agosto	Hortalizas, legumbres, trigo, cebada, maíz, ganado vacuno, ovino
Provincia Nor Chichas	Cotagaita		24 de Julio	Maíz, papa, frutas, ganado, caprino, ovino
Provincia Sur Chicas	Tupiza	Domingo	6 de Enero	Trigo, maíz, hortalizas, ganado, ovino
Provincia Linares	Puna	Domingo	Domingo de Ramos	Maíz, papa, cebada, trigo, ganado vacuno, ovino.
Provincia Quijarro	Uyuni	Domingo	24 de Julio	Productos agrícolas.
Provincia A. de Ibañez	Sucaca	Domingo		Papa, chuño, trigo, cebada.
DEPARTAMENTO DE ORURO				
Ciudad de Oruro	Ciudad	Miércoles-Sábado		Abastecimiento general
Provincia Poopó	Poopó	Domingo	14 de Septiembre	Papa, quinua, cebada, haba, ganado.
Provincia Dalence	Huanuni	Domingo		Cebada, quinua, papa, ganado, ovino, llamas
Provincia Avaroa	Huari		Abril	Cueros y carne de oveja, llamas, alpaca, habas, papa.
Provincia Saucari	Toledo	Sábado-Domingo		Carne ovina, lana, carne de camélido, pelo, quinua, papa, chuño.
DEPARTAMENTO DE TARIJA				
Ciudad de Tarija	Ciudad	Sábado	15 de Agosto	Abastecimiento general
Provincia Gran Chaco	Yacuiba		1-15 de Agosto	Ganado vacuno, porcino, equino, caprino, hortalizas, legumbres, granos.

Concepto	Canton	Semanal	Anual	Productos Agropecuarios que se Comercializan
DEPARTAMENTO CHUQUISACA				
Ciudad de Sucre	Ciudad	Sábado-Domingo		Abastecimiento general
Provincia Azurduy	Azurduy	Domingo		Abastecimiento general
Provincia Zudañez	Redención Pampa	Domingo	25 de Julio	Trigo, maíz, cebada, frutas
Provincia Tomina	Padilla	Domingo	Junio-Octubre	Ají, maíz, garbanzo, ganado, vacuno, ovino, caprino, porcino
Provincia Monteagudo	Monteagudo	Domingo	25 de Julio	Maní, máiz, ají, ganado vacuno, porcino
Provincia Yamparaez	Tarabuco	Domingo	5 de Octubre	Ganado vacuno, ovino, porcino, papa, papaliza, ocas, habas
Provincia Nor Cinti	Camargo	Domingo		Frutas de pepita y carozo
Provincia B. Boeto	Villa Serrano	Domingo	29 de Septiembre	Maní, ají, maíz, trigo, papa, ganado vacuno
Provincia Sud Cinti	Villa Abecia	Domingo		Frutasde pepita y carozo
Provincia Luis Calvo	Vaca Guzmán	Domingo		Ají, maní, ganado vacuno, cítricos.

RURAL FINANCE

Prepared by:

Hans J. Mittendorf

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STRUCTURE OF RURAL FINANCIAL MARKETS IN BOLIVIA

Credit is fundamental to increasing production and efficiency of the agricultural sector in Bolivia. It acts as lubricant in the transfer of technology and in the marketing process. While the formal agricultural credit system expanded quite rapidly during the 1970s and early 1980s, only an estimated 6% of farm families received credit from formal sources (Ladman 1986). A large percentage of Bolivia's farmers still use informal sources of credit. Because of the informality of these transactions, their extent and magnitude are not adequately documented.

The structure of the rural financial markets in Bolivia may be summarized as follows:

Banking Institutions

Bolivian Central Bank

The Bolivian Central Bank (BCB) has been the main refinancing institution for agricultural credit during the last two decades. Funds originated to a minor degree internally; most originated from foreign assistance and were used to finance specific activities. They were employed as rotating funds. For many years the refinancing interest rate has been considerably lower than the free market rates, which has resulted in excess demand for agricultural credit and a diversion of funds for non-agricultural purposes.

A number of problems have to be recognized. Excessive targeting of credit, partially because of requirements of donor agencies, has resulted in high administrative costs and in a diversion of funds. The system has been inflexible with regard to institutional and regional distribution of agricultural credit. The question has to be raised whether or not there are more efficient and flexible ways the Bolivian Central Bank should be involved in the refinancing of agricultural credit. Furthermore, the Rural Finance Department of the Bolivian Central Bank has neglected its role of promoting and monitoring the development of efficient and viable rural financial institutions.

Commercial Banks

In July 1987 there were 13 domestically-owned and three active foreign-owned commercial banks. The main source for agricultural credit came from refinancing by the Bolivian Central Bank (BCB) and the U.S. PL-480 program.

Most of the customers of the commercial banks are medium and large-size farmers. It is difficult for commercial banks to finance small farmers because of the costs and risk involved.

Bolivian Agricultural Bank

The Bolivian Agricultural Bank (BAB), founded in 1942, is the most important rural financial institution, with a network of 10 regional branches and 52 provincial agencies. As of March 1986, 65% of its loans were in delinquent status. It is generally believed that at present the BAB is not a viable institution due to high overhead costs, narrow spreads on its operating capital, and imprudent credit policies.

The BAB is being restructured to establish the bank as a full-fledged agricultural bank, including mobilization of savings and operation on a self-sustaining basis. It has to decentralize its operations, improve the efficiency of the regional branches, and to assign capital to each regional branch. It has to adopt an accounting system that conforms to standard accounting principles for each regional and provincial agency, and it has to establish a strategy that would permit depositors and borrowers of the bank to participate in the ownership and policy making of the institution. The Interamerican Management Consulting Corporation (IMCC) formulated a strategic plan for BAB in March 1988.

Rural Cooperative Savings and Credit Unions

Various cooperatives have been organized over the years in Bolivia, some of which have been successful, while others have failed. The National Federation of Credit Unions (FENACRE) has 216 affiliated credit unions, of which 94 are rural-based cooperatives. Fewer than 20 rural cooperatives employ ten personnel. Thus the

coverage of rural cooperatives is very small, even after 25 years of development work.

FENACRE provides promotion, education, training, auditing, and other technical assistance services. It acts as an Intermediate Credit Institution (ICI) that provides a bridge for credit between the participating credit unions or cooperatives and outside sources. FENACRE's funds have several sources: their own funds; loans from external sources such as the Interamerican Development Bank (IDB) and the Latin American Association of Credit Unions (COLAC); refinancing from the Bolivian Central Bank; and/or refinancing from PL-480 programs.

Members of the FENACRE system can borrow up to five times the amount of their deposits at the time of making the loan. A compulsory method of capitalization is used, wherein a member places 10% of the proceeds of this loan in his deposit account. In general, loans are made for annual production purposes for eight to ten months. Some long-term loans have also been advanced. It has been reported that cooperatives have experienced low levels of delinquency.

The interest rate charged on production loans made with PL-480 or BCB funds is 13% plus a 1% commission. FENACRE has a 5% spread, out of which 2% goes to the affiliated cooperative. Some of the FENACRE cooperatives extend credit-in-kind. FENACRE accepts U.S.$ deposits as well as Bolivian deposits. Interest rates on non-subsidized credit are free and are set according to marketing conditions.

FENACRE has a project to establish a permanent training center. It has proposed to study the feasibility to establish a national cooperative bank. Recently, FENACRE has received technical assistance from the Federal Republic of Germany (valued at US$ 1 million) and financial assistance from Canada to support local expertise.

The Mercedes credit union of Santa Cruz has developed an intense rural finance program and operates a number of rural branches. It is in the process of negotiating Intermediary Credit Institution (ICI) status with the BCB.

The Bolivian Housing Cooperative (CACEN) has more than 25 years of experience in financing low cost houses, primarily in urban areas where it operates

23 agencies. CACEN recently has developed a strong interest in promoting rural credit and savings cooperatives in a manner similar to the North American system. It has opened the first rural savings and credit cooperative near La Paz. It looks for technical and financial assistance to expand its promotion activities to establish rural savings and credit cooperatives.

Non-Banking Institutions

Agricultural Credit Facilitating Agencies

There are a number of non-banking institutions that provide agricultural credit, particularly to small farmers. They either work directly with small farmers or act as intermediary between banking institutions and the small farmer. These agencies include:

- FINCA (Fomento de Integral Campesino)
- DESEC (the Center for Economic and Social Development),
- other private voluntary organizations (PVOs) such as CARITAS, Food for the Hungry
- other non-banking institutions include Departmental Development Corporations (DDCs)
- Regional Development Projects
- Producer/Farmer Organizations, such as the chambers of agriculture and agribusinesses
- the important informal rural financial market, which includes money lenders, traders, friends, neighbors, and family members.

Although there is little documentation on the informal rural financial market it has to be assumed that it still provides the majority of small farmers with credit. Recatadores (middlemen) are particularly important in providing credit to campesinos in the form of small loans, which are advanced on the condition that the crop is sold to the lender (Ladman and Tinnermeier, 1983).

Up to now, the formal agricultural credit system in Bolivia has relied nearly exclusively on external sources and Bolivian Central Bank refinancing. USAID/Bolivia has been a major source of rural credit through its PL-480 program. Other external

sources for agricultural credit were provided by multi-lateral and bilateral aid agencies.

RECENT DEVELOPMENTS

The current government places a high priority on the development of efficient rural financial markets and institutions. It has established the Junta Nacional de Credito Agropecuario (JUNCA) which aims at promoting and coordinating rural finance. MACA, the Bolivian Central Bank, private banks, and the Departmental Development Corporations are represented in JUNCA. Furthermore, Also proposed is the establishment of a Fondo Nacional Agropecuario, including a Fondo de Garantia, to facilitate financing of agriculture. In view of the recent draught the Government proposed in September 1988 to reschedule outstanding agricultural loans over a period of five years.

ISSUES RAISED BY OTHER ASSESSMENTS

Recently, agricultural credit programs and the rural financial markets have been reviewed by various consultants. One of the most comprehensive assessments of rural financial markets in Bolivia was carried out by J.R. Ladman in December 1987. Also in December 1987 D. Adams surveyed informal Rotating Savings and Credit Associations (ROSCAS) and D. Larson looked at the informal financial markets. The In March 1988, the World Bank requested the Interamerican Management Consulting Corporation (IMCC) to advise the Bolivian Agricultural Bank (BAB) on its restructuring.

Ladman carefully documented the situation with rural financial markets in Bolivia. His recommendations are the basis for the following comments and action program. These comments are based on the author's international experience as former Chief of the Marketing and Credit Service for Food and Agriculture Organization (FAO) during the last decade, particularly in connection with the recent introduction of economic reforms in many countries including Bolivia.

Multiple institutional structure

There are four principle classes of financial institutions in Bolivia, namely the Bolivian Agricultural Bank (BAB), commercial banks, the Refinancing Credit Units (UCFs), and rural credit unions of the type of FENACRE and CACEN. The latter groups should be given a high priority in technical assistance, since they are the most suitable type of financial institutions for small farmer and rural development. They have to be rural based and should be controlled by rural people. FENACRE and CACEN have cooperative ownership.

There is also room for private rural banks, as for instance, developed in the Philippines and Ghana, provided they have the necessary professional qualification as rural bankers. Training programs should be made available also to them for adequate training, effective inspection, and supervision are preconditions for the development of viable rural financial institutions.

Role of non-financial service institutions

The trade has to be considered as an important financial intermediary for small farmer development. The trade is able to provide short-term credit to small farmers at lower transaction costs and more efficiently than the banker. The main reason for this advantage is that the rural trader is in constant contact with the small farmer, can judge his credit worthiness, and can facilitate repayment of loans when purchasing his produce.

Low financial intermediation costs depends upon the degree of competitiveness in the rural financial market. This can be achieved through various well-known instruments such as the clear distinction between the price of the commodity and the price of the financial service and methods to improve market transparency.

In order to make full use of the trade as an efficient financial intermediary it is important that the agricultural trade has access to credit of financial institutions. Based on the author's international experience with similar situation in several countries, the trade will pass on credit to small farmer for the purchase of inputs or storage of grains, if rural markets are competitive.

Small-farmer Agricultural Bank (BAB)

An important issue of the restructuring of BAB is the type of ownership recommended, which will ensure autonomy in operation and elimination of political interference. If the present government ownership is maintained, the institution will continue to be subject to all types of political pressure and interferences, which will be a major obstacle to put the bank on a viable basis. Alternative forms of ownership could be:

- a farmers' cooperative
- a company of Chambers of Agriculture, of agribusinesses, and of commercial banks
- a mixed company of private/government capital
- a foundation, directed by six trustees, 2 appointed by MACA, 2 appointed by the National Banking Association (ASOBAN), 2 appointed by the Agricultural Chambers of Commerce.

Since in the future the BAB may handle external, loans some donor representation in the board of directors may be useful. It is suggested that the advantages and disadvantages of different ownerships be fully analyzed.

Commercial Banks

Commercial banks only can reach a comparatively small part of the farm population, the larger farmers. However, indirectly they can play an important role in small farmer credit development by financing the agricultural trade, which would pass on the credit to farmers.

FENACRE and CACEN

Credit unions have the greatest potential of reaching the mass of small farmers if they are rural-based. They require considerable technical and some financial support for training of staff and farm members in order to extend their network of rural banks. It is recommended that training centers be established for training of rural bankers, as they have been in several Asian and African countries. A rural bankers apprenticeship program should be initiated. Donors should be approached to request multi-year support such a program.

Second-story banking and refinancing

The numerous credit lines now in operation have resulted in a serious distortion of the rural financial markets, have discouraged savings mobilization, and have contributed to excessive operational costs of the present financial institutions administering the credit lines. The present uncoordinated pumping of "cheap credit" by donors into the rural financial market of Bolivia has a major factor responsible for the present rural financial crisis in the country and the lack of viable rural financial institutions. The present supply-led agricultural credit strategy of donors has to be replaced by a demand-led finance strategy, aimed at the promotion of viable rural financial institutions based on their own savings mobilization.

External funds offered to the country should be channelled into the rural financial market in such a way that they do not distort the rural financial market. Rather they should contribute to the promotion of viable rural financial institutions, particularly savings. The conditions of the various credit lines, especially interest rates, should be reviewed to see whether they provide incentives to savings mobilization and institution building.

One option to be considered is the establishment of a central rural finance fund which would provide refinancing facilities in a coordinated way with a major objective of institutional building. This is in line with the proposed Fondo Nacional Agropecuario.

Reduced targeting

There are other development instruments, such as improved marketing ,input supply, extension which are more effective to achieve development objectives than subsidized and targeted credit promotion.

Training, technical assistance, and research

The Rural Finance Department of the Bolivian Central Bank should be strengthened and reoriented to promote, monitor, and regularly evaluate the

development of the rural financial market and its institutions. The basis of the monitoring and evaluation system would be an up-to-date monthly information system which would provide information on savings mobilization, rural credit, repayment rates of credit, and viability of institutions.

Appropriate interest rate policy

The rural banker should be autonomous in setting his interest rates according to market conditions. The interest policies of the donor agencies should be reviewed.

OTHER RECOMMENDATIONS

Mobilization of savings

The mobilization of savings should obtain a much higher priority than it may appear from Ladman's recommendations. Experience in other developing countries has shown that if priority is given to savings mobilization and that rural financial markets are not distorted by cheap external credit a major part of the present constraints of rural finance development in Bolivia can be solved without major problems. Emphasis on savings would change behaviors of farmers and rural bankers and would lead to more prudent lending, higher credit repayment discipline and avoidance of diversion of funds. Loan delinquency, which has been a chronic problem of Bolivia, would be considerably reduced, if borrowers know that the funds come from savings of their neighbors.

Promotion of voluntary groupings of farmers

Low cost financial intermediation to small farmers can be achieved through promotion of voluntary groupings of farmers, say about eight to fifteen farmers. They would administer their savings mobilization on a voluntary basis, as for instance does the savings clubs in Zimbabwe, Africa, and also would manage their credit programs. Bolivia could benefit from the considerable experience with voluntary farmer groupings in Asia.

It is recommended that FENACRE give higher priority to the promotion of voluntary farmer groups for savings and credit administration.

Distribution of Ladman's report

Ladman's report should be updated, translated into Spanish, and distributed to interested institutions for discussion. The updating may take two months.

Establishment of a Working Group on Rural Finance

A working group on rural finance should be established, consisting of representatives of: MACA; the Ministry of Finance; the Ministry of Planning and Coordination; the Ministry of Industry, Commerce, and Tourism (MICT); the Bolivian Central Bank; and private banks and credit unions (FENACRE, CACEN, ASOBAN). The primary objective of the group should be to formulate a common strategy and a medium-term action plan (6-10 years) for the development of effective rural financial markets, including financial institutions. This strategy document should be fully discussed to achieve a broad national consensus and reduce the present confusion.

The strategy document should spell out priorities and guide the international aid community in their related programs. Such a commonly adopted strategic plan would assist greatly in mobilizing and making better use of local and international resources. The proposed strategy document also would facilitate changing from a supply-led credit policy to a demand-led policy and should emphasize institution building, namely the promotion of autonomous and viable rural banks of cooperative or private ownership in which farmers would have confidence.

Ladman's paper could serve as an initial working document along with other reference material. The working group should be supported by international consultants.

It is recommended that the proposed and agreed action program be fully discussed with donor agencies to obtain their support, particularly support of technical assistance to promote rural banks. Various bilateral programs give high

priority to the promotion of rural banks, if the national policies are oriented to this objective.

Rural Finance Component in the proposed Agricultural Marketing and Productivity Project

A rural finance component of the proposed Agricultural Marketing and Productivity Project should emphasize policy and practical advice and assistance to the establishment of rural banks. Assistance would include:

- a Rural Finance Consultant for 4 years to advise and assist in building up the Rural Finance Department in the Bolivian Central Bank (including the establishment of an effective monitoring service, advice, and assistance in training)
- a Consultant for 4 years to advise and assist in strengthening rural banks in a selected department
- 4 Years of short-term consultants to advise on specialized subjects, such as management of rural banks, computerization of rural banks, evaluation methods, training, applied research
- 7 fellowships in rural finance and banking.

Coordination of the project with other projects in Bolivia

After review of related existing or proposed projects financed by other multi- or bilateral agencies, it is clear that the proposed project would be complementary to other projects. The services to be offered by the proposed project would greatly enhance the effectiveness of the other projects.

LIST OF PROPOSED ACTIVITIES FOR RURAL FINANCE

Constraint

- lack of coherent policy and strategy for the promotion of efficient rural financial markets, including viable rural financial institutions.

Strategy

- advise and assist in the formulation of a strategy for rural financial policy.
- assist in the development of a medium-term action program including:
  - institution building
  - the establishment of a monitoring and evaluation system in the Bolivian Central Bank
  - advice on training and the introduction of foreign capital into rural financial markets to promote viable financial institutions without distortions the markets

- advise and assist in the establishment of rural banks in one department

Cooperating Agencies

- Rural Finance Department of the Bolivian Central Bank
- MACA
- Bolivian Agricultural Bank (BAB)
- FENACRE and CACEN
- ASOBAN
- Rural development cooperatives

Estimated Costs

- 10 man-years of international consultants
- 35 man-years of local consultants
- fellowships

Expected Output

- an effective Rural Finance Department in the Bolivian Central Bank
- improved policies and strategies
- improved rural financial institutions
- improved capital mobilization and allocation
- improved coordination between donors and the Government of Bolivia

AGRICULTURAL INFORMATION

Prepared by:

M. E. Sarhan and Donald W. Larson

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INTRODUCTION

The elements of a complete strategy for the development and improvement of the agricultural marketing system in Bolivia should include:

- the development of a policy formulation process
- private and public activities in applied marketing research
- education and training
- facilitative services such as agricultural information, grades and standards, quality norms, and product safety
- market infrastructure
- rural finance.

This section is concerned with the provision of agricultural information in general, and market news and price information in particular.

During the travel and interviews by the team preparing this report, the "information problem" was a constraint frequently mentioned by government personnel, private traders, and farmers. The information problem can be broken into two related parts: the process of collection of data from the various production and marketing areas; and the subsequent analysis of data and dissemination of information. There is general agreement that the Bolivian agricultural information system lacks coordination and effectiveness and performs poorly in matching production and consumption (within a given season and from year-to-year) and in providing basic and analytical information to the private and public sectors. This poor performance is a major source of risk in Bolivian agriculture.

DEVELOPMENT OF THE INFORMATION SYSTEM

A complete and effective agricultural information system requires efficient and adequate systems for collection and analysis of data and for dissemination of information. Accurate, timely, and consistent information is important for sound production and marketing decisions in the private sector, and for policy formulation and program development in the public sector. Without an effective information system, it is difficult (if not impossible) to plan projects and programs or to evaluate the efficiency, problems, and potentials of the agricultural sector.

A distinction should be made between data and information. Data are products of sampling or enumerating a certain population and require further transformation before they are ultimately used. Private and public decision-makers generally do not use data until after some analysis or interpretation is performed. An information system encompasses a process by which data are given meaning and are presented in a form usable directly by decision-makers.

The distinction between data and information has significant implications for income distribution. The disparity in analytical capabilities among data users indicate that an equal distribution of data in society would have a very different impact on income than an equal distribution of information. Large farmers and marketing groups are able to use public and private data to produce their own information on prices and market conditions. An inadequate public information system capable of reaching all potential users could increase income inequality and place small buyers and sellers at disadvantage in the marketplace.

The needs for information by the various groups may vary according to time (long-term, medium-term, or short-term), nature of information (basic or in analyzed form), and purpose and user (private or public). Long-term information includes commodity forecasts that can be used by producers and marketing firms to make decisions on a wide range of issues such as production, storage, major purchases, selling, and slaughter. Long-term information also includes: price movements; market structure, conduct, and performance; and other issues necessary for the purpose of planning and legislation. On the other hand, short-term information includes market news and short-term outlook reports on current and expected market conditions with comparisons among several markets. Market news are used by producers and other market participants, including consumers, in making short-term buying and selling decisions.

Justification

A good information and communications system is essential for promoting production efficiencies, marketing efficiencies, and equitable income distribution. It is important that the fragmented and generally ineffective agricultural information system in Bolivia be strengthened and expanded. To this end it is recommended that

actions be taken to strengthen the system must take into consideration what already exists in the public and private sectors rather than establishing a new system from the beginning. Particularly important is the need to initiate and widely distribute market information including market news and price information, analytical work, and outlook reports. The chances for success of the information system can be greatly enhanced by involving potential users in its design and implementation, and in obtaining feedback and evaluation on its performance.

The team preparing this report recommends that USAID/Bolivia support some or all elements of a comprehensive agricultural information system under the project with market news and price information having the top priority. This recommendation is based on the fact that in a market-oriented economy the informed choices of individuals are the best means for allocating resources. The role of the government under a free market system is to set policies and priorities and to provide a legal system and a set of clear rules and regulations, as well as provision of certain facilitative services that will lead to economically and socially balanced situations. The present government of Bolivia, based on the conviction that the market is the best source of information to guide producers and consumers alike, encourages the reliance on the market place for allocating resources. The need for informed choices to provide the impetus of the market and the fact that information is at least partially a public good may require, paradoxically, that the public sector play a significant role in the collection and dissemination of information.

In a competitive market economy, the bargaining position of buyers and sellers is conditioned by the degree to which they are informed. The classical economic concept of a perfectly competitive market assumes perfect knowledge--a goal, of course, that is unattainable. Traditionally, agricultural producers have been labelled as "price takers." Part of this reputation stems from lack of effective organization but part also stems from the lack of market information. In Bolivia, short-term and long-term market information is either inadequate or does not exist. Among the important obstacles to obtaining and disseminating good market information are lack of grading and standards, lack of organized markets and other marketing infrastructure, and widely separated producing areas. Under these conditions, small farmers and marketers suffer the most. They obtain only inadequate information, often from other farmers and traders.

Thus, the justifications for the establishment of a strong agricultural information system are:

- to provide private and public decision-makers with timely market information
- to support the need by the policy and research analysis component of the project for reliable and timely information to assist the government of Bolivia in establishing clear and fair guidelines regarding the structure of economic incentives.

Ultimately, better information would promote increased production and improved consumption (incomes) within the private sector. That is, in order to formulate, implement and manage policies so as to mobilize domestic resources to their most efficient use given the country's political and social objectives, requires careful analyses of possible alternatives and the structure and performance of economic processes under past, present and possible future conditions regarding resource productivity and domestic and international market conditions.

The proposed system will include two broad classes of information--those needed for public policy formulation and implementation, and those needed to guide private sector decisions. Both of these, in turn, have implications for historical, current and outlook type information. A number of required analyses and issues will be identified under the Policy Monitoring and Economic Analysis Component of the project as central to the **policy formulation and implementation** processes. Each of these implies requirements for the various kinds of information which will be used by the public and private sector analysts. In addition to clear and stable structures of incentives, **private sector** agents (i.e., producers and marketers) can better allocate resources if they have access to current and expected production and market information. Such information is of use to the public sector, but in a market oriented process it is indispensable to guide private decisions in a fair and equitable manner towards increased production and consumption.

Types of Information

In general, five main types of information can be identified for a complete and adequate information system:

- benchmark

- current crop and livestock supply estimates, including agronomic and agroclimatic
- market news
- outlook
- periodic/research.

Benchmark data and information are provided every five to ten years; they include agricultural census and major household consumption and expenditure surveys. Agricultural census includes full count of farms, their characteristics, and production. However, due to the difficulties in achieving this ideal methodology, sampling has been often used in many developing countries to obtain sufficient information. The resulting benchmark information should include as a minimum information on physical resources, human resources, economic activities such as employment, technology and infrastructure, and consumption and expenditure behaviors. For policy analysis and program planning and evaluation, this information can aid in identifying the resources to be used, the target groups on which to focus, and the targets to be achieved. They can establish benchmarks against which to measure changes at periodic intervals.

Current crop and livestock supply estimates include: information regarding current and prospective estimates of crop production, area, and yields; livestock inventories; production; and marketings. Other information includes: supply and prices of various inputs; interest rates and availability of credit; and storage stocks held by the government and private sector. The primary purpose of this type of information is to provide farmers and market participants with indications of current or immediately prospective supplies. Agronomic and agroclimatic information are important for the completeness of current estimates; this type of information generally is obtained from various locations at different times of the year to show how major crops are responding to rainfall, weather conditions, fertilizer, irrigation, plant density, and other cultivation practices. This type of information is essential for assessing the development of the crop and can provide early warning information on possible problems and the impact of drought.

The purpose of the **market news** is to provide accurate, timely, and unbiased market information on prices, volumes, trends, and other market information on the major agricultural commodities traded or available in the key markets. The goal of

the market news and price information system is to aid producers, marketers, processors, suppliers, transporters, retailers, and consumers to make informed marketing decisions (to sell, hold, or buy available products). An important purpose of a market news service is to equalize the bargaining basis among buyers and sellers, or to keep any inequality at minimum. Emphasis must be given to the situation at key markets, including information on trends and commodity flow, and to identifying the source and destination.

A good functioning market news system should be based on widely used and understood grades and standards. The system should attempt to report market conditions and not develop the market. But the system should include brief commentaries on the current market conditions.

Dissemination of standard reports should be as timely as possible; daily or at least several times per week for key markets and commodities. Dissemination methods will depend on available time and funds. Dissemination methods include: market information boards located within markets; handouts; loudspeakers; mass media forms such as local radio stations during suitable time periods, television, publication in local newspapers, telex, and telephone; publication and distribution of bulletins; existing extension service offices and agents; cooperatives and community meetings.

Outlook information is production and economic projections that permit planners and private sector decision makers to look ahead. The purpose of this type of information is to provide reliable and accurate estimates of the expected future availability (production and carryovers adjusted for utilization) of key commodities in times to affect current and future decisions by producers, traders, exporters, processors and consumers. Outlook reports primarily are forward-looking information intended to aid farmers and other market participants, including consumers. The outlook work should be based on a well-designed sampling frame. Furthermore, procedures for quality control and processing of data must be developed to insure timeliness and relevance to users. This will require identifying institutional and organizational arrangements free from influence of political or vested interest forces.

Periodic/research information includes behavioral and market research information, including selected studies on how farmers and other participants in the production and marketing systems react to policy variables and to measure economic

impacts of policy changes, as well as analytical studies on market efficiency; structure, conduct and performance and price analyses. This type of information could be updated on a periodic basis with new studies to be conducted as warranted by major changes in policies or technologies.

Characteristics of a Good Information System

There are seven important characteristics of an efficient and reliable information system:

- accuracy
- timeliness
- objectivity
- comprehensiveness
- flexibility
- expandability
- repeatability.

It is recognized that achievement of a high degree of refinement in each of these attributes is costly. The cost may exceed the benefits, depending upon the stage of development of the economy being served. Judgment must be exercised at to when additional refinement is worth the additional cost.

Accuracy refers to the provision of estimates that are close to true values. That is, in statistical terms this means that the sampling errors and non-sampling errors need to be as small as possible. The aim is to seek the level of accuracy that will serve the purpose of the users without unduly increasing cost. There is generally a strong positive correlation between cost and accuracy.

Timeliness refers to the time that elapses between beginning of data collection and the release of information. To the extent that agriculture is dynamic by nature, the criterion for a good information system requires that information must be made available prior to the time at which a decision must be made. That is, timeliness includes at least two dimensions: utility of the information for decision-making at the time of issuance, and the frequency with which data and information are issued. The frequency requirement is influenced by the seasonality of production and the dynamics of the market.

Objectivity means that the system be free from bias, i.e., the sum of sampling and non-sampling errors are minimized. An objective procedure is essential to ensure credibility of the system and promote users' confidence in the information.

Comprehensiveness indicates that the system must provide information on all important aspects of the production and marketing processes to support decision-making. In order to maximize efficiency the coverage should include only those crop and livestock items with substantial commercial value. Also, a commodity should be sub-divided by some characteristics, such as quality grades,in order to facilitate widespread reporting. Similar decisions have to be made with respect to differentiation by areas of production, stage of production or marketing, or by any other attributes considered significant. It should be noted that the greater the detail, the greater the cost.

Flexibility refers to the responsiveness of the information system to the evolving needs of decision-makers. As data begin to be used, there must be feedback from users to the data collection system, the usefulness of information, and the effectiveness of the dissemination system. A good system must be responsive to users and be able to supply additional information requested by users without large added resources.

Expandability means that a good information system must be capable to adapt new technologies without excessive costs.

Repeatability refers to the requirement that the system should ensure that surveys conducted at different times should give results with differences that reflect real changes in the target population and not changes in the methods used for collecting the data. The value and utility of information increase when current and past results can be compared.

ASSESSMENT OF THE AGRICULTURAL INFORMATION SYSTEM IN BOLIVIA

The present agricultural information system in Bolivia has only very small parts of the above attributes of an effective system. It consists of a number of fragmented activities, the value of which is low in terms of the operational criteria.

Several non-integrated public and private institutions undertake data acquisition and some data processing activities, but dissemination is poor and sometimes contradictory.

One of the major problems of the existing information system in Bolivia is that it is oriented to the public sector rather than the private sector. The authorities involved regard themselves as control and administration units rather than service-oriented institutions. Agencies consider the collection, processing, and publication of data to be for administrative and statistical purposes such as preparation of annual reports and calculation of indices for official use. Much of the "published" public agricultural information is not obtainable by the farmers and traders; when it is available to such groups, it is dated and of little or no use.

Current Status and Suggested Needs

Benchmark data currently available in Bolivia are either outdated, inadequate, or nonexistent. For example, there is no reliable information on the number, location and characteristics of farms and markets at the present time. After the first census of 1950, little was accomplished until 1984 when the country's second agricultural census was conducted.

The National Statistics Institute (Instituto Nacional de Estadistica--INE) and the Ministry of Rural Affairs and Agriculture (Ministerio de Ausuntos Campisinos y Agropecuarios--MACA) are the two government agencies jointly responsible for completing the agricultural census. Because of the amount of time and money needed to complete an agricultural census, INE has been unable to maintain an organized and regular schedule of time periods for completion of the census. Although the team preparing this report was informed by the INE director that the tabulation and limited analysis of the 1984 census are completed, the results are not yet available in a published form due to budgetary problems. As a result, government officials and researchers do not know the degree of coverage of the agricultural productive units and the accuracy of the data collected. The team preparing this report learned that the coverage of agricultural productive units and the accuracy of the data are not reliable for some areas of the country where access to and/or farmer cooperation

were difficult. Thus, for such areas the structure of farm data rests upon a weak foundation.

Early consideration must be given to careful analysis of the results of the 1984 census so that plans can be made for a more comprehensive, reliable, and frequent agricultural census in the future. The proposed project would provide some technical assistance and training to plan for the next census and complete it by the end of the proposed project. If carrying out another census proves too costly and time consuming, other alternatives such as a sampling scheme should be considered. In any case, direct funding is not recommended because it is costly and involves several agencies.

Little information on **current crop and livestock supply estimates** is available regularly for use by the private and public sectors. For example, in September, 1988, it appears that the Department of Santa Cruz is suffering from a severe drought, but no reliable information is available on the extent of its impact on crop or livestock production in the region.

Although MACA publishes annual data on production, yields, and area planted, annual data do not have the timeliness needed to determine the impact of very short run phenomena such as weather on production. Estimation and subsequent dissemination of current supply estimates (possibly published on a monthly basis), would be valuable to traders, farmers, input suppliers, bankers and other lending institutions, importers, exporters, and policy-makers.

Ideally current supply estimates should include planting intentions, area planted and yields estimates during the growing season. An area sampling frame method may be used for estimates of planted areas by crops and to predict yields more objectively. This method has been used successfully in many countries including Ecuador and Colombia. However, if funds are considered a limiting factor in utilizing an area sampling frame method, the estimates of the probable yields of each crop and the planted area during the growing season might be obtained by using agriculturalists, for example local agronomos or other trained persons in the regional development corporations, agricultural chambers and producer associations.

The current supply estimates also must include data on current stocks and inventories of staple commodities held by the private sector and in public sector storage facilities. This requirement recognizes that carryover stocks, including private holdings, are important in estimating total availability and play a major role in price determination, i.e., in the supply that influences price. Stocks are particularly important during times of shortage when they become a public concern. Absence of such significant information is a limitation to a competitive market system.

The best developed **market news** information activity in Bolivia is the monthly information bulletin published by the Department of Agricultural Marketing of the Departmental Development Corporation of Santa Cruz (Corporacion de Desarrollo de Santa Cruz--CORDECRUZ). In addition to market news, this bulletin contains some outlook type information. A typical bulletin contains short articles on: international markets; regional markets; special reports; weekly wholesale, retail, and producer price information in Santa Cruz; prices of agricultural inputs; transport charges; and world market prices for a number of products. The retail prices are obtained from INE, wholesale prices from MACA and producer prices from CORDECRUZ reporters in the producing areas. This bulletin has been published since 1984 and has a subscription list of over 100 private and public subscribers who pay US $ 10.00/year. This bulletin could be used as a model for other parts of Bolivia. Data collection is carried out in cooperation with the local MACA office and several other private and public sector institutions. The activity is partly sponsored by the British mission which provides a technical advisor to the Department of Agricultural Marketing of CORDECRUZ.

The coverage is adequate in terms of the number of products, as price information is collected on nearly 60 products. However, because the bulletin is a Departmental publication, no price information is reported on other major markets in Bolivia such as La Paz and Cochabamba. More information from other markets as well as farm, wholesale and retail prices would permit comparison either vertically or horizontally among markets.

Some agricultural chambers such as the one in Sucre also publish wholesale price information for the Secure market every Friday in their news paper.

MACA collects weekly wholesale price information for the La Paz, Cochabamba, Santa Cruz and Sucre markets but no periodic dissemination is made of the information. Dissemination is weak among all the institutions collecting price information. Dissemination including Radio Illimani and newspapers stopped in 1985 because of the hyperinflation, price controls and budget constraints. CORDECRUZ had early morning broadcasts with four radio stations, but presently only Radio Santa Cruz broadcasts the daily price of about 20 products. Broadcasts in some areas need to be made in the native languages (Aymara and Quechua) rather than in Spanish in order to maximize the impact of this service on users.

The current wholesale price information services should be expanded to include a daily service or perhaps 3 times a week in the nine capitals of the Departments of Bolivia: La Paz, Cochabamba, Santa Cruz, Oruro, Potosi, Sucre, Trinidad, Tarija, and Cobija.

An apparent shortcoming of the present market news services is the lack of information on volume of deliveries and trade by commodities. Obviously, these quantitative data are difficult to collect. With a trained, experienced corps of reporters at least qualitative observations of the volumes of commodities in the market could be included in the market news reports. In a similar way trained, objective reporters could give useful qualitative observations on current and expected price trends on the market during the trading period.

Market news emanating from the wholesale markets could be supplemented with data obtained and reported from retail markets and from farmers or assembly markets. This supplementation and coordination could be much more effective with a single agency providing leadership in market news.

Price data and related market information, could be strengthened by several types of activities. These include:

- getting the agricultural chambers, associations, and regional agencies together to introduce more uniformity into their market news services
- promoting widespread adoption of the standards and grades adopted in the central markets and to facilitate the exchange of price information both vertically and horizontally in the markets

- arranging educational programs to facilitate more uniform improvements in the coverage, timeliness, and accuracy of data issued from the smaller local markets
- arranging for the effective interchange of data among markets.

These three categories of information, benchmark, current supply estimates, and market news, emphasize the accumulation of data primarily from past and current situations to help decision making. There appears to be a serious need in the agricultural sector in Bolivia to bring this and other research type information together in an analytical manner with a forward look to help guide the development and growth of the sector.

Lack of **outlook and research information** at the present time is due to major problems including lack of a strong data foundation on which the analysis must depend. This deficiency is prevalent among most commodities. In addition, the demand side of the price equation is most neglected. Consequently, the agricultural sector is not getting effective outlook information. Outlook service on a timely basis would strengthen the opportunities for farmers to make intelligent independent production plans. This is especially true for long range planning.

Furthermore, the farmer gets little guidance on when it is advantageous to market from a price point of view. As a result, farmers have little knowledge of alternatives to sending their produce to local markets at the most convenient times.

Also lacking in Bolivia is adequate information and analysis of: marketing costs and margins for agricultural products; farmers' share of consumer prices of products, price movements; market structure, conduct, and performance; and the basket for food in aggregate terms. This information can be used to identify opportunities for achieving greater efficiency in the marketing system and thereby reduce costs of living or increase the farmers share of total food expenditures.

This information would provide the basic data useful for evaluating the overall performance of the marketing system in terms of the time, space and form dimensions. Seasonal price movements for agricultural commodities compared to costs of storage can indicate to farmers, merchants and government entities the benefits, if any, to be derived from the storage of commodities. Spatial price differences among cities, for example, compared to costs of transportation will indicate the most

advantageous places in which to market agricultural products. Analysis of price differences among different product forms compared to costs of processing can indicate the profitability of processing activities in the market system.

Cyclical and trend price movements of farm products can also be used to analyze changes in relative prices over time to identify products in which demand seems to be growing faster than supply. Such analysis can indicate to farmers and government agencies those products which require additional technical and/or economic stimulus to increase output.

Finally, because of the present emphasis given to identifying export market opportunities for Bolivian farmers, analytical information is required to identify those products and markets where Bolivia has a comparative advantage in world markets.

IMPLEMENTATION REQUIREMENTS FOR PROPOSED INFORMATION SYSTEM

The public good characteristics of information imply that collective action to produce information should improve social welfare. However, these public good attributes alone do not indicate whether information production should be done by voluntarily organized private efforts or by government intervention.

This section provides some suggestions by the team preparing this report as to the alternative institutional arrangements for the information system. These and other possibilities, as well as the degree of project involvement in each type of information, should be explored by the project paper team before implementation of an agricultural information system in Bolivia.

The team preparing this report believes that while all types of information are important, market news and price information should be given first priority. Final selection of a system should recognize that information production is not free. The cost of production and distribution of information should be justified on economic and social grounds.

The demand for information is difficult to estimate. Since the value of information depends on its use in decision-making situations, the demand for information reflects its value in the decision processes of private and public users. To the extent that the value of information is not known with certainty until it is used, demand for information tends to be less than socially optimal.

Finally, it is important to take into consideration the fact that the value and amount of information in terms of details and coverage varies among individual users and from region to region. Therefore, the design of an information system in Bolivia should take into consideration the variability in demand and the specific situation in the various Departments.

Institutional Arrangements

Tentative institutional responsibilities for implementing a reliable agricultural information system in Bolivia are shown in Table 4.

Table 4: Agricultural Information Activities and Implementation Responsibilities

Type of Information	Primary Responsibility	Cooperating Institutions	Output
Benchmark	INE	MACA	Agricultural Census
Current Supplies Estimates	MACA	INE Producers Producers Associations Agricultural Chambers	Estimates of Monthly Production for Major Species
Market News	Private	MACA, INE, MICT Producers Associations, Agricultural Chambers DDCs	Daily reports and weekly summaries
Outlook	MACA	Agricultural Chambers DDCs	Outlook reports
Research	Private MACA	UDAPE DDCs	Research reports

The key public institutions that are currently involved to some degree in the collection, processing and dissemination of national agricultural information are: the Ministry of Rural Affairs and Agriculture (MACA), the National Statistics Institute (INE), the Ministry of Industry, Commerce and Tourism (MICT), and the Ministry of Planning and Coordination (MPC). The capability of personnel varies, as do financial resources and extent of coverage of the agricultural sector.

Table 4 can be used as a basic guide to the team preparing the project paper (PP) in exploring the institutional capabilities and selecting the arrangement most likely to succeed. Although different institutions may have data collection and processing responsibilities, it will be desirable to develop a data information coordination unit through which all information related to the agricultural sector are compiled and disseminated.

The information unit's primary function will be technical and information management. Its staff will be trained and assisted to know how to solve data related problems and where data sources are deployed. The major functions of the unit will be:

- serve as the liaison between all institutions and MACA for collection, analysis, and dissemination of all agricultural production, marketing and other information
- cooperate with private and government agencies in compiling all information related to the agricultural sector, and in designing and implementing benchmark data collection and analysis
- prepare and distribute periodic publications for dissemination to the appropriate public and private institutions and interested individuals, possibly for a fee to cover cost of production of these publications;
- be the main source for all official crop and livestock estimates.

The proposed agricultural information system should strengthen the existing institutional capacities at MACA, INE, and other national and regional public and private organizations. The system would serve primarily as a service for the private sector, but also would provide timely information for policy management and monitoring within the public sector.

Proposed Responsibility for Components of the Information System

Benchmark Information

In regard to the agricultural census, it appears that the present institutional arrangements whereby INE has primary responsibility and MACA is the major cooperating institution, is sound and should continue. The National Statistics Institute (INE) should be used in sample design and data collection. This will allow for the utilization of the experience acquired through conducting past census and large surveys, and would also utilize INE's large human resources in the field. INE appears to be a relatively strong statistical organization with about 15 employees in its La Paz office, and more than 400 field staff. INE and MACA have worked together on various surveys and crop estimates; this institutional linkage should be strengthened and future cooperation should be supported.

The two institutions should also be responsible for conducting national and regional household surveys. MACA might play the major role in the design, implementation and analysis of these surveys., assuming that a strong economic analysis capability is established in MACA. Otherwise, primary responsibility should fall on the Policy Monitoring and Economic Analysis Unit of the project. In any case, both MACA and INE should be involved in all benchmark-type activities. Long-term and short-term technical assistance may be required to provide support in implementing this activity.

Current Crop and Livestock Supply Estimates

A single agency needs to be designated for the current supply estimates to obtain the most efficient use of resources and avoid the duplication of effort among many agencies. The attributes of timeliness, objectivity and comprehensiveness can best be achieved by a single agency rather than several agencies. Since these estimates must be national in scope, neither a single departmental development corporation nor a producer association appear to be an appropriate institutional choice for this activity. MACA appears to be the most likely agency to take leadership for this activity.

Market News Information

The development and operation of a nationwide market news and price information service must be undertaken with full cooperation between the private sector and public organizations. The team preparing this report believe that MACA and the Departmental Development Corporations should take some responsibility in the production of objective and daily market news of high quality that could meet most of the needs of all users. A uniform methodology must be developed with the objective of providing more precise price and quality statistics by emphasizing modal prices applicable to defined grades and standards.

A single reporting service has a better chance of adopting uniform weights, measures, grades and standards and of training a force of reporters to use them effectively. The adoption of these standards by reporters would be a major step toward getting them recognized and used throughout the market. If a more uniform, comprehensive, dependable and objective service can be established initially in the principal markets it would serve as a good basing point for corresponding improvements in the other wholesale centers. This would facilitate comparisons between markets, levels of marketing and producing areas to rationalize food distribution.

The market news system should be designed whereby a central facility be established in La Paz to receive and process data collected by employees of MACA and other public and private organizations in the designated departments and at other key locations. The collection of price and other market data will be according to a uniform methodology, and will be transmitted to the central office via computer modems. Transmission within the departments could be through shortwave radios. The central office staff will assemble, analyze and dispatch the information through various media means, but may use the same computer lines to send a total market review to all reporting stations. These, in turn, can re-distribute information among users. This process would insure standards of statistical validity and data integrity.

In order to make the market news system operational the following steps must be taken as early as possible during its development:

- assign responsibility for data collection at the various producing areas and selected markets in all Departments in Bolivia. This should

include an established schedule for collection, transmission and release of information.

- assign supervisory responsibility for data reception and verification, and for the overall daily operation of the system.
- establish clear forms and codes in order to facilitate efficient and consistent data collection and transmission, including the development of "operational manual".
- form a users advisory board.

Outlook and Research Information

This activity should be institutionalized in or closely linked to the proposed Policy Monitoring and Economic Analysis (PMEA) unit under the project. There will be need for both long-term and short-term technical assistance and training. The current capabilities in MACA are inadequate, but this may change with technical assistance and close work with other government agencies especially the Economic Policy Unit at the Ministry of Planning and Coordination (UDAPE), as well as the various departmental development corporations as well as producer associations.

RESOURCE REQUIREMENTS

In order to implement an operational and reliable agricultural information system, the following are the long- and short-term technical assistance, training, and hardware requirements.

Long-Term Technical Assistance

- Agricultural Statistician for MACA and INE to assist in:
  - Survey design and analysis experience,
  - Data management, and
  - Reports preparation.

  Term: Two years
- Marketing Economist to assist in:
  - Development of market news system,
  - Preparation of outlook and crop estimates, and
  - Conducting market research.

  Term: Five years

Short-Term Technical Assistance

- Area Sampling Frame Specialist to assist INE and MACA in:
  - Data collection methods
  - Survey and census design, and
  - Questionnaire design and result analysis

  Term: 6 person months

- Market News System Specialist to assist in the following:
  - Design, development and implementation of a market news reporting system
  - Selection of markets and commodities,
  - Design of forms and reports, and
  - Selection of communications tools and identification of media and other dissemination methods.

  Term: 10 Person Months

Training

Provide the following types of training in Bolivia and the US:

- Masters in Statistics,
- In-service market news workshops,
- Short-term US training,
- In-service training, and Mass media and agricultural information training.

The Project Related Training report provides details of the type and extent of training required for the information system component of the AM/P project.

Equipment, Vehicles and Supplies

In order to implement the activities under this component, the following will be required and must be provided by a combination of dollars and local currency funds:

- Microcomputer hardware (memory, printers, etc.) and software
- Computer and office supplies, including disks and typewriters
- Vehicles and motorcycles.

DEVELOPMENT OF GRADES AND STANDARDS

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M. E. Sarhan

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Background and Justification

An important principle in the development of marketing systems is the need to encourage the adaptation of technologies and evolution of private marketing organizations. This can occur only if guided with appropriate public policies and support services. The improvement and development of the marketing system are more likely to succeed if public initiatives and actions occur in response to the perceived needs and actions of the market participants. It is, therefore, appropriate for the public sector to provide or promote certain types of services to marketing system participants in an effort to assist them in achieving greater economic efficiency. As indicated earlier, the agricultural information system is an example of such services, with market news as one of its major components.

A market news service will be effective and function well if it is based on grades and standards that are widely understood and accepted by the trade. A well-designed grading and standardization system can pass valuable information back to producers and other market participants. On the other hand, one of the strongest instruments for getting the widespread understanding and use of uniform grades and standards will be the adoption of more effective methods for disseminating standardized price and related data collected in the major markets.

In Bolivia, there are no formal and uniform grades and standards for most agricultural commodities. However, middlemen usually impose their own grading on sellers, but this varies within and across markets. Furthermore, the presence of varying weights and standards reduces the efficiency of the marketing system. The team preparing this report readily noted wide differences in weights and measures as well as grades and standards in different parts of the marketing system and in different parts of the country. The information made available to the team preparing this report indicates that there are no formal grades and standards that are uniformly applied for potatoes, corn, fruits, vegetables, or livestock and livestock products.

On the other hand, the agro-industries involved with wheat, soybean, sugar cane, barley, and rice have identified and used certain grades for procurement of these commodities. These are based on some attributes such as moisture contents, amount of broken grains, and foreign matters. However, these grades are not widely

known by producers nor are they commonly used in the domestic market outside the trade with the agro-industries involved. Milk is classified according to butterfat content and sellers receive premium from the Planta Industrialization de Leche (Milk Processing Plant--PIL) for delivered milk with higher butterfat content. The Ministrio de Industria, Commercio, y Turismo (Ministry of Industry, Commerce, and Tourism--MICT) has established a set of norms for edible oil, peeled rice, and sugar which are utilized by the agro-industries.

Transaction costs are high in the Bolivian marketing system as in most developing countries. Marketing agents, partly due to absence of widely accepted grades and standards, are forced to specialize by commodity and geographic area. Practically every unit of the commodity must be personally inspected, usually by the owner.

Grading and standardization are facilitating functions, i.e., they simplify the movement of commodities through the marketing channel. **Grading** refers to the separation of items of a commodity into distinct groupings that are highly uniform in certain attributes concerning market valuation and preference. The relevant attributes differ widely among commodities in number, range of variability, and susceptibility to objective measurement. The appropriateness and accuracy of the grading process depend upon the correspondence between the quality standards and buyer and seller preferences, the range of qualities in the marketing system, and the relevance of the sorting to ultimate consumer preferences. On the other hand, **standards** are yardsticks of measurement concerned with standards of weights and measures, and standards for quality which are necessary for establishment of a grading system.

In a related matter, attention should be paid to developing and implementing more appropriate packaging and container use in domestic handling and movement of agricultural products at both the wholesale and retail levels. Utilization of local knowledge and materials and use of specialists should produce inexpensive alternative packaging methods for introduction. Appropriate protective packaging is needed to maintain the product at any particular grade level.

Grades and standards are important because they provide a meaningful way by which price differentials can be associated with desired (or undesired) quality

characteristics. Economists have long recognized that uniform application of grades and standards can enhance both the pricing and operational efficiencies of the marketing system, an important aspect of public policy.

Impact of Grading and Standardization on Pricing Efficiency

Pricing efficiency of the marketing system is concerned with the accuracy, effectiveness, and speed with which a price system measures product values to buyers and reflects these values back through the marketing channels to producers. Involved in this concept are issues of efficiency in allocation of resources among alternative uses and efficiency in the distribution of income among producers and other market participants.

The uniform application of an appropriate set of grades can contribute to pricing efficiency. If consumers indicate a willingness and ability to pay more (or less) for a certain quality of a commodity, that information must be transmitted back to producers before they can react. A market economy depends upon price differentials to relay the message, and grades provide a meaningful common language to perform this function. Grades can also help improve efficiency in the distribution of products of varying quality among alternative uses. Differential pricing among grades enables wholesalers and retailers to move given supplies into their highest order use at prices that clear the market.

Furthermore, the use of grades can increase the degree of competition in the market by increasing the level of public knowledge. Uniformity in application of adequately descriptive grades allows trade by specification (as contrasted to inspection) via telephone or wire service. This enhances competition since wholesalers and retailers can shop over wide areas. The use of uniform grades permits small traders to compete with large ones in terms of quality (if not volume) of commodity. This also increases the degree of competition and pricing efficiency.

Impact of Grading and Standardization on Operational Efficiency

Marketing operational efficiency is concerned with the costs of performing the various marketing functions. The concern is not necessarily with reduction in the total costs but rather with per unit marketing costs. This goal may be accomplished

by marketing a given quantity of products at lower total cost, an increased quantity at the same total cost, or an increased quantity at a less than proportionate increase in total cost.

Grading and standardization can improve operational efficiency by permitting trading by specification, which can result in reduction of transaction costs (i.e., travel, labor, and other associated costs) for both buyer and seller, compared to trading by inspection. Grading, however, does not come free. Total marketing costs will be reduced only if the reduction in transaction costs exceed the cost of grading, additional communication expenses, costs associated with possible misunderstandings, and rejection of shipments that do not meet grade specifications.

Furthermore, use of uniform grades permits small traders to compete with large operators. Specialization is also enhanced since grading permits more accurate description and identification of commodities. Marketing efficiency in more developed economies is closely linked to functional specialization, economies of scale and economies of management routinization in wholesaling and retailing. These innovations in wholesaling and retailing have not yet occurred in Bolivia. The introduction and use of grading and standardization will help establish an environment for the innovations to flourish with subsequent reduction in consumer prices and increases in farmers' incomes through effective competition in the marketing system.

Implementation of a System of Grades and Standards

To the extent that lack of formal grades and standards in marketing agricultural commodities in Bolivia has contributed to the present inefficiency of the system, a workable grading system should be developed in full cooperation with the potential users. Such a system should allow for appropriate price differentials that would provide additional incentives to producers and marketers to improve quality and increase productive investment.

Developing a comprehensive grading system is complex because of the difficulties in establishing evaluation criteria for the attributes involved. It must also be recognized that it takes a very long time to change habits and customs on a voluntary basis. The designated agency responsible for grades and standards may

speed up this process by issuing appropriate market rules and regulations after sufficient time has been given for the trade to become familiar with the new grades and standards and to acquire new types of containers, scales and other equipment.

A simple grading system is often adopted as a first step in developing a more sophisticated and comprehensive one. For the system to be effective, the widely varying traditional weights and measures should be unified, and the use of scales should be encouraged in rural assembly centers and at the other points in the marketing chain.

Because grades and standards are considered an integral part of a successful market information system, it is recommended that grades and standards be used initially to support the market news program. In its initial phase, the system should focus on a few major food commodities, but coverage should expand gradually based on the progress and results from the initial phase. A desirable feature in developing grades and standards would be to reconcile them with those prevalent in foreign trade. This would facilitate export of commodities and integrate the domestic market with the external trade.

Grades and standards should be established with the participation of the affected private sector participants and should not significantly increase trading costs, prices, or unemployment; nor should they reduce competition, productivity, innovation, investment, or the ability of domestic producers to compete internationally.

Criteria for Developing a System of Grades and Standards

The following is summary of the most important criteria that should be considered when developing a system of grades and standards for agricultural commodities:

- Standards should be built on characteristics that the potential users of the system consider important, and these characteristics should be easily recognizable. Grades must be oriented to user opinion of value and not that of a few technical experts.

- Standards should be built on those factors that can be accurately, rapidly, and uniformly measured and interpreted. If the major part of a standard consists of subjective measurements, uniform application by different grades or at different points in the marketing system,

will be very difficult. Excessive quality variation within a grade reduces the usefulness of the grade itself.

- Standards should use those factors and a description that will make the grades meaningful to as many potential users of the product as possible. The ideal situation would be that in which the same grade terminology is used at all levels of the marketing channel from producer to consumer.

- Each quality grade should include enough of the production to be a meaningful category in the market. Consideration must be given to the quality of the product produced on the farms. The top quality in a grading scale is not useful if very little or none of the actual farm production can meet the standards for top quality.

- The cost of operating the grading system must be reasonable. Absolute uniformity at any price is not a feasible goal.

- Grade standards and quality factors contained therein should facilitate equitable treatment among all segments of the economy and enable the market system to communicate economic preferences to the point in the marketing chain where the quality can be altered.

It is tentatively proposed that the agency in charge of weights and standards in Bolivia (the Institute for Weights and Normalization, at the Ministry of Industry, Commerce and Tourism-- MICT) be the entity to take the leadership in developing the various grades and standards. Cooperation with the Ministry of Rural Affairs and Agriculture (MACA), producers, consumers, marketing organizations, and research institutions will be necessary for developing a successful system. An alternative might be to concentrate the activity in MACA, with strong cooperation with the trade.

Initial implementation of this activity will require both technical assistance and financial support. Therefore, it is recommended that the project provide technical assistance in this area. Technical assistance could be achieved through a series of short-term technical services by highly qualified grades and standards technicians. The technicians will:

- assist in determining the variability that exists so that grade lines can be drawn realistically for each commodity

- provide input in developing final quality and measurements standards

- carry out some demonstrations for the various segments in the market chain on the selection, testing, and demonstration of the use and advantages of alternative packaging materials and techniques

- provide on-the-job and in-service training to selected potential graders mostly from the private sector, but also in MACA and MICT.

AGRICULTURAL MARKET ORGANIZATION

Prepared by:

Donald W. Larson

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Individual agricultural commodities are produced over a relatively short period of time in locations that generally are far removed from the consuming areas. As commodities moved through the market channels, they may be bought and sold many times. In handling these commodities a variety of important marketing functions are performed. This includes the change of commodities from the raw form into the forms desired by consumers, delivery to the desired location, and through the storage function made available to consumers at the desired time.

Market channels are the various agencies or institutions through which the commodities flow from the producer to the final consumer. The market-led strategy is selected for this project because of the vast importance of both internal and external markets to the future economic growth of Bolivia. This papers briefly discusses the organization of the internal markets for the principal crop and livestock products in Bolivia. More detail is presented in the Agricultural Sector Assessment Report, prepared by USAID/Bolivia.

Rice Marketing

Rice production in 1987 was estimated at 180,000 metric tons on a cultivated area of 94,000 hectares. With about 25,000 producers, the area harvested and amount sold per farmer is small. Over two-thirds of the rice production is located in the department of Santa Cruz. Fifty rice mills ranging from small (less than 100 metric tons/year) to medium (more than 2,000 metric tons/year) process the production. These 50 mills have a capacity of about 170,000 metric tons/year. Most rice mills are privately owned.

Farmers sell rice to truckers/buyers and to millers directly. The trucker/buyers and millers sell to wholesalers who sell to retailers. On the average, millers buy about 65% for resale and the remainder is milled for third parties. Small rice farmers in Santa Cruz have organized the Federacion Nacional de Cooperativas Arroceras (FENCA) to solve their transportation and storage problems. FENCA owns some storage facilities and leases additional space from the Empresa Nacional del Arroz (ENA). Since the Supreme Decree 21060, which eliminated warrant financing, ENA is not buying and selling rice.

Wheat Marketing

Bolivia imports about 75% of total wheat consumption (280,000 metric tons in 1987), and produces about 25% domestically. Domestic wheat prices and imports are controlled by the Ministerio de Industria, Comercio, y Turismo (MICT) and are set at about the opportunity cost of the imported product. The opportunity cost of the imported wheat, however, may be underestimated because most wheat imports are made through PL 480 at very favorable concessionary terms rather than commercial imports that must be paid in hard currency at higher interest rates and shorter payments periods. Supreme Decrees 21060 and 21660 exempt imported wheat from a 20% import tariff.

About 55% of the wheat production is located in the valleys of Cochabamba and Chuquisaca, 32% is in the highlands, and the balance is in Santa Cruz. The Santa Cruz crop is planted and harvested in the June to September winter season.

National wheat production in 1987 reached 50,000 metric tons supplied by about 40,000 small producers who average a little over one metric ton each. Part of the wheat is consumed directly on farms (40%), kept for seed (12%), and the balance is sold to any of the 18 millers located in various departments. The total installed milling capacity is 750,000 metric tons/year, with only about 35% utilization rate. Storage at the mills is considered adequate, while storage in the producing areas is adequate but poorly utilized. About one half of national production consists of varieties that cannot be milled into flour for bread, crackers, or pasta.

Potato Marketing

Potato production is located in the highlands and valleys and represents over 60% of tuberous crop production. Cassava is the second most important tuber.

The exchange process for potatoes consists of farmers selling to intermediaries either on the farm or at the local markets in the Altiplano and Valleys that meet daily, weekly or monthly. There are an estimated 24 markets in the Department of La Paz. Generally a bargaining process occurs between the potato farmer and the trucker-buyers or wholesaler, but in most cases the farmer has little bargaining

power because he/she has little information about market alternatives. Furthermore, the farmer may be obliged to sell the crop his output to the intermediary in order to repay loans received as cash advances and/or input sales on credit. The farmer repays the intermediary when the output is sold at harvest time.

In Cochbamba, potatoes are separated into five categories by the women and children; however, the quality and classification system is generally deficient. The classification system is based on size of potato. The largest two sizes are sold in the market, the next two sizes are kept for seed and home consumption, and the smallest potatoes are fed to animals. Farmers do not carefully select the potatoes kept for seed so that quality tends to deteriorate through time.

Farmers store potatoes for a short period in their homes to sell at a later date. There is no long-term storage of potatoes on farms or at commercial facilities because potatoes can be produced somewhere in the country throughout the growing season. The seasonal price movements do not appear to compensate for the costs of storage for a highly perishable crop such as potatoes.

Fruit and Vegetable Marketing

Bolivia has a large number of fruit and vegetable producers (estimated at about 150,000) located in the valleys near the large consumption centers. In the department of La Paz, the farmers sell to an estimated 440 truckers/buyers who in turn sell to an estimated 1,800 wholesalers located in the "Tambos" of the city. The wholesalers sell to an estimated 35,000 retailers in La Paz. It is interesting to note that about 90% of the retailers and wholesalers in these markets are women. In the integrated operations the husbands farm and the wives market the production.

Some truckers/buyers sell not only to retailers but also directly to consumers from their trucks parked on the streets. Farmers who live near La Paz may take their products directly to the markets and sell to wholesalers or even directly to consumers. Many of the wholesalers own farms where they produce fruits and vegetables to market in a vertically integrated manner through the Tambo.

The main problems of this sector are the large number of small scale specialized merchants who earn low incomes from the business. This small scale marketing is a form of disguised unemployment. For example, in 1988 Zeballos estimated that in La Paz each merchant sells about 92 metric tons of fruits and vegetables per year, or about 255 kilograms of products daily. La Paz has 37 inhabitants per retailer of fruits and vegetables compared to 180 in Peru and Argentina; it has 66 inhabitants per retailer of grains, tubers and general goods compared to 360 in Peru and Argentina.

A wide variety of weights and measures and lack of grades and standards limit trading in fruits and vegetables to local and regional markets. A national, integrated market in foods could develop in the future with a standardized system of grades, weights, measures, and market information.

Beef Marketing

Beef cattle production is concentrated in three main areas: Beni, Santa Cruz, and the highlands. These supply the four large consumption centers of La Paz, the tin mines of the Bolivian Mining Corporation (COMIBOL), Santa Cruz, and Cochabamba. The estimated 4,000 beef cattle producers in Beni and the 2,200 in Santa Cruz are well organized, large commercial producers. The average herd size in these two departments is relatively large, with small producers in these regions being those with less than 300 head of cattle.

Annual per capita consumption for the country averages about 16 Kg per person, with high levels in the Santa Cruz and Beni areas, and lower levels in the rest of the country. Beef prices are determined by supply and demand in a quasi-competitive market. To some extent, beef prices are administered prices because the Federaciones de Ganaderos del Beni and Santa Cruz meet with the association of beef air carriers (ADEPTA) and association of La Paz beef wholesalers (CORINCA) to agree on the selling price for carcass beef in La Paz. This price less the air transport and handling costs determines the live cattle prices in Beni and beef prices in the other markets. The agency charged with regulating the beef industry, CONALCAR, has an advisory board with six members from the public sector and two

from the private sector. Vertical integration is common in the commercial beef industry as many of the beef wholesalers are also beef cattle producers.

Beef cattle are sold to buyers at municipal slaughter plants in Beni, Santa Cruz and La Paz as well as in the smaller markets. Beef carcasses are shipped by air cargo from Beni to La Paz, and an estimated four metric tons are shipped by refrigerated trucks from Santa Cruz to La Paz every week. In Santa Cruz, the Federacion de Ganaderos handles the slaughter and wholesale marketing of the beef for a commission of 3 percent charged to its members.

At the present time, the market for beef offers little or no reward for quality product. No formal or uniform grading system exists for live animals or for dressed beef at any point in the market chain. Retailers typically do not differentiate among the various beef cuts.

Milk Marketing

Milk production is concentrated in the departments of Cochabamba, La Paz, and Santa Cruz, with small production in other areas of the country. The average size if the producers is small. Most producers deliver the milk to the local Planta Industrializadora de Leche (PIL), a government-owned milk bottling business that operates a total of 14 milk processing plants. Domestic production is adequate for meeting only 23% of consumption; 47% is supplied by imported powdered milk and 30% is consumed directly in rural areas. The PIL plants have a distribution network that guarantees a reasonable quality product for the consumer.

Milk prices essentially are set by supply and demand and are negotiated between the producer and processors. The major pricing problem is the strong competition to local producers from cheap commercial and donated imports of powdered milk that is reconstituted and sold on the domestic market. More attractive prices to local producers probably would alleviate problems of stagnating milk production and the low productivity per cow, thus reducing Bolivia's dependence on imported milk products.

Soybean Marketing

There are an estimated 2,150 soybean producers located in Santa Cruz and Tarija departments. Production had been expanding rapidly in recent years, a trend that is expected to continue in the future. Total soybean production for 1987 was estimated at 81,000 metric tons.

The main market outlet for soybean is the oil processing plants; producers sell to any of six soybean processing plants in the lowlands areas. Soybean prices are determined by bargaining between the processors and the Association Nacional de Productores de Oleaginosas (ANAPO). Domestic yields are very favorable with yields in Brazil and the U.S., so that domestic production is competitive on world market.

About 30% of domestic production is exported as soybeans or soybean meal through Brazilian ports. Processing capacity is more than adequate for current production. Since the local poultry and other livestock feeding operations consume an average of 25,000 metric tons of soybean meal annually, the balance of about 50,000 metric tons has to be exported.

Soybean oil is needed in the local market and is sold by wholesale agencies of the processors to the retail markets. The soybean industry appears to be operating satisfactorily and no significant assistance is currently needed.

Sugar Marketing

Sugar producers number an estimated 6,222 and are a heavily subsidized sector of the economy. Sugar cane production in 1987 was estimated at 167,000 metric tons. Of this, 35,000 metric tons were exported from Bolivia and 132,000 metric tons were consumed domestically.

The marketing system is well organized and structured with six sugar refineries that buy production from farmers. Installed processing capacity is about double the amount actually processed in 1987.

AGRIBUSINESS DEVELOPMENT

Prepared by:

Kelly M. Harrison

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Agribusinesses in Bolivia

The term agribusiness is used to describe those firms involved in the production and distribution of agricultural inputs and the processing and marketing of agricultural, livestock, forestry and fishery, products. Examples of agribusinesses are: producers and distributors of seeds, fertilizers, pesticides, and animal feeds; and assemblers, transporters, processors, manufacturers, retailers, and wholesalers of agricultural, livestock, forestry, and fishery products.

In Bolivia, most agribusinesses are privately owned. The current government's reactivation policy stresses creating a positive business environment, elimination of price controls and other direct market interventions, eliminating subsidies and other market distortions, re-orienting government programs toward a facilitative role, and selective divestiture or privatization of government-owned businesses.

Economic development is achieved only when large numbers of farmers and agribusinesses are able to achieve greater economic efficiency. Farmers and agribusinesses will not take the risks associated with the innovations to bring about improved efficiency unless reasonable profits are expected and unless the business climate is expected to be positive and reasonably stable.

USAID/Bolivia's Agriculture Sector Assessment (1988) concluded that improvements in marketing system efficiency and effectiveness will have a positive impact on farmers. The proposed Agricultural Marketing and Productivity Project focuses on:

- assessment of the effect of government policies on farmers and agribusinesses
- suggestions for policy changes
- assistance to farmers and agribusinesses in achieving greater efficiency through better market information, agribusiness management, and marketing education and training
- assistance in the identification and implementation of innovative business practices.

The Poverty Trap in Agriculture and Agribusiness

The recent Agriculture Sector Assessment by USAID/Bolivia indicates that the agricultural sector suffers significantly from a poverty trap. Those caught in the poverty trap do not produce enough, beyond immediate subsistence needs, to invest in the knowledge, technical inputs, and organizations needed to increase their productivity. Workers are unspecialized and unproductive. Food security is primary, and this concern frequently encourages large families which puts additional pressure on limited physical resources, sometimes causing them to deteriorate. Concern for subsistence limits innovative behavior that could increase productivity but that involves some uncertainty.

Increased productivity requires specialization, division of labor, innovation, and investment, which involves more round-about and complex organization of production and distribution. Coordination becomes increasingly critical to performance. Failure to develop marketing systems that provide effective coordination reinforces the poverty trap.

The production-distribution system for any food product consists of a series of coordinated transformations, including the production of farm inputs, farming, assembly, conditioning and processing, storage, transporting, wholesaling, and retailing. Related functions include credit, insurance, communications, and regulations. As the transition from a traditional, rural economy to a more scientifically-based agricultural and industrial economy progresses, a larger percentage of activities in the system takes place off the farms in the production of knowledge, technical inputs, processing and distribution. Also important to the transition from traditional agriculture are the distribution of consumer goods (including food) to rural areas and the transfer of labor to more productive activities.

Bolivian agribusinesses typically do not contribute actively to coordination of the system, They, as well as farmers, live in a world of uncertainty and limited resources. They tend to be passive, accepting the marketed surplus rather than identifying potential markets and promoting production to supply them.

Active coordinators identify potential demands, and to meet the demand, offer information and incentives to potential producers. They influence farm production decisions. They understand producers' problems and help solve them. They promote the availability of critical inputs and assure markets, reducing market uncertainty. They actively seek markets for products adapted to local production conditions. They avoid the myopic perception of traditional agribusinesses, who generally have a limited knowledge of the marketing system and efficient marketing practices. There are few active coordinators in the Bolivian food system. Those who are in a position to do so, i.e. input distributors, assemblers, wholesalers and processors, generally have insufficient financial or managerial resources to become active coordinators. A major objective of the proposed project is to undertake actions which will facilitate the evolution of active coordinators in the marketing system.

Importance of Agriculture and Agribusiness in the Economy

Agriculture and agribusiness dominate the Bolivian economy, making major contributions to the gross domestic product (GDP). Nearly 20% of GDP originates in agricultural production; agribusiness manufacturing contributes about 6%; agricultural, livestock, fishery and forestry commerce and transportation contribute at least 14%; financial and other services to the agricultural sector account for about 6%; and public services to agriculture and agribusiness represent about 6%.

In terms of employment, agriculture and agribusiness are even more important. Nearly half the population lives and works in rural areas; tens of thousands of people are employed in low-paying food marketing activities; agroindustries employ an estimated 25,000 workers.

Structure of Agroindustry

A recent census of industry indicated there are over 10,000 manufacturing or processing firms in Bolivia. Nearly 70 percent of those are users of raw materials from agriculture, livestock, fisheries, or forestry. Food, beverages, tobacco, textiles, clothing, leather, and wood are included.

In general, agroindustries fared better than other industries during the economic decline from 1978 to 1986. While average industrial output in 1986 had decreased to

60.3 percent of its 1978 level, the weighted average for agroindustries in 1986 was 76.85 percent of its 1978 level. Industry's share in the GDP diminished from 18.0 to 10.8 percent during this period, but some agroindustries actually increased their output (distilling, wine-making, abattoirs, animal feeds, and edible oils). Some of the worst-hit agroindustries were sawmills, sugar refineries, cocoa products, and spinning/textiles. Respective 1986 production levels for these were 33.6 percent, 43.6 percent, 53.2 percent and 58.4 percent of the 1978 levels.

Food and beverages led the economic recovery for all industries in 1987-88. At the end of the second quarter, meat processing had reached 129 percent of the 1978 level; milk processing 101 percent; fruit and vegetable processing 137.5 percent; oils and fats processing 130.5 percent. While animal feeds dropped to 101 percent of 1978 levels in the second quarter of 1988, the industry had operated at 127 to 157 percent of their 1978 level during the six quarters from 1987 to mid 1988.

Gross value added as a percentage of gross production is highest for the tobacco, followed by beverage, sugar, and wood industries. Gross benefits are highest for sugar, wood, beverage, and milling, while employment creation is highest for the dairy and beverage industries.

A recent survey of 54 Bolivian manufacturing plants (Aurrecochea, 1987), indicates that,

- In general, the plants are fairly new (average age = 8.89 years) and use current technology, with limited automated processes.
- Entrepreneurs are reluctant to install automated technologies due to the lack of personnel specialized in their maintenance.
- Some spinning mills are of particularly advanced design.
- Plant efficiency was average.
- The mean investment was Bs. 35,310 per employee.
- The annual product value was Bs. 0.98 for every US$ 1.00 invested.

Perhaps the most striking feature of Bolivian industry is the low use of installed capacity, which in the cited survey averaged 32 percent. In particular, large plants, many government owned, were working far below their capacity.

A recent study by the Ministry of Industry, Commerce, and Tourism (MICT) indicated that industrialists consider the lack of credit, especially working capital, to be their major bottleneck to expanding output. The study concluded that current industry credit demand is about U.S. $218 million. Sixty percent of that demand is for working capital to purchase raw material and supplies needed to re-activate existing plant capacity. On the other hand, the study indicated that the supply of industrial credit is only about U.S. $169 million, with only 20 percent of that being working capital.

The second bottleneck for Bolivian industries, frequently mentioned in the MICT survey, was management capacity. Bolivian businessmen recognize they have serious limitations in terms of management capacity in their organizations. Observers have noted that agroindustry firms are weak in terms of innovative applications of technology and in marketing management. partly because of past government intervention and related uncertainties. A 1984 USAID study (Ampuero) concluded:

> With the exception of the oil, balanced feed, dairy, coffee, tea and textile industries, it can be said that processing industries in Bolivia have not played a role in promoting agricultural development (i.e. have not been active coordinators). The lack or deficiency of processing activities is especially evident in relation to meats, fruits, vegetables and tubers. Government's participation in the establishment of agriculture processing industries has, in general, been characterized by inadequate equipment and site selection, over investment, and inefficient administration. The government has generally failed to promote and support private investment into processing activities.

On the contrary, past government policy has tended toward direct ownership of competitive, poorly managed processing businesses.

The Marketing System

According to the 1988 Agriculture Sector Assessment, there are seven different intermediaries in the Bolivian food marketing system; producers, assemblers, truckers, wholesalers, distributors, retailers, and consumers. Most are very small scale family businesses, characterized as being high cost and high risk operations. Intermediaries tend to specialize in relatively few products with low volumes. Costs are high partially because of the need for personal inspection of each small lot. Furthermore, the small scale and scattered nature of agricultural production dictates high transaction costs. Trading is a risky business due to price volatility and lack of objective price information. Losses in storage and transportation can be substantial.

Farmers and intermediaries often exhibit opportunistic behavior, i.e. behavior that brings immediate reward to the individual and imposes great costs on the system, leaving everyone else less well off in the long run.

Bolivian wholesalers are specialized by product. They are typically persons with little or no formal training in management and finance. Marketing costs could be reduced considerably if wholesalers carried a broader line of products. Bolivia has seen neither the innovation of full scale broad-line food wholesaling nor the innovation of close coordination between wholesalers and retailers.

Food wholesaling and retailing costs have been reduced considerably in many countries through close supply coordination between large-scale retailers (sometimes self-service supermarkets) and broad-line wholesalers. Such wholesalers have lower costs because overhead and transaction costs are lower per unit of merchandise. The broad-line wholesaler can supply most of the needs of a retailer through larger scale purchases, telephone orders and single periodic deliveries of all or most of the retailer's product needs.

In some cases, the innovation of closely coordinated supply arrangements is a result of actions by a single owner of several stores who decides to open a warehouse to supply his stores (**corporate chain**), In other cases, existing retailers decide to reduce their supply costs by organizing a cooperative warehouse to purchase and deliver supplies to each store (**retailer-owned chain**). The other type of chain store arrangement is the result of a wholesaler seeing the competitive opportunity to convince a group of independent retailers to permit him to be their primary supplier (**voluntary chain**). These integrated wholesaler/retailer organizations (chain organizations) are excellent candidates for active coordination with transporters, processors, assemblers, and even producers.

Current Business Climate

The New Economic Program (NEP) of 1985 was designed to restrain hyperinflation and restore market forces. It included: devaluation of the peso and return to market determination of the exchange rate, elimination of most price controls, a freeze on public sector salaries, provision for free negotiation of private sector wages, abolishment of bank interest-rate controls, and decentralization of

major state enterprises. The Paz government's stabilization program successfully weathered the resultant political storm. The adoption of an International Monetary Fund (IMF) Structural Adjustment Program helped to achieve a 2.5 percent growth rate in 1987 after six straight years of declining GDP.

The accomplishments of the Paz administration are especially remarkable when viewed in light of the immediate crisis they resolved. In this climate, one becomes optimistic about Bolivia's economic future. If the policies continue to be successful, businessmen will become increasingly willing to make new investments as economic growth stimulates new demand.

Agribusiness Development in the Proposed Project

Over the years USAID/Bolivia has had several agribusiness or agroindustry projects. Their focus has been primarily on providing credit. It is proposed that the Agricultural Marketing and Productivity Project take a very different approach to agribusiness development. The project will deal simultaneously with policy issues that may be hindering the development of the agricultural sector, with provision of information to farmers and agribusinesses, with marketing training and education, with both equity and credit financing, and with identification and promotion of marketing system infrastructure.

The proposed project will work with private agribusinesses, directly or through departmental institutions, in the identification and implementation of innovative marketing concepts and in the start-up of new agribusinesses. The project will provide two types of inputs:

- technical assistance to departmental institutions e.g. corporaciones de desarrollo, camaras de agricultura, or other regional institutions as well as to agribusinesses

- identification of candidates for capital injection (facilitation of the flow of financial resources into those ventures where project personnel determine there is a reasonable chance of promoting active coordination, greater efficiency, and/or enhanced output in agribusinesses).

One possible scenario for technical assistance is that two agribusiness/marketing advisors will be provided for 4 years each, along with 24 person months of short-term agribusiness/marketing advisors. In addition, the project will provide for one

local hire coordinator for each department and for 84 person months of local consultants.

Each long-term advisor will be assigned a geographical area. The first responsibility will be to help the team leader select a primary institutional linkage in each of the departments - an institution with interest and capability to become an important departmental catalyst for private sector improvements in marketing.

Each long-term advisors will be responsible for a needs assessment for each of the primary departmental institutions. The assessment will include analysis of the institution's existing mechanisms for assisting private businesses in the transfer of appropriate technology and management practices and an analysis of the training needs for representatives of the institution.

Each long-term advisor will formulate a development strategy for each of the institutions in his geographic area, including:

- training plans developed in collaboration with the training advisor
- a plan for assisting the departmental institutions in the development of transfer of appropriate marketing technology and management innovations
- a plan for involving specialized short term technical advisors with the departmental institution and through them with private businesses
- a plan for on-the-job training of key individuals.

Local hire and foreign advisors would help the departmental institutions and/or private businesses in the preparation of business plans and in arranging financing.

Among the departmental institutions identified for collaboration will be at least two financial institutions with the capability and willingness to provide equity investment and/or risk capital financing to agribusinesses which may not be able to obtain financing from conventional banking institutions. The project will assist in preparation of business plans and will assist departmental institutions in evaluation of investment proposals. Once a departmental financial institution has agreed to provide the financing requested by a particular agribusiness, an application can be made for a credit guarantee from the loan guarantee fund

PROJECT-RELATED TRAINING AND AGRICULTURAL EDUCATION

Prepared by:

Donald Swanson

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PROJECT-RELATED TRAINING

Project-related training (PRT) is directed training to assist in implementing a development project. It is sometimes referred to as "training for development" but this concept has become diluted in recent years as an umbrella for participant training. PRT refers specifically to those training activities that provide new and reinforced skills for implementing specific development project activities.

There are two outputs from project-related training:

- successful project implementation
- enhancing the human resources base in Bolivia for general economic development.

Training Needs Assessment

There are some highly talented Bolivians who will implement this project. It has been noted in many studies the high quality of top-level technicians working in the development field. Unfortunately, the second-level professionals normally do not have the specific skills for accomplishing project tasks.

The Agriculture Marketing/Productivity Project requires PRT to assure that project activities are completed according to the project plans. PRT is directed to identified and clearly stated training needs. The process normally follows a logical sequence, as follows:

- specification of project activities to be accomplished in the project
- assessment of skills required to perform project activities
- assessment of existing skills of personnel to accomplish the project
- assessment of the gap between existing skills and required skills
- synthesis of skills-training required
- elaboration of PRT to prepare personnel.

The project will have qualified staff and personnel to carry out project activities. But, as is always the case, there are specific skills that the staff do not have and that are needed to perform project activities. A few examples might be: evaluation, market studies preparation, or conducting feasibility studies.

Project-Related Training Options

The result of the above assessment can be placed in a matrix against the training options available. This is based on well-tested training strategies that have been proven to be effective in the past. This includes an assessment of training that has had the most impact in Bolivia. The training options need to be adopted to fit with the general climate of the project.

The timing of training options is based on when training is required:

- **Pre-Service Training** - skills training for project personnel before project begins. This refers to preparation of personnel with long range skills before they begin work. This will normally include masters-level training, observation visits, and workshops outside the country.

- **In-Service Training** - skills training for project personnel during project implementation. This includes staff training during project implementation, client/target audience training, observation visits by clients/target groups, and internships.

The timing of training options are then juxtaposed against the variety of training possibilities available. Training possibilities to be used are:

- **Short-term In-Country Training** - This training is conducted in Bolivia for project participants and clients. This includes workshops, seminars, policy dialogue, technical assistance, and extension. Training normally conducted by long-term advisors, short-term consultants, and contracted trainers and training institutions.

- **Short-Term Out-of-Country Training** - Training conducted out of Bolivia. This includes workshops, seminars, and individualized programming in established training programs.

- **Observation Visits/On-the-Job Training** - Participant visits to the United States or third countries. This includes individualized programming training with businesses or marketing ventures or internships with foreign companies.

- **Long-Term Training in Bolivia** - Participant training in Bolivian institutions. Includes providing scholarships for masters-level study in Bolivia.

- **Long-Term Training in United States or Third Country** - Participant training outside Bolivia. Includes masters-level and PH.D. scholarships in United States or elsewhere in Latin America.

Components of Project-related Training Program

The following are the proposed five components of PRT programs for the Agricultural Marketing and Productivity Project in Bolivia. These recommendations are based on information to date. A general description is made of the training program, followed by some logistical comments, and the participants to be trained. An estimate of the number of participants trained can include duplication with a participant attending several training elements. Number of participant weeks provides a standardized approach to determining total training output as some training programs are less than one week while others are longer. Training costs could be estimated based on the numbers presented in each program.

TRAINING FOR POLICY MONITORING AND ECONOMIC ANALYSIS

Training is required to set-up and implement the Policy Monitoring and Economic Analysis (PMEA) unit. This unit is a relatively new concept and requires careful attention. The following are planned PRT:

Pre-Service Policy Analysis Training

- High level policy analysis training of key staff. A long-term advisor would conduct training among the different public and private sector participants. Training includes intensive skills-training in policy analysis and then directed training to implement the project.

- 20 people life of project for 16 weeks.
  20 Trained 320 Participant Weeks

Pre-Service Observation Visits to Similar Projects

- Observation visits by key policy staff members to similar projects in Latin America. Would visit and participate with colleagues in other marketing projects as well as agricultural policy advisory units. Possible sites are Brazil, Ecuador, Colombia, Mexico, and Venezuela.

- 10 people for 4 weeks.
  10 Trained 40 Participant Weeks

Masters or PH.D. Degrees for Policy Studies

- Long-term training for three policy advisors in the United States, two at the Masters level and one at the Ph.D. level. Staff would get masters in sectoral policy analysis from any number of excellent universities in US. If English is a problem, could send to ESAN in

Peru, Gertulio Vargas in Brazil, or other universities in Argentina, Mexico, Colombia, Chile, or Venezuela.

- Two people for three years, and one person for four years.
  Three Trained 400 Participant Weeks

In-Service Policy Analysis Workshops

- Policy analysis workshops conducted by long-term advisors in Bolivia on an as-needed basis. Workshops for both public and private sector employees. Potential training areas are policy analysis; cost-benefit analysis; macro-economic policy analysis; and study of specific agricultural reform policy issues.

- 15 participants per week workshop twice a year.
  210 Trained 210 Participant Weeks

Policy Dialogue Seminars

- High-level policy dialogues with public and private sector leaders in order to get national consensus on new agricultural policy reforms. Seminars will be led by international and respected leaders and institutions.

- Six policy dialogues during first two project years. Thirty participants average per two day seminar. Estimated cost is $10,000 per seminar, which includes seminar agenda setting with proposed participants, preparation of materials, and preparation of a policy dialogue think piece on seminar subject.

  180 Trained 51 Participant Weeks

Policy Analysis Articles

- The PMEA Unit will commission the writing of 35 journal-level policy analysis articles on different themes organized by the unit. These articles will deal with such issues as marketing credit, pricing and trade policies, distribution of benefits and income. wholesale market centers, import substitution policies, and Bolivian marketplace strategies. These articles will be used in the agricultural policy journal, training programs, policy dialogues, and other places within the project.

- 35 articles written.

Agricultural Policy Journal

- Project will produce agricultural policy journals in order to disseminate information, ideas, new proposals for changes in laws, and think pieces that bring some of new information together in a

thoughtful document. Journals will consist of commissioned articles, reprint articles, project staff articles, book reviews, and agricultural policy documents. The journal will be distributed to key leaders in the public and private sector who have influence in policy decision-making. It will be oriented to the opinion leaders and the key policy-makers, not to technicians or academicians.

- 18 journal issues expected

TRAINING FOR THE AGRICULTURAL INFORMATION SYSTEM

The training for a agricultural information system is complicated because the system has five different sub-components and deals with different public and private entities. PRT must prepare staff and institutions to carry out very specific tasks. The final selection of the most important components of the information system will determine the extent of PRT. The PRT activities could include the following, depending on the extent of the project's involvement in the complete information system:

Masters in Statistics

- Long-term training in the United States of a statistician who would set-up and implement the agricultural benchmark data. Any number of good US institutions can train in this field.. If the candidate's English is not good, could explore possibilities at several Latin American institutions.

- One person for two years.
  One Trained 80 Participant Weeks

In-Service Market News Workshops

- In-service training in Bolivia for project staff to carry out the market news and price information system. Training to be provided by the long-term technical advisor for a number of selected staff. Could include those staff members from the private sector who are already collecting market news. These are on-going workshops held nationally and also at department levels. Training includes data collection, analysis,.dissemination.

- 14 one week workshops during life of the project, two times a year
  Average 15 participants per seminar
  15 Trained 210 Participant Weeks

Short-term US Benchmark Data Training

- Short-term training in the United States and Latin America for project staff on collecting and analyzing benchmark data. Participants would visit projects and programs as well as attend a workshop with a short-term advisor.

- 8 participants for 4 weeks
  8 Trained 32 Participant Weeks

Short-term Current Supply Training

- Short-term training in the United States and Latin America for assessing current supply estimates. Participants would visit existing projects and programs as well as have workshop with short-term advisor or contractor.

- 16 participants for 4 weeks
  16 Trained 64 Participant Weeks

Short-term Market News Training

- Short-term training in the United States or Latin America (Colombia, Ecuador, Mexico) of national staff on collecting and implementing a market news program. Participants would visit and observe existing projects and programs as well as attend a workshop directed by a short-term advisor or contractor.

- 10 participants for 4 weeks
  10 Trained 40 Participant Weeks

In-Service Benchmark Data Training

- Training in Bolivia of staff from various organizations in set-up, collection, and analysis of benchmark data. Practical workshops run by long-term advisors designed to implement the benchmark data project component.

- Four one-week workshops, average of 30 participants per workshop
  120 Trained 120 Participant Weeks

In-Service Current Supply Training

- Training in Bolivia of staff from various organizations in collection and dissemination of current supply agricultural information. Workshops run by long-term advisors to the project.

- 12 one week workshops during life of project
  Average of 15 participants per workshop
  180 Trained 180 Participant Weeks

In-Service Analytical Outlook Training

- Training in Bolivia of staff from various organizations in collection and analysis of analytical outlook information. Practical workshops run by long-term advisor to the project.

- 10 one-week workshops during life of project
  Average of 15 participants per workshop
  150 Trained 150 Participant Weeks

Mass Media and Agricultural Information Training

- Workshops in Bolivia for different clients on using mass media for dissemination of agricultural information through radio, television, and print media. Participants include those who will collaborate in the project by disseminating the agricultural information through the mass media. Short-term specialist will run the workshops.

- Five workshops during life of project for average 30 participants per workshop of one week duration.
  150 Trained 150 Participant Weeks

ACTIVITY IDENTIFICATION AND IMPLEMENTATION TRAINING

The project will identify marketing interventions based on analysis and studies. Specific interventions will be recommended and the project will attempt to put them into action. PRT is required to get staff ready to implement studies as well as implement pilot projects. PRT activities planned are:

Pre-Service Project Identification/Implementation Training

- Pre-service training of project staff in principal aspects of project identification and implementation. Includes workshops in feasibility studies, case studies preparation, commodity analysis, infrastructure analysis, and market analysis. Training to be done by long-term advisors and short-term consultants.

- 20 participants in 20 different workshops of one week duration
  Expect to train 60-80 different people during project period.
  60 Trained 400 Participant Weeks

Project Development Training

- In-service training by project staff, previously trained, of clients from the associations, agricultural chambers, departmental development corporations, private agricultural organizations, and

public sector agricultural institutions, in the areas of conducting feasibility studies, case studies preparation, commodity analysis, infrastructure analysis, and market analysis. Training to assist clients work on their own projects and assess their own project development needs. Specific workshops designed on as-needed basis.

- Four workshops per year in each of six departments for six years
  144 workshops with average of 15 participants for three day period. Workshops held in capital of department.
  2,160 Trained 926 Participant Weeks

Entrepreneurial Marketing Training

- Entrepreneurial marketing training for high-level enterprise executives in the six departments. Training to provide increased knowledge, attitudes, and practices in productivity, competitiveness, marketing, and quality control. Training to be conducted by training institution, contractor, short-term consultants, and the long-term advisors. Training similar to that provided by IDEA in Bolivia and INCAE in Central America. It is expected that participants will pay about 50% of total training cost. Also some participants will repeat different workshops as there will be different content themes.

- 24 workshops per year, 4 per department for five years
  120 workshops with average of 20 participants
  2,400 Trained 1,029 Participant Weeks

Observation Visits to Marketing Projects

- Project will enable business managers, association officers, public sector officials, technicians from departmental development corporations, wholesalers, retailers, and others to make observation visits to successful and well-organized marketing ventures in the United States and other Latin American countries. This will include visits to one or more marketing ventures. It will also include attendance at conventions, trade fairs, or contact with buyers or brokers outside Bolivia. Could include visits to food store chains.

  Most training will be individualized programming based on specific objectives stated by the participants. Participants will most likely pay their own transportation as their contribution. Project will provide per diem, fees, and other miscellaneous expenses.

- Twenty-five observation visits per year over six years of project, starting in the second year of project.
  Total of 150 observation visits, average time three weeks.
  150 Trained 450 Participant Weeks

Marketing Development Technical Assistance Program

- The project will provide technical assistance through individual consultants, Bolivian advisory organizations, and Bolivian non-governmental organizations (NGOs) to target audience/client private agriculture organizations and enterprises who need assistance in developing or implementing a marketing project. Interested organizations will submit a proposal to the Department Coordinating Unit for assistance, describing in detail the kind and magnitude of assistance required. Technical assistance may include venture identification, organization development, a feasibility study, market plan, legal assistance, staff training, or direct technical assistance to solve a specific problem.

  A tripartite contract agreement would be signed by the Coordination Unit, consultant, and the client for agreed upon scope of work, services to be performed, end products required, and payments for services. Average technical assistance intervention will cost $5,000.

- Expectation is 42 technical assistance interventions per year(7 per department), for five project years.
  Total of 210 technical assistance interventions expected.

Marketing Case Studies

- Project will fund the preparation of marketing case studies. These case studies will become simple products after the case study training program. Products will be used in the training programs, university marketing courses, and in workshops. They will also be made available for the client/target group agricultural associations and agribusiness enterprises.

- Forty case studies produced. Expect to contract-out case studies and supervised by long-term advisors or short-term consultants.

HUMAN RESOURCE DEVELOPMENT: PROJECT-RELATED TRAINING

Human resource development component supports project components not discussed above but also is a catch-all for necessary PRT. Training planned are:

Pre-Service Training of Trainers

- Pre-service training of core training coordinators (training of trainers) to carry out the PRT. Workshops will be conducted by long-term advisors and short-term consultants in training design, needs assessment, and evaluation in order to set-up the other training programs.

- Four one week workshops during first project year.
  18 Trained 72 Participant Weeks

In-Service Feasibility Study Training

- Feasibility study and project development training workshops (training of trainers) who in turn will work with department institutions. Workshops conducted by long-term advisors, short-term consultants, or contractor.

- Two workshops per year for total of 14 workshops.
  140 Trained 140 Participant Weeks

Marketing Internship Program

- Project will sponsor a marketing internship program in which qualified participants spend two or three months in a well-organized marketing enterprise outside Bolivia (in the United States or a Latin American country). This program is geared especially for young professionals in public institutions, private agricultural organizations, university students, enterprise personnel, or possibly university professors. Participants would be paid a stipend and travel expenses. Project would identify qualified enterprises, marketing projects, and would place participants in those enterprises.

- Placement of 20 participants during five years of project.
  100 Trained 1,200 Participant Weeks

Human Resource Development: Agricultural Development

The project does not contemplate providing institution-building for agricultural education institutions. However, there are certain training activities that can have solid outputs that support the project over the long run. Some investment in one or two universities will assist in turning out new university graduates that will having a marketing experience. We could expect the universities to strengthen their agriculture curriculums with an integration of marketing course content. Trained professors can also form a cadre of potential consultants, trainers, and project development specialists. The training activities planned are:

Masters for University Professors in Marketing

- Four long-term masters-level training of young university professors in Marketing who upon return would strengthen their universities with re-vitalized marketing programs.

- 4 Trained 320 Participant Weeks

In-Service University Professor Marketing Training

- In-service training to university professors from two or three agronomy departments in marketing. Training will focus on marketing content themes and then curriculum development. Final output will be professors restructuring and integrating marketing into regular agricultural development courses at the respective universities.

- 30 participants in five different two-week workshops over life of project
  30 Trained 300 Participant Weeks

In-Service University Professor Case Study Preparation

- Case study preparation workshops for university professors. Training in how to prepare marketing case studies. After workshop professors can teach case studies in regular courses and thereby inculcate case study approach into classroom and perhaps generate some case studies by the students. Secondly, professors will be able to prepare case studies for the project. It is estimated that project could obtain 50 cases studies from professors.

- 30 participants in five different two-week workshops over life of the project
  30 Trained 300 Participant Weeks

SUMMARY OF PROJECT-RELATED TRAINING

Training Area	Number of Participants Trained	Total Number of Participant Weeks
Policy Monitoring and Economic Analysis		
Pre-service Policy Analysis	20	320
Pre-service Observation Visits	10	40
Masters and Ph.D. in Policy Studies	3	400
In-Service Policy Analysis Workshop	210	210
Policy Dialogue Seminars	180	51
Policy Analysis Articles	NA	NA
Agricultural Policy Journal	NA	NA
Sub-Total	422	1021
Agricultural Information System		
Masters in Statistics	1	80
In-service Market News Workshop	15	210
Short-term U.S. Benchmark Data Training	8	32
Short-term U.S. Current Supply Training	16	64
Short-term U.S. Market News Training	10	40
In-Service Benchmark Data Training	120	120
In-service Current Supply Training	180	180
In-service Analytical Outlook Training	150	150
Mass Media and Agricultural Information	150	150
Sub-Total	650	1026
Activity Identification and Implementation		
Pre-service Project Identification Implementation Training	60	400
Project Development Training	2160	926
Entrepreneurial Marketing	2400	1029
Observation Visits Commercialization Training	150	450
Marketing Development Technical Assistance Program	NA	NA
Marketing Case Studies	NA	NA
Sub-Total	4760	2805
Human Resource Development: Project-Related Training		
Pre-service Training of Trainers	18	72
In-service Feasibility Study Training	140	140
Marketing Internship Program	100	1200
Sub-Total	258	1412
Human Resource Development: Agriculture Education		
University Professors	4	320
In-service University MarketingTraining	30	300
In-service University Case Study Preparation	30	300
Sub-Total	64	920
Training Totals	6179	7229

AGRICULTURAL EDUCATION

The team preparing this report was requested to review the agricultural education situation in Bolivia to ascertain possibilities for including agriculture education in the project. There has been considerable debate and discussion regarding the relevance of agriculture education to this project or the idea that agriculture education is a separate project.

Agriculture education is important for the long-term agricultural development of Bolivia. Arguments in favor of agricultural education state that in the long run Bolivia must begin to turn out good agronomists and agricultural economists. This would require investing heavily in training university professors, reforming curriculums, investing in didactic materials, and investing in equipment and supplies. The U.S. university linkage programs of the past twenty years demonstrate that it takes considerable investment and a long-term commitment to turn around agronomy departments.

A second option is to look for ways to support the universities in areas related directly to the project as well as for ways universities might support the project. With some minimal investments in the universities, it is possible to make some revisions and shifts that could assist the universities and also the project.

The author's conclusion is that the project should use the second option. First, long-term agriculture education appears to be far away from the focus of this marketing/productivity project. It would take a major investment of time and money to bring those universities up to a level of competence so as to train future students. Secondly, there is sufficient evidence that with some investments the universities can assist the project.

University Assessment

There are seven universities in Bolivia that train agronomists. The leading universities with adequate agronomy programs that are mentioned frequently are the universities in Santa Cruz, Cochabamba, and La Paz, and to a lesser degree the

universities in Potosi and Oruro. Catholic University has masters programs in agricultural economics, agribusiness, and business administration.

Enrollments

Recent data on enrollments, desertions, and graduates in the agronomy departments are not complete. According to the recent Hernan Zevallos study "Agricultura y Desarrollo Economico", data from the Executive Committee of Bolivian University shows that there were 549 graduates in agronomy in 1986. This clearly is not the case so the data may reflect the last five years or even ten years. A better estimate is that all universities are graduating about 75-100 new graduates per year.

The team preparing this report visited the G. Rene Moreno University in Santa Cruz and the San Simon Mayor University in Cochabamba. In both cases the universities were getting about 30 graduates per year in the sixth year from initial enrollments of about 1,000 students. According to university officials, about 50% of the students never complete the first year; 50% more drop out before the end of the second year. In both universities about 100 students are left after the end of the third year; almost all of these will complete their studies and graduate.

Curriculums

Both universities visited had a full six-year program. Basic agricultural courses were offered in the first three years, with specialization beginning in the fourth year. The education is highly theoretical as there are only few opportunities for practical hands-on training.

Both universities offer a marketing elective course in the sixth year. Neither university has implemented this course yet because of lack of student enrollment.

University deans admitted that there was little to no emphasis on marketing in any of the other agronomy courses. There are no marketing modules, nor textbooks, nor any other didactic materials.

Professors

Both universities have roughly 50-60 professors in their agronomy departments. Almost all work part-time at the university and hold full-time positions in the public and private sector.

The university professors who could teach agricultural marketing had only minimal formal training in marketing. However, professors in Santa Cruz and Cochabamba held positions outside the university that afforded them some experience in dealing with agricultural marketing.

Interest in Marketing

Both universities expressed adequate to good interest in introducing marketing into their curriculums. They stated that marketing was important and was being overlooked. Both were interested in introducing marketing modules into their regular agricultural production, agribusiness, and project planning courses starting in the fourth year.

Project Ideas and Strategy

It is possible to introduce marketing learning modules into regular agronomy department programs. Marketing concepts could be inserted into the regular agronomy curriculum. The project probably will not attempt to establish new marketing courses or set-up a new marketing unit or institute within the university.

The project can provide in-service training to about 30 university professors in marketing and can provide back-up materials to support the marketing modules. Little by little the universities can shift to a more market-oriented approach in their training.

The project strategy envisioned would include the following:

- Train university professors in Masters in Agricultural Marketing in the United States. They would return to begin reforming the university curriculums. They would also provide in-service training to other university professors. Some might be viable candidates to work in project implementation at the department level or to serve as

consultants to do case studies, feasibility studies, and other project-related activities.

- Provide in-service training to university professors in marketing, case studies preparation, and feasibility studies. This cadre of professors could inculcate the marketing principles in their classrooms. Also, they could write case studies, feasibility studies, and develop marketing and agribusiness projects.

- Develop 30-40 case studies on marketing to be used as training tools in the universities as well as other training programs in the project.

- As universities reform curriculum, eventually there would be over a period of time about 100-200 agronomy graduates with training in marketing.

INSTITUTIONAL ANALYSIS

Prepared by:

Donald Swanson

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OVERVIEW

The Agriculture Marketing and Productivity Project is a necessarily complex approach to helping alleviate the marketing bottlenecks in the Bolivian agricultural system. The team preparing this report concludes that the USAID/Bolivia Agricultural Sector Assessment is correct that market channels are the major bottleneck for a more efficient agricultural system. Our review also coincides with the USAID/Bolivia Mission's agricultural strategy paper.

Potential institutional arrangements for the new project were reviewed. Definite conclusions for housing this project were not possible because Bolivian institutions are complex, diverse, contradictory, and weak. Refinement of our basic analysis requires further careful analysis as well as policy dialogue among Bolivian private and public sector institutions regarding agricultural marketing.

The team preparing this report agrees with the Agriculture Sector Assessment that public sector institutions unfortunately have paid only pro forma attention to promoting agricultural development. There are well-meaning professionals in the Government of Bolivia (GOB), but the central institutions are not providing dynamic leadership in the promotion of agriculture.

Therefore the project will not provide direct technical assistance to the central government nor work to build central GOB institutions. Many international donor agencies have concluded that it is better to implement projects using other means than GOB institutions. In recent years there has been a significant shift away from implementing projects through the public sector and toward supporting the private sector. This is demonstrated by two specific shifts:

- support of institutions at the more direct implementation level
- support of private sector agricultural institutions.

In decentralized/regional projects, institution-building takes place at the second level, especially at the department level, rather than at the central public sector level. The project implementation unit in those projects become less important for institution-building. The emphasis is on project activities that will strengthen the second-level organizations.

This new project will place emphasis on institution-building at the region level. At the same, though, there will be some institution-building at the central public sector level.

PUBLIC SECTOR INSTITUTIONS

The principal public sector institutions involved in agriculture development are:

- the Ministry of Rural Affairs and Agriculture (MACA)
- the Ministry of Industry, Commerce, and Tourism (MICT)
- the Central Bank
- the Ministry of Planning and Coordination (MPC)
- the Departmental Development Corporations (DDCs).

Their record in supporting agricultural development is uneven. According to the Agricultural Sector Assessment, there are serious duplications, contradictions in both policy planning and implementation, and serious gaps in providing a sustained agricultural development program.

Nevertheless, the public sector institutions are important for setting agricultural policy and undertaking economic analysis. Several people interviewed observed that MICT makes about 60% of agricultural marketing policies, MACA about 25%.

The Ministry of Rural Affairs and Agriculture (MACA) was viewed critically in the Agriculture Sector Assessment for its involvement in agricultural development. Page after page presents a litany of frustrations and constraints in implementing projects with the GOB. (See pp. 118-134.) Interviews with public and private sector organization leaders by the team preparing this report verified this assessment. Almost all leaders stated that MACA does not have the human resources or the institutional strength to implement projects; most placed the blame on low MACA salaries and desertion of good technicians to other institutions. The Agriculture Sector Assessment found six major reasons for MACA's deficiency. Others maintain that there is a general apathy and dismay within the institution.

A separate technical note assesses the re-structuring of MACA with its MICRO unit and provides a more in-depth view of how MACA could be involved in this project.

The Bolivian Institute of Agricultural Technology (IBTA) is affiliated with MACA and is in a similar situation with low salaries and minimal funds. The Agriculture Sector Assessment gives it much more credit for good research and experimentation in its 15 research stations and eight nurseries, considering its 150 researchers adequate. People interviewed insist that IBTA could do much more if there were more resources and a higher level of attention to research within MACA. IBTA could play a role in the productivity issues under this project.

The Ministry of Industry, Commerce, and Tourism (MICT) supports agribusinesses in Bolivia to some extent. Recently it has been active in export promotion. Its Training Center in International Commerce and Export Promotion (CACIPEX) has been noted for good professional training. It has received assistance from the International Commerce Center, UNCTAD/Gatt.

The Bolivian Agricultural Bank (BAB) provides short-term credit to about 18,000 small-scale farmers. Loans do not exceed Bs 50,000 for individuals and Bs 1.0 million for cooperatives. To some degree it serves as a development bank for small-scale farmers with its 50 branch offices in the country. Several reports reviewed stressed its serious problems in recuperating loans, and the team preparing this report found it to be weak. The background paper on rural financial markets describes possible BAB involvement in the project.

The Ministry of Planning and Coordination (MPC) has a fairly good reputation for development planning. The Ministry has housed several programs by international donors. Its Coordination Unit houses two USAID/Bolivia projects, the Market Town project and the Private Agricultural Organization (PAO) project. Its Economic Policy Analysis Unit (Unidad de Analysis de Politicas Economicas - UDAPE) provides macro-economic analysis and is viewed as very creditable.

The Department Development Corporations (DDCs) are parastatal institutions at the department level under the Ministry of Finance. They are very powerful development institutions concerned with large-scale projects for roads, irrigation, production, and infrastructure projects. The team preparing this report visited four of the DDCs.

Bolivia has many joint commissions that bring together several ministries and other public sector agencies to study and implement projects. **The Information and Decision-Making System Commission** (SITOD) was formed in September 1988 under the Cartagena Pact (JUNCA). The Commission includes MACA, the Presidency, MICT, the Bolivian Central Bank, the National Nutrition Institute, and UDAPE. It may be a viable option for housing the economic and policy analysis unit as well as the agricultural information service.

PRIVATE SECTOR INSTITUTIONS

The Private Agricultural Organization (PAO) Project funded by USAID/Bolivia has identified about 600 agricultural organizations that function effectively in Bolivia's nine administrative departments. This number includes agricultural cooperatives, private agricultural associations, and agricultural chambers.

In addition, Bolivia has many excellent national non-governmental organizations (NGOs) and several international Private Voluntary Organizations (PVOs) that provide agricultural services and implement development projects; several of these organizations are involved in agricultural marketing.

The team preparing this report visited several private agricultural institutions in the departments of Santa Cruz, Chuquisaca, Cochabamba, and Tarija. Analysis of those institutions is found in later sections of this paper, including a more full treatment of the leading agricultural institutions in the departs of Cochabamba and Tarija. This information provides the background some of the recommendations for institutional implementation of the Agriculture Marketing and Productivity Project.

There are 1050 **agricultural cooperatives** in the country that are registered with the National Cooperative Institute according to the April 1988 Ronco report, "Levantamiento Institutional." These cooperatives perform production and marketing services for their members and are the first contact with the small-scale farmers. According to the PAO assessment, only about 20 percent of them are effective.

There are an estimated 50-55 commodity-specific **agricultural associations** at either the national or departmental level. Most are small and not well-organized, but

about 20-25 are fairly strong. These associations provide both production and marketing services to their members. They are especially important for this project when specific interventions are devised in the specific commodity.

In about 50 of the 119 provinces in the nine departments, there are province-level agricultural associations of farmers. The Agricultural Chamber in Chuquisaca Department reported that there were 17 agricultural associations at the province level in that department. Each association provides general production and marketing services for all affiliated farmers, regardless of commodity. The Agriculture Sector Assessment points out that most of these associations are weak and only provide minimal services.

The **regional agricultural chambers** are made of individual farmer members, private agricultural producer organizations, agricultural cooperatives, and other private agribusiness entities. The chambers provide the following:

- representation of members' interests before local and national government institutions
- negotiation of lines of credit for member groups
- preparation of feasibility studies
- technical assistance
- provision of a forum for discussion of common problems and desirable policies
- assistance in marketing and exporting members' outputs
- assistance in importing inputs and machineries.

These private sector agricultural institutions provide the backbone for service for farmers in the nine departments. They have the most direct contact with farmers and are practically the only ones providing direct service.

The team preparing this report visited four of the nine department agricultural chambers. There were good chambers in Santa Cruz, Chuquisaca, and Tarija and a newly renovated chamber in Cochabamba. The PAO project is providing technical assistance to the agricultural chambers in Chuquisaca and Tarija departments.

POSSIBLE INSTITUTIONS TO ASSIST WITH PROJECT-RELATED TRAINING

The team preparing this report noted the training experiences of the Instituto Desarrollo de Empresas y Administracion (IDEA) and the Instituto Boliviano de Estudios Empresariales (IBEE). In addition there are international training institutions that can provide project related training.

Instituto Desarrollo de Empresas y Administracion (IDEA) is a management training institution with $2.0 million seed money from USAID/Bolivia and $1.0 million technical assistance from Westinghouse Learning Corporation. IDEA has completed three years of training in Bolivia with over 8,000 Bolivians trained from the private sector. They could provide tailor-made courses for the project training.

Instituto Boliviano de Estudios Empresariales (IBEE) is a private training and consulting group, formed by professors from Catholic University. It has provided advisory work in restructuring MACA and the Central Bank. It can provide middle and upper-level management training as well as tailor-made courses. In September 1988, it conducted a course entitled "Strategies and Market Plans" which is similar to the training needs of the project.

Instituto Centroamericano de Administracion de Empresas (INCAE) in Alajuela, Costa Rica has considerable experience in providing short-term and long-term training in marketing. Presently it has a ROCAP-funded contract to train 5,000 business managers in marketing, quality control, and competitiveness. It may be a good organization to contract to train Bolivians in feasibility and case study preparation. It has also conducted policy dialogue in Central America with a good deal of impact.

Instituto Superior de Administracion de Negocios (ISAN) in Lima, Peru provides marketing training. Faculty members of ISAN helped set up IDEA in 1985.

MINISTRY OF RURAL AFFAIRS AND AGRICULTURE INSTITUTIONAL ASSESSMENT

The Ministry of Rural Affairs and Agriculture (MACA) is the central government organization for agricultural affairs in Bolivia. As such, its role in the Agricultural Productivity Marketing Project is of vital concern. This mini-assessment of MACA discusses its present situation, potential future, and possible roles in the project. The assessment is based on review of documents, interviews with officials of MACA and USAID/Bolivia, and discussions with over 40 professionals in Bolivia.

Present Situation

The recent Agriculture Sector Assessment for Bolivia, prepared by USAID/Bolivia, devoted 33 pages of assessment of MACA in the following areas:

- Assessment of the role of MACA as a public institution in the agricultural sector (pp. 75-79)
- Assessment of the institutional constraints of MACA (pp.123-130)
- Assessment of the constraints to effective planning and policy analysis as related to MACA (pp.130-34)
- Assessment of the institutional reform required of MACA including decentralization (pp.171-72)
- Assessment of possibilities of institution-building of MACA in strategy concepts (p. 189)
- Proposals to support the policy analysis and statistical services of MACA as a concept paper (pp.208-210)
- Assessment of institutional resources of MACA/SPAR (Appendix F pp.1-5)
- Assessment of current proposal for restructuring of MACA (Appendix G, pp.1-5)

We also reviewed the World Bank Agricultural Sector update, June 20,1986 that assessed the MACA functioning and operations. Finally, we reviewed the draft report "MACA Restructuring Report," by William L. Rodgers and Jonathan E. Smith, Chemonics, August 1987.

The conclusions of those documents can be summarized as follows:

- MACA is a highly political government organization that has gone through five reorganizations since the 1952 Revolution.
- MACA has been most concerned with dealing with political agricultural issues(farmer organization laws, agrarian reform), at the expense of policy strategy and planning as well as specific implementation areas such as marketing.
- MACA vacillates between wanting to be a planning organization and an implementation organization.

There are many other conclusions related to its expanded staff, poorly paid professionals, and ineffective organization. But the main point is that its delivery of services is uneven and ineffective and it does have respect in the development community or with its intended clients.

Future Potential

MACA is going through a remarkable re-structuring of its organization. It is spearheaded by the Internal Coordination Mechanism for the Organic Reorganization of the MACA (MICRO). MICRO has been instrumental since 1986 in setting up new MACA organizations and importantly new strategies. In mid-1988 it has streamlined personnel and is beginning to figure out how to provide services at the departmental level.

MACA is also attempting to put into place regional agricultural councils at each department level. These agricultural councils would be headed by MACA and include both public and private sector organizations for the purpose of strategy planning at the department level. In mid-1988 some arrangements have been made in Santa Cruz Department and initial discussions have started in Cochabamba Department. The regional agricultural councils are designed to have local authority but not decentralization of authority of MACA.

MACA is re-structuring some divisions that are related to the proposed agricultural project:

- MACA will re-structure the Marketing and Commercialization Division to have a more active role in planning and coordination.
- The Agricultural Information Division is to be strengthened and is to carry out some of the functions related to the project.
- MACA's Policy and Planning Division is to be re-structured to carry out strategy papers and write new agricultural reform laws.

Possible Roles of MACA in Project

MACA definitely should have a role in this new project. The extent and profundity of its involvement needs to be explored more fully in the project design stage.

There is a big difference between "intention" and "fulfillment" and one should approach MACA's intentions with some skepticism. This is based on its track record since 1952 that is documented fairly well in the Agriculture Sector Assessment. It can be argued that by having MACA play a major role in the project, or housing the project, MACA's new found directions will be solidified. It can also be argued, as is done by MACA officials, that any agricultural project in Bolivia should be handled by MACA.

On the other hand, others have argued that MACA should be excluded from this project because of its poor record in the past. Many people interviewed believe MACA is part of the problem rather than helping to alleviate marketing constraints. Some interviewed feel strongly about not cooperating with MACA.

Our assessment is that the middle road approach is most warranted. MACA should be involved in the project from the beginning and should try to prove itself to other

"colleague" public sector institutions as well as the private sector organizations and clients.

Recommended Actions

We would recommend the following actions, pending further developments and discussions during the development of the project paper:

- Policy Monitoring and Economic Analysis Unit. MACA would play an active role in the policy dialogue and in providing information to the staff to assist in policy studies. Two or three MACA employees could be assigned full-time or part-time to work with the Policy Monitoring and Economic Analysis Unit.

  MACA employees would participate in project-related training for policy workshops and would be eligible for out-of-country participant training.

  We would expect that in two or three years MACA would be strengthened by its involvement in the project and that its own policy departments would also be strengthened. It could be possible that by positive demonstration MACA could play an active role in the country's decision-making on agricultural policy.

- Agricultural Information Services. The project will rely on MACA's good experiences in gathering certain market information, agricultural census, and other data-gathering activities. We could expect that the coordination of this project component would become part of MACA's full time responsibility.

  MACA employees will be trained in all nine workshops envisioned for this project component. MACA would provide three or four full-time employees to work in the market information area. We would expect them to provide agronomists, marketing specialists, and commodity specialists.

  It is possible that after three or four years MACA will begin to take over some of the project activities. It is hoped that MACA employees become involved in all marketing activities.

- Department-Level Offices. MACA should play an active role in project implementation at the department level. We envision that each department will function differently but with common central guidelines. Therefore, it is possible that MACA can house the implementation office in one department, coordinate the implementation with the agricultural councils in another department, or simply participate as a cooperating institution in yet another department.

Conclusion

MACA should be involved in this project in an evolutionary manner. It must prove itself in the marketplace as a viable and trustworthy institution. This can be accomplished by daily endeavor and by demonstrating a positive attitude toward marketing and a willingness to cooperate. Trust comes through silent actions rather than by stated intentions. To much degree its project involvement is based on its own internal decision to participate. In the end, with its continued involvement and with newly trained personnel, MACA may be able to incorporate the project principles and experiences into its institution and take over some of the functions established during the project period.

INSTITUTO DESARROLLO DE EMPRESARIO Y ADMINISTRACION (IDEA)

La Paz, La Paz

- IDEA founded in 1985 with AID funds. It is non-profit organization affiliated with Confederation of Private Businessmen.

- In 4 years has trained 8,690 participants.

- USAID/Bolivia provided $3.0 million for this institution. US$ 2.0 million is seed money and US$1.0 million is for technical assistance from Westinghouse Learning Corporation.

- Central office in La Paz and branch offices in Santa Cruz and Cochabamba.

- Trains at executive level as well as middle level in private sector. Management training.

- Has regular courses and can provide tailor-made courses.

- Private businesses are willing to pay for courses.

- Enrollments:

62 seminars at executive level	1,240 participants
8 middle level courses	2,200 participants
110 small enterprise courses	2,750 participants
68 administration courses	1,700 participants
16 Enterprise forums	800 participants

- Micro-Enterprise Courses
  - Accounting
  - Costs
  - Marketing and Sales
  - Investment projects
  - Financial analysis
  - Administration principles

- Five Program Areas
  - Management Development Program (PDG)
  - Functional Development Program (PDF)
  - Small Enterprise Program
  - Personnel Support Program
  - Special Programs

Assessment

IDEA is solid organization. Would be prudent to continue to support this organization. IDEA would have to realize the new project would want contract-out for services. Believe it could handle some in-service training with guidance. Need to realize that project needs specific skill-oriented training.

Contacts

Ing. Hector Encinas, General Manager
Lic. Magda Lahore, Academic manager
Mr. Jim Rumph, Westinghouse Institute for Resource Development

CHUQUISACA DEPARTMENT

The team preparing this report visited three regional development organizations in the Chuquisaca Department. This is a report of those organizations.

CORPORACION DESARROLLO DE CHUQUISACA (CORDECH)

- Large departmental development corporation (DDC) for Chuquisaca Department located in Sucre.
- CORDECH involved in a variety of urban and rural development projects for entire department.
- Just published a regional development plan 1988-2010 that includes long range development plans for region in agriculture, industry, health, education, and major infrastructure.
- CORDECH has agreements with USAID/Bolivia's Market Town Capital formation Project (FOCAS) project for market town development.
- There is no market information system for the department.
- Interested in marketing infrastructure and is capable of making mini-proposals for market information.

Assessment

Held short and very general meeting with CORDECH officials. They are interested in the Agricultural Marketing and Productivity Project and would be willing to collaborate. They have lots of experience getting international donor support.

Contacts

Dr. Marcelo Vargas, President
Lic. Juan Jose Bonifaz, Administrator
Lic. Armando Serrudo, Planning Manager

ASOCIACION FLORICULTURA CHUQUISACA (ASFLCH)

- Founded 1986 in Sucre.
- Members are the eight flower growers of Chuquisaca.
- Very small and not well-organized. Only 10-12 hectares of flowers in entire department.
- Attempting to unite with larger and stronger flower association in Cochabamba that has 30 members.
- Association has received 60% discount on airfare Sucre-Santa Cruz on LAB, the major domestic airline.

- At present no member of association is exporting flowers.

- Major problems are credit for production; bureaucratic red tape for flower certification for export; import restrictions for certified seeds

- Indicated that department could receive technical assistance in:
  Marketing of products for exports
  Feasibility studies of new flower products
  Domestic market channels/information
  Price information at national level

Contact

Lew Thornton, ASFLCH, Sucre

CAMARA AGRICOLA CHUQUISACA (CACH)

- Chuquisaca zones are isolated from each other and limited transportation in the department. Sucre, the capital, is 200 km from nearest agricultural zones. There are ten provinces in the department with different agricultural zones.

- Camara, the agricultural chamber, is private and was founded in Sucre in 1984.

- It has nineteen associations in the Camara. Sixteen are associations by geographical area. Three are associations by agricultural products: flower (8 members); milk (12 members); and poultry (30 members).

- There are 8,000 associates in the Camara, a total of 70,000 farmers in Chuquisaca Department.

- Camara provides limited services of technical assistance and marketing assistance. Limited resources of the Camara prevents it from doing more.

- Camara receives technical assistance from USAID/Bolivia Private Agricultural Organization Project (PAO). PAO did assessment of Camara and considered them weak but with promise.

- Camara has several project ideas in its portfolio. It wants to establish a radio station to broadcast market information. It wants a Basic Rural Agricultural Center, like 4-F Clubs in the U.S., to train young farmers in the department. It is contemplating establishing a social security/health services for farmers.

- Camara works closely with Plan Padrino (Foster Parents Plan) and CARE. It attempts to coordinate activities with these organizations since they have international funds.

- Another organization, TUPAC Katari, has a radio station (Radio ACRO) and is training young farmers.

- Camara maintains some relationship with CORDECH but no formal agreements.

- Camara publishes prices and other market information Fridays in local paper.

Assessment

The Agricultural Marketing and Productivity Project could find ways to work with Camara that would complement work being done in PAO project. PAO project is involved in institution-building and some feasibility studies. The new project could support market information system and training through the associations.

Contacts

Dr. Juan Carlos Ovando, President
Lic. Alberto Rodriguez, General Manager
Ing. Ariel Aviles, Technical Manager
Sr. William Torico, Chief, Marketing

COCHABAMBA DEPARTMENT

The author visited several development organizations in the Cochabamba Department. This report starts with a general description of department and then assesses the development organizations.

- Department has two major valley systems called Central Valley and Southern Valley. Specific valleys are Quillacollo, Suticollo, Cliza, Aiquile, Mizque.
- About 17% of total Bolivia rural population is in Cochabamba Department.
- Department has 55,631 square kilometers.
- Department characterized by arid mountains and valleys only about 5-10% under irrigation. Rainfall only three months a year.
- Department has about 136,000 farm plots and 135,000 farmers. There are 409,000 hectares of farm land; 214,000 under cultivation; 20,000 in pasture land; and 175,000 in mountainous terrain.
- In farm plots 74,000 are below subsistence; 35,000 at subsistence; 23,000 sell products; and 4,300 are larger farm enterprises. This represents 20% of all farm is Bolivia.
- In 1985, farms had an estimated 217,000 animals with 96,000 cattle and 117,000 sheep.
- An average of 30 agronomists graduate per year from University San Simón.
- Commodities for domestic consumption include basic vegetable and fruit crops, as well as potatoes. Large coca production in Chapare region in sub-tropical area two hours from Cochabamba. Exporting roses and carnations.

UNIVERSIDAD MAYOR DE SAN SIMON (UMSS)
Cochabamba, Cochabamba

- Agronomy Department has 1,500 students enrolled. Free admission 600 students first year but only 300 finish year. Drop-outs continue to end of the five year program when about 50 of the original 600 graduate.
- Agricultural program has practical training at the university's 15 hectare campus 5 kilometers outside Cochabamba. Noteworthy is a tractor mechanization program with Swiss government support that has trained about 150 rural farmers in 8 years. In addition there are programs in: seed betterment; conservation of natural resources; small rural farmer training center; organic fertilizer production to decrease fertilizer inputs. Also bio-gas production program with German government support.
- In Technology Science Department there is noteworthy pilot eucalyptus extract project with support from CORDECO (the DDC of Cochabamba).
- UMSS has two year contract with Ministry of Industry, Commerce, and Tourism (MICT) to provide quality control for milk and soft drinks.

- UMSS provides special courses in irrigation with CORDECO contract agreement.

- Previously UMSS provided market information at wholesale markets with funds from the Organization of American States (OAS).

- UMSS has pilot cheese making facility on campus, with support from the Kellogg Foundation. Trains 2-3 students per course and about 30 students from rural areas. Milk Producers Association pays for room and board and UMSS provides course free.

Conclusions

UMSS has good background and has demonstrated capability to produce. They know how to work with international organizations.

Recommendations

- UMSS expressed interested in strengthening regular agronomy courses with insertion of marketing curriculum. They would welcome a long-term advisor. Improvement would include modified curriculum, market case studies, other educational materials, and text books. UMSS could insert marketing curriculum as early as third year.

- Project could train 50 professors in marketing. Professors would train students in the department.

- Professors could be trained to do feasibility, market information, and case studies. Subsequently they could contract-out to perform these activities for the project.

- UMSS could sponsor other in-service courses that might be required in the project.

Contacts

Dr. Raul Rico, Rector
Ing. Oswaldo Sanabria, Dean, Agronomy Department.

ASOCIACION PRODUCTORES DE LECHE (APL)
Cochabamba, Cochabamba

- APL has 1,000 members in Cochabamba Department.

- APL has strong relationship with the government's Milk Processing Plant (PIL). PIL is principal purchaser of milk in district. The PIL plant processes 85,000 liters per day.

- APL charges 2% of sales to PIL which in turn funds their activities.

- APL services include:
  - veterinary service
  - supply store
  - credit for supplies.

- Marketing problems are:
  - credit to milk producers at right time
  - PIL dominates department and milk prices.

Conclusions

APL could provide many more services to its members. With assistance, they could play much larger role in department.

Recommendations

It is worth considering a feasibility study of the whole milk commercialization process in department with policy and intervention activities to alleviate bottlenecks.

CAMARA AGRICOLA DE COCHABAMBA (CAC)
Cochabamba, Cochabamba

- CAC (the Agricultural Chamber) has been re-structured in 1986 after many years insolvency and inactivity.

- CAC has 110 agricultural associations affiliated with 8,000 of the 135,000 farmers in the department.

- Provides few services to members.

- Getting re-organized. A U.S. consulting firm, RONCO, is providing technical assistance as part of the USAID/Bolivia PAO Project.

- According to Camara, major Marketing problems are:
  - Price levels at market for vegetables are low
  - inadequate production credit
  - Poultry sales are low; more produced than can be sold in department.
  - 85% of department has no irrigation
  - No price information in the department
  - High degree of price fluctuation during the year.
  - Milk marketing is poor because PIL controls almost all sales.
  - Poor marketing of peaches and apples in department.

Recommendations

- Camara would like to set-up a market center for fresh vegetables and fruits in Vinto, 18 kilometers outside Cochabamba. Agricultural Marketing and Productivity Project could support this activity.
- CAC willing to handle price information for the department as part of project-supported market information system.

Contact

Ing. Gustavo Guerra Mercado, Director
Casilla 192, Tel. 25373

CORPORACION DE DESARROLLO COCHABAMBA (CORDECO)
Cochabamba, Cochabamba

- CORDECO concerned with large regional development projects. Developing seed plant with Japanese government support. Also, large Japanese donation for equipment in rural feeder road project.

- According to CORDECO, the major department problems are:
  - Irrigation systems. Department has total lack of irrigation. CORDECO recommends drip-irrigation system.
  - Credit line system slow. The Market Town Formation Project (FOCAS) system is considered slow and bureaucratic.
  - Commercialization bottlenecks in flower marketing and export.
  - CORDECO does not have a marketing department.

Recommendation

To the extent that CORDECO is powerful and well-endowed, its technicians are well-qualified and can carry out policy and feasibility studies.

Contacts

Ing. Rene Saavedra, President
Ing. Luis Arce, Advisor

UNIDAD CREDITO FINANCIERO (UCF)
Cochabamba, Cochabamba

- UCF is department-level implementation unit for FOCAS project.

- UCF/FOCAS does not have personeria juridica in department. Has department-level board of directors with CORDECO, Industry Chamber, bank representative, and others. Unit reports to FOCAS headquarters in La Paz.

- UCF provides credit lines to flower and poultry farmers. Believes that poultry is good place to intervene in the department as it is growing strongly.

- DESEC, a department-level non-governmental organization (NGO), is doing study of market prices. This is being carried out now in a project with the Bolivian Institute of Agricultural Technology (IBTA), with GTZ German government funds. It is not market information system but rather attempt to study market prices in the department.

- UCF unit is staffed by two agronomists and three support staff. It is completely self-sustaining by charging 2.6% commission on lines of credit it provides.

- UCF/Cochabamba has 40 current credit lines in portfolio with average credit of $40,000-50,000. Records show unit has over 50 projects on books with total of US$ 3.5 million.

Credit System

- Applications for loans by agricultural enterprises provide UCF with project prepared by a consultant. Normal cost is US$ 2,000.

- FOCAS reviews loan applications and support materials at department level according to established selection criteria. Loans must be approved by the five members of board of directors.

- Credit applications are sent to one of the 4-5 Cochabamba banks used by FOCAS The bank negotiates terms of credit with enterprise including a guarantee system. Bank must certify the credit which normally takes 7-15 days to process and approve.

- Credit application sent to La Paz FOCAS for approval. Takes 7-10 days.

- Credit approval at 7.7% interest. Five points for the bank and 2.7% Commission for FOCAS to cover all local salaries and operating expenses.

Conclusion

UCF/FOCAS regional office appears to be functioning well. They believe essential to have department-level offices. They believe Agricultural Marketing and Productivity Project could function well in complementing their activities.

Contact

Ing. Marcelo Prudencio

COOPERATIVA INTEGRAL DE SERVICIOS (CIS)
Punata, Cochabamba

- CIS was founded in 1977 by USAID/Bolivia and has had continued technical and financial assistance in past 11 years. Presently part of PAO project and receiving technical assistance.

- Has 5,375 affiliated farmers and $500,000 total capital fund and equipment. Has own building, milk processor in farm outside PUNATA.

- Farmer associations must get feasibility study to get credit. Consultants charge US$ 1,800 or 5% of credit line for the feasibility study. CIS believes this is excessive and would like to see new project deal with this bottleneck.

- USAID/Bolivia has provided new $700,000 revolving credit fund for CIS.

Cooperative Services

- Supplies credit only for fertilizers, insecticides, and seeds. Has own supply store at the cooperative in Punata.

- Up to 1987, milk processing plant was functioning well. It is currently idle due to financial losses. Farmers now sell directly to PIL.

- Buys barley and sells to beer company in Cochabamba. In 1986-87 had to close this service, which is suspended temporarily.
- Has a few wholesale centers but not working well either.
- In general, cooperative having some difficulty in assisting members in marketing.
- Four agronomists provide extension services according to agricultural campaigns. Emphasis on production, not marketing of commodities.

Conclusions

CIS demonstrates the difficulty of marketing and its challenges at the local level. They have tried several marketing schemes with mixed results. CIS would like to receive technical assistance in new project. They could serve well for market information system as well as pilot projects in marketing interventions.

Contact

Ing. Emilio Cano, Director

INSTITUTO BOLIVIANO DE TECNOLOGIA AGRICOLA (IBTA)
San Benito, Cochabamba

- IBTA/San Benito has three experimental stations in Cochabamba Department.
- Emphasis on peaches, cherries, and apples, i.e. fruit experimentation.
- In last two years, Japanese Government has been providing funds and technical assistance and land vegetable production.
- Pine research. No marketing studies.
- No extension work. All research.

OTHER ORGANIZATIONS IN COCHABAMBA

ASOCIACION AVICULTURA DE COCHABAMBA (AVIT)

ASOCIACION BOLIVIANA DE FLORES (ASBOLFLOR)

FEDERACION DE COOPERATIVAS DE AHORRO Y CREDITO (FENACRE)

MAJOR FINDINGS AND CONCLUSIONS

- There are sufficient good organizations and associations in Cochabamba to work with development programs. Private sector initiative is good and personnel interviewed are dedicated professionals.

- Regional/departmental focus is imperative because these organizations themselves think in terms of department and most products are sold within the department.

- Cochabamba Department is large, with 135,000 farmers and farmer plots. However, average land holdings probably are not more than three hectares per farm family.

- The departmental implementation unit similar to UCF appears to be feasible. People interviewed believe that unit should be independent. CORDECO waffled on this idea as probably they would like to supervise the project. Other institutions would prefer an independent unit. CORDECO does serve on the board of directors of UCF.

- Most interesting is the composition of institutions which is different from other departments.

- The University of San Simon (UMSS) is strong, viable, and willing to participate in the project. Can be a leader under the present administrators and should be involved as an active member.

- There is a Cadre of up to 75 good agriculturalists in the department who could assist in implementation, policy studies, case studies, information systems, training, and pilot projects. It would be prudent to use these professionals to keep expertise in the country.

- There are plenty of training options within the department for outreach programs/service. A principal source would be the university.

- Training probably would be required to conduct feasibility studies, case studies, policy reform, market information, and pilot project interventions. This training should be conducted by outside department expertise and by an outside institution.

SANTA CRUZ DEPARTMENT

The author made a field trip in Santa Cruz Department and visited organizations.

UNIVERSIDAD GABRIEL RENE MORENO (UBGRM)
Santa Cruz, Santa Cruz

- Faculty of Agronomy founded in 1970. Three different career tracks:

Agronomy Engineer	1,200 students
Forestry Engineer	60 students
Biology Engineer	250 students

- Agronomy Faculty maintains an Institute of Agricultural Investigation in Vallecita 7 km outside Santa Cruz. Provides investigation in corn, beans, bananas, and citrus. Also investigating three different types of irrigation.

- University has limited mobile unit course for middle-level farmer students in coordination with CIAT in Santa Cruz.

- UBGRM works closely with Camara Agricola in Santa Cruz to provide technical training for farmers in middle-level. Some professors work with Camara in training programs.

- UBGRM is interested in starting a basic-level farmer training center in Santa Cruz.

- UBGRM agrees with the USAID/Bolivia's Agriculture Sector Assessment that marketing is a major bottleneck. Believes there is bad use of machinery. Cites example of 1,500 tractors imported from Argentina under the military government, which are not used well and not used. In last three years International Development Bank (IDB) has helped in importing machinery. But there is no training and machinery underutilized.

- Cites lack of trained farm supervisors. Large landowners need supervisors. Need training for these people.

- UBGRM Agronomy Department is seven years old. It has ten semesters. First eight semesters are basic education for all students. Then tracks for 9th and 10th semesters. New innovations in basic curriculum are computer training, cooperatives, and appropriate technology.

- Agronomy Dept. introduces one marketing course in last semester. It is elective. Has been offered for past two years but no one has taken it yet. Problem is that only 25 seniors each year and UBGRM must offer the course to at least ten students.

- There have been enrollment increases only in past few years. Enrollment as follows:

1970	48 students
1980	270
1983	400
1988	1,200

- Over 50 % desertion. In 1988 expect 25 graduates in faculty.

Possibilities

- UBGRM Agronomy Dept. agrees that could introduce marketing curriculum in about six regular courses. This would be insertion of marketing concepts in regular program with cases studies, learning modules, and other materials. There is some willingness to incorporate a marketing course in the basic courses.

- In-service training for the 55-60 UBGRM professors in marketing.

- Scholarships for one or two UBGRM professors to get advanced degrees in marketing.

- Scholarships for 5-10 good students for Zamorano.

- University professors could serve as trainers in different project-related activities.

Contacts

Ing. Alfredo Perez, Dean
Ing. Antonio Gonzalez, Asst. Dean

FEDERACION DE GANADEROS DE SANTA CRUZ
Santa Cruz, Santa Cruz

- Federation of Cattlemen formed in 1976. Groups of 26 active cattle associations of Santa Cruz Department.

- There are about 20,000 cattlemen in department. 5,000 cattlemen are in the 26 associations in the department.

- There are about 1,300,000 beef cattle in department.

- Small cattle ranches are up to 300 cattle and represent 97% of all cattlemen in the department. Some regions have 20-30 cattle. Family cattle ranches have 10,20, or 30 cattle. This is especially in western provinces of the department.

- Middle-level ranches have 301-800 head of cattle and represent 2.7% of all cattlemen in department.

- Large cattle ranches have 801-10,000 cattle and represent .3% total ranches.

- 52% of the 1,300,000 cattle are in hands of small cattle owners.

Problems of Marketing

- Dispersion. Cattlemen spread throughout the department. Some cattle as far away as 200 KM from Santa Cruz. Estimate 15,000-20,000 head of cattle go across nearby border to Brazil each year. Get better prices in Brazil.

- Transportation. 10-15 days to go on rustic roads to get the railroad stations in some cases. Many feeder roads do not take larger vehicles for Railroad transports 35% cattle, including 35,000 cattle per year to Santa Cruz.

- Municipal Slaughterhouse. Only one municipal slaughterhouse in department. There are smaller slaughterhouses in Santa Cruz that slaughter 35% of all cattle. Municipal slaughterhouse is chaotic but must be used by the Federation.

Federation Marketing System

- Federation started to help resolve marketing problems for cattle in the department. Started marketing system to help ranchers.

- Farmers take cattle to slaughter and then Federation commercial system begins. Federation receives cattle and then sells, controls, and gets meat distributed to wholesalers at the municipal slaughterhouse.

- Federation pays the ranchers for cattle sales within 24 hours of receipt. Cattlemen have Federation take over all sales and slaughter of cattle. Farmers are guaranteed that Federation will take all cattle.

- 95% of all cattle slaughtered at municipal slaughterhouse are controlled through the Federation.

- Federation charges 3% of total sale to the farmer for whole marketing process. One percent is used for Federation projects, including a central supply system and the guarantee to purchase the cattle. Two percent is used for other activities: .2% to the Camara de Agricultura for its operation; .2% to CIAT for further investigation in cattle sanitary conditions and diseases; .4% to individual cattle associations in the department based on ratios of cattle from those association districts; 1.2% for Federation operational costs.

Federation Services

- Supply center for veterinary products and medicines

- Radio communication system with associations with price information. Have short wave radio system.

- Support to CIAT for research and investigation.

- Technical department that provides TA to associations.

- Legal department to resolve individual farmer problems and general labor issues for all cattlemen. Also legal tax advisory services.

Federation Proposed Projects

- Refrigerated Slaughterhouse. Want to set-up own slaughterhouse that would have classification of meats; price controls. Have feasibility study and project would cost US$6.5 million.

- Mineral Salt Plant. Want to establish own mineral salt plant.

Contacts

Ing. Jaime Larada Rossett, General Manager
Ing. Wolfango Pena, Technical Manager

TARIJA DEPARTMENT

The author made a field trip to Tarija Department. This report presents comments about the department and assesses several development organizations operating in the department.

- Tarija has several central valleys, but the principal valley is Central Valley del Río del Guadalquivir.

- Department has population of department has 300,000 people, 80,000 in Tarija. 4.6% of total rural population of Bolivia is in the department.

- The department covers 37,623 square kilometers of area.

- In 1985, cattle and sheep numbers were estimated at 79,000.

- In 1986, there were an estimated 28,000 farms in Tarija Department, representing 4% of the national farms. 900 were farm enterprises while the rest were subsistence.

- Department is characterized by few arable land areas in several small valleys as well as sub-tropical areas in Gran Chaco. Borders on Argentina and has had traditional Argentine influence along its borders.

- Crop cultivation at altitude of 1,200 - 1,500 meters in valleys and 400 - 1,200 meters in Chaco. Wide variety of vegetables and fruits, as well as grapes, are grown. Almost all subsistence crops. Some distribution to Santa Cruz and Potosi.

- Very poor road infrastructure with minimal asphalt road.

- Irrigation is minimal. Estimated that 5% of arable land under irrigation.

Tarija Markets

These observations are based on visits to three marketplaces in Tarija and discussions with various groups and individuals.

- There are five major markets in Tarija. They are held on both Saturday and Sundays. Influx of perhaps 10,000 - 15,000 people from countryside to those markets.

- Campesino market is about 8 years old and has well-developed stalls, city control, and a small market/price information posted. About 20 trucks travelling as far away as 250 kilometers transport and sell oranges, tomatoes, and assorted vegetables from the trucks. These were primarily from Bermejo, Villamontes, and Gran Chaco.

- Limited market for products as few buyers and only small potential market. Sellers report about 50% of their commodities get spoiled, damaged, or remain unsold.

Agricultural Production in Tarija

- Altiplano Region. Tarija has small altiplano region within the department. Produces potatoes and garlic. Potato seeds apparently are of good quality and could be commercialized for other regions of country. Garlic production also reported to be good. RONCO/PAO project is working through agricultural chamber to increase garlic production in that region. According to CODETAR, small production of camelids and wool could be commercialized much more than now.

- Central Valley. This is the principal population center of Tarija. Most vegetables and apples, peaches, and plum are produced in this valley which is also well-known for grape production by both small and large producers. Almost all grapes are converted to Bolivian wine and singani, thus allowing flexibility in marketing and extending shelf life. The major problem is that Argentinean grapes and wines are of higher quality, and Argentinean wine is imported into Bolivia at very low cost.

  In addition to fruits and vegetables, there is small production of flowers in the valley. However, only one producer exports flowers out of department. CODETAR believes that there is a good potential to increase production and to compete with Cochabamba and Chuquisaca.

- Bermejo Region. This is the major sugar cane production area with 34% of total Bolivian sugar production. In 1987 it is reported that 2.0 million pounds sugar were refined at two CODETAR-owned and operated sugar refineries. The region exports sugar to Argentina.

  Coffee is other product that is produced and exported to Argentina.

  Citrus fruits such as oranges and grapefruits are abundant, though perhaps 50% are lost during marketing. There is a low level of commercialization of oranges in Tarija department; hence, this may be an area for further study. Tarija currently imports apples, pears, and peaches from Argentina.

- Mountain Region. About 65% of the Tarija department is covered by forests in the different geographical zones. Wood is sold to an Argentine company operating in the department that exports to Argentina. Tarija loses almost all value-added to primary wood resource. According to CODETAR, wood marketing firms could be established to treat wood in the department and keep value added profits in country. CODETAR is interested in exploring new marketing possibilities.

- Chaco Region. This region is a major producer of soybean oil, producing 80,000-90,000 MT soybeans each year. In 1987, about 6,000 tons of soybean flour was produced and exported to Chile and Peru. Villa Montes produces 1,000 tons soy oil.

  USAID/Bolivia is providing assistance to Cooperativa Integral de Servicios in Gran Chaco to set-up soybean seed plant, under RONCO/PAO project, in direct coordination with CODETAR.

Marketing

- According to several sources, Tarija department is at infant marketing stage. Two studies on marketing by the United Nations Development Program and the Food and Agriculture Organization (UNDP/FAO) concluded that marketing systems were weak and highly inefficient. The three major marketing problems detected were:
  - transportation
  - storage facilities
  - classification of fruits and vegetables.

- CODETAR maintains that marketing has not had importance in the department. There is no commodity marketing unit within CODETAR.

Development Projects in Department

Several development projects in the department were identified:

- UNDP/FAO/CODETAR Rural Integrated Development in Villa Montes Province. This is a $ 2.0 million effort to
  - rehabilitate agricultural machinery in province to clear land and create ponds for feeding cattle
  - test soil
  - provide cattle veterinary support
  - set up laboratories for veterinary services.

- Projecto Villa Montes Samapera (PROVISA). A $ 9.0 million pilot project with Italian government support to provide irrigation of 3,500 hectares under cultivation near Villa Montes. Phase II of project is to build a small dam in area.

- OAS Water Management Project. Feasibility studies being conducted for this future project in Gran Chaco.

- Cooperative Servicios Integrados Soybean Seed Plant in Gran Chaco. USAID/Bolivia project designed under PAO/RONCO project.

- Unidad Credito Financiero/CODETAR/Credit Project. USAID/Bolivia funded $ 1.0 million credit line administered by CODETAR.

CORPORACION DE DESARROLLO DE TARIJA (CODETAR)
Tarija, Tarija

- CODETAR is the strongest development institution in the Tarija department and is involved in rural roads, schools, airport remodeling, and many other activities.

- Institution is home to USAID/Bolivia-funded FOCAS project, UNDP/FAO rural integrated development project, and OAS-funded water management project.

- CODETAR officials admitted frankly that the institution had not placed emphasis on agricultural marketing but demonstrated interest in being involved in the new USAID/Bolivia project. This view was communicated to the director of USAID/Bolivia in early September 1988.

- CODETAR offered to set-up a marketing unit within its institution.

- CODETAR officials stated that local university did not have good local capability.

Conclusion

CODETAR appears to show definite interest in the Agricultural Marketing and Productivity Project. Potential role would have to be defined in the development of the project paper. There appear to be few reasons not to house project there, and, to the contrary, there are many advantages. It is the "only game in town".

Contact

Dr. Luis Lema Patiño, President

CAMARA AGRICOLA DE TARIJA (CAT)
Tarija, Tarija

- CAT, the Tarija Agricultural Chamber, believes marketing in department is almost non-existent. Officials stated that deficiencies include
  - no wholesale centers
  - no refrigerated slaughter-houses
  - market centers that are not well-located.

  Agrees with USAID/Bolivia's Agriculture Sector Assessment that marketing is principal problem in department.

- CAT has made marketing efforts with garlic and chickens. Working with RONCO/PAO project. Setting up a new enterprise to buy and process garlic; doing feasibility study with RONCO now. Has contract with a Cochabamba company, CIARAVE, for marketing chickens. RONCO assisting in project that will assist farmers to produce more chickens and arrange for CAT to purchase all chickens. CIARAVE agrees to purchase all chickens from CIARAVE.

- CAT recommends that the proposed project:
  - study internal demand for present commodities to ascertain if new interventions should be made on existing commodities; some products should be left alone as there appear to be no profit-making opportunities to make investments viable.

  - provide feasibility analysis on some new products to determine if can be produced and marketed with profits.

  - study whole internal department marketing system to determine ways to improve system and to integrate this system with rest of departments.

Conclusion

CAT appears to be an adequate institution and certainly is interested in being involved with project. CAT would require considerable technical assistance to complete studies on their own.

Contact

Lic. Jaime Castellanos, President

OTHER INSTITUTIONS

- Cooperativa Integrada de Campesinos - COINCA. Reportedly small group of grape growers.
- Federación de Productores de Horticultores y Ganado. Reportedly small and weak association of vegetable and cattle producers.
- Cámara de Exportadores de Tarija. New group just being formed of producers exporting from Tarija.
- Cooperativa Integral de Servicios Gran Chaco. Presumably solid cooperative in Gran Chaco, receiving RONCO/PAO supporting. Has the soybean seed plant funded by USAID/Bolivia. Spoken highly of by CODETAR and CAT.

MAJOR FINDINGS AND CONCLUSIONS

- Tarija Department has small internal market for commodities and therefore its growth potential is in increasing value-added of its primary products and exporting them to larger markets outside the department and the country. Its closeness to Argentina affords it a good opportunity to reach a larger market.
- Contrary to some department assessments made by outside consultants, there appear to be some fairly good marketing projects in the department. There is precedent and experience in the department to engage in new projects and with good possibilities for success.
- Trija Department has only 25-30 qualified agronomists and economists. Special projects presently "borrow" experts from other projects, thereby diluting and crippling existing programs. The local university turns out only about 10 graduates per year.
- CODETAR is the obvious and immediate institutional home for the project's departmental office. It has by far the best human and physical infrastructure in the department. Activities under the new project could complement well the UCF activities at CODETAR. During the preparation of the project paper, a refined assessment might find that a coordinating unit should stay independent.
- The agricultural information system should be modified in Tarija Department to match the needs of a small very disperse department. A full system is not

warranted at least at the outset and should be integrated into the department slowly. This should take secondary precedence in project planning and implementation.

- There are two marketing strategies that should be considered.
  - a general marketing system that assists in alleviating department inefficiencies such as transportation, spoilage, and storage
  - the marketing of primary commodities that can provide value-added, prevent spoilage, and can be exported outside the department.

  The commodities worthy of study are grapes, oranges, garlic, wood, tomatoes, peaches, apples, and pears. Flower growing could also be studied since Tarija has climatic conditions similar to Chuquisaca and Cochabamba.

- There are considerable social and cultural differences from its neighboring departments of Potosi and even Chuquisaca. Its southern border with Argentina makes it more drawn to that nation. Finally, the institutional strengths and weaknesses, as well as institutional personalities, are somewhat different, and deserve separate treatment.

PROJECT GEOGRAPHICAL ZONES

Altiplano 246,254 Square kilometers : North, Central, South

Valleys 168,320 square kilometers: Temperate valleys, Sub-tropical (Yungas)

Cochabamba valleys: Quillacollo, Suticollo, Cliza, Aiquile, Mizque
Chuquisaca valleys: Santa Elena de Turuchipa, Cinti
Tarija valleys: Valle Central del Rio Guadalquivir
La Paz valleys: minor
Potosi valleys: minor

Source: Zeballos, 1988.

DISTRIBUTION OF RURAL POPULATION, 1986

Region	Department	% Total Population
Altiplano	La Paz	28.7
	Potosi	17.6
	Oruro	5.1
		51.4
Valley	Cochabamba	16.6
	Chuquisaca	10.3
	Tarija	4.6
		31.5
Total Altiplano and Valleys		82.9

Source: Zeballos, 1988.

SIZES OF THE DEPARTMENTS, 1982

Region	Department	Area in Square Kilometers
Altiplano	La Paz	133,985
	Potosi	118,218
	Oruro	53,588
Valleys	Cochabamba	55,631
	Chuquisaca	51,524
	Tarija	37,623

Source: Zeballos, 1988.

AVAILABLE LAND USE AND LAND UTILIZATION, 1984
(Thousands of hectares)

Item	Total[a]	Chuquisaca	La Paz	Cochabamba	Oruro	Potosi
# of lots	572,296	59,839	212,820	136,664	43,461	119,512
# hectares	4,102	1,762	949	409	747	233
Under cultivation	899	161	305	214	70	146
Pastures - cultivated and natural	965	179	259	20	507	no data
Not cultivated - mountains or not able to be cultivated	2,238	1,421	385	175	170	87

Source: Zeballos, 1988.
Note: [a]Does not include Tarija.

FARM SIZES IN VALLEYS AND ALTIPLANO, 1979

Size (Hectares)	Percent
Less than one	21.75
01-02.99	23.70
03-04.99	15.50
05-09.99	16.70
10-19.99	13.65
20-34.99	3.70
35-49.99	1.80
50-74.99	1.50
75-99.99	.60
Over 100	1.10
	100.00

Source: Consejo Nacional de Reforma Agraria, 1979.

TYPE OF PRODUCERS BY DEPARTMENT, 1985

Department	Below Subsist	Subsis-tence	Seasonal	Surplus	Companies	Total	Percent
La Paz	146,832	18,612	20,680	20,682	6,014	212,820	30.9
Oruro	27,536	6,023	5,163	4,303	436	43,461	6.3
Potosi	52,267	6,335	10,295	10,295	1,242	80,434	11.7
Cochabamba	74,095	14,554	21,170	22,494	4,351	136,664	19.8
Chuquisaca	33,030	8,094	7,505	2,039	1,539	52,207	7.6
Tarija	18,844	4,618	2,162	1,163	910	27,697	4.0

Source: Zeballos, 1988

ANIMAL PRODUCE BY DEPARTMENT, 1985

Department	Cattle	Sheep	Camelids	Total
La Paz	244,415	237,211	113,213	594,839
Oruro	99,112	157,031	132,465	388,608
Potosi	58,020	131,165	119,376	308,562
Cochabamba	96,635	116,964	3,966	217,565
Chuquisaca	253,278	54,986	10,757	319,021
Tarija	54,632	23,591	420	78,644

Source: Zeballos, 1988

HUMAN RESOURCES IN AGRICULTURE, 1984

Department	Agronomists	Veterinarians	Middle Technicians
La Paz	102	16	41
Oruro	10	2	5
Potosi	25	2	6
Cochabamba	100	17	14
Chuquisaca	20	4	19
Tarija	32	2	10
Santa Cruz	192	130	38
Beni	11	14	7
Pando	3	1	1
	503	188	141

Source: Zeballos, 1988. Based on data from Professional Registry of Bolivia, 1984.

UNIVERSITY GRADUATES IN AGRICULTURE, 1986

University	Agronomy	Vet.	Zoo	Forest.	MedTech	Total
Univ.Técnica de Oruro	24					24
Univ. Tomás Frias	61					61
Univ. Mayor San Simón	248				127	375
Univ. Misael Saracho	99			36		135
Univ. G.René Moreno	73	78				151
Univ. José Ballivian	44		49			93
Totals	549	78	49	36	127	839

Source: Zeballos, 1988. Data based on Executive Committee of Bolivian University.

AGRICULTURAL PRODUCTION AND NATURAL RESOURCES MANAGEMENT

Prepared by:

Howard Harper

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For many years Bolivia will continue to rely heavily on the small farmers of the Altiplano and Valleys for the production of most of the country's food needs and for the production of important export crops including coffee, cacao, hides and leather, wool and specialty crops. The Agricultural Marketing and Productivity Project will affect the supply of and demand for agricultural products destined for both export and domestic consumption. The project will focus on the Altiplano and Valleys, and on the opportunities for implementing a marketing-led rather than a productivity-led strategy. This does not mean that the project can ignore the development opportunities of Bolivia's vast underutilized lowland resources. Rational guided colonization is a better alternative for reducing population pressures on the environmentally fragile Altiplano and Valley regions than the large influx to population centers.

This paper discusses the resource bases of the Altiplano and Valley regions of Bolivia. It assesses their potential for increased productivity of specific crops, discusses crucial constraints, and offers examples of using relevant technologies to improve the well-being of the small producers.

LAND USE CAPABILITY AND CLIMATES

The Altiplano

The Bolivian highlands consist of a large, elevated plateau between 11,500 and 14,000 feet above sea level, situated between the eastern and western range of the Andes mountains. The region has been classified into three zones, i.e. north, central and south. The central zone has been further separated into central west and central east by the Desaguadero river. The entire area has a harsh unreliable climate, poor or exhausted soils, low rainfall, and limited irrigation potential.

The northern zone has a relatively more temperate climate due to the warming influence of Lake Titicaca. Average annual rainfall is 34 inches, and there are four months with fewer than five frosts. The soils around the lake are relatively better than in the other zones and support 6-15 families per square kilometer. The zone produces a variety of annual and vegetable crops for the La Paz market to which the area has access by an asphalt road. This zone occupies about 10% of the Altiplano.

Another 10% of the Altiplano is occupied by the east central zone where annual crops can be grown with some degree of reliability but where cattle and sheep form an important part of the agricultural system. Population numbers range from 4 to 6 families per square kilometer. There are three months with fewer than five frosts. Average annual rainfall is only 15 inches which is low for intensive agriculture.

To the west of the Desaguadero river rainfall is less and the climate more harsh. Production is based mostly on livestock with limited annual crops. This zone has about four families per square kilometer and comprises about 20% of the Altiplano.

The remainder of the highlands (60%) has very low agricultural potential due to sparse rainfall, low temperatures, and presence of salt marshes. Some parts of this are suited to the production of llamas and alpacas.

The harsh climate and low rainfall in the highlands strictly limit favorable soil response to fertilization, irrigation, or improved seed. The area does not have the productive capacity to more than marginally support the present human and animal populations. Crops that can be successfully grown include: potatoes, barley, quinoa, broad bean, oats, vegetables, and alfalfa.

The Valleys

The valleys occupy 190,000 square kilometers or about 17% of Bolivia's land area. With elevations ranging from 3,500 to 2,500 m., they include a wide range of soils and microclimates. Agriculture production is possible only on the lower valley sides and bottoms, and in the three major north-south valleys of Cochabamba, Tarija, and Sucre. This area supports about 65% of Bolivia's population, of which over 75% is rural. The valleys can be divided into zones on the basis of climate.

The upper valleys have elevation of 8,202 ft., annual rainfall of 34 inches, and a growing season of 3 to 4 months. The lower valleys have elevation of 4,921-8,202 ft., annual rainfall of 24 inches, and a growing season of eight months. The upper valleys are heavily populated (25% of the national population), very eroded, and exhibit extreme farm fragmentation.

The majority of the cultivated soils in the valleys occur in the valley bottoms or colluvial fans where rivers emerge from the mountains. There population pressure has led to slash and burn farming on steep slopes causing severe erosion. The areas with a tradition of irrigation are now faced with salt problems where soil drainage is impeded. Although generalized soils maps are available for some areas, little is known about soil fertility or economic response to fertilization.

PRODUCTION CONSTRAINTS AND OPPORTUNITIES

Natural Resource Constraints

The **highland** region has relatively low levels of annual rainfall ranging from 34 inches near Lake Titicaca to about 7 inches in the southern zone of the Altiplano. The large amount of rainfall that runs off the soils could be partially alleviated by better seedbed preparation using soil conservation practices.

Frost occurrence is frequent and the length of growing season is very short. Only a limited number of field crops and vegetables can be grown.

Natural soil fertility, especially nitrogen and phosphorus, is depleted. Little or no plant nutrients are replaced, except for minor amounts on potatoes. Almost all vegetation is taken from the land. Crop residue is used for winter grazing, while much of the animal manure is used for fuel rather than as organic fertilizer.

Wind and water erosion occur because of insufficient vegetative cover. Many soils are too shallow to allow for proper root development. The retention capacity for soil moisture and plant nutrients is also reduced.

In the **valleys**, limited moisture conditions are similar to the problems described for the highlands, especially in the upper valleys. Loss of soil fertility due to erosion and plant nutrient depletion is a severe constraint.

The steep slopes in high-rainfall areas of the valleys, such as Yungas and Chapare, present a constraint to soil management and mechanization. Severe runoff

is a problem when measures are not taken to improve infiltration. Suitable continuous ground cover can do much to reduce erosion.

Drainage in some of the upper valleys is a constraint, especially in areas where irrigation systems are being operated, such as the Cochabamba valley.

In the **grasslands** of the highlands and valleys, overgrazing prevents natural reseeding. When seeds germinate, they are quickly grazed off by hungry livestock and not allowed to produce eatable forage or to reseed. Species introduced in the highlands and upper valleys, with the possible exception of alfalfa, have shown poor results. If the overgrazing constraint is removed, native adapted species will regenerate and improve the quantity and quality of forage.

Productivity Constraints to Agricultural Credit

The agricultural credit system represented by the Banco Agricola de Bolivia (BAB) has a network of "sucursales" in the principal production areas of Bolivia. The bank, a vital tool for Bolivian agricultural development, is in critical condition and requires restructuring and injection of new capital.

The principal donor agencies, World Bank, Inter-American Development Bank (IDB), and United States Agency for International Development Mission to Bolivia (USAID/Bolivia), could provide assistance to the BAB. For example, USAID/Bolivia could furnish the required technical expertise. World Bank and IDB could inject new capital. The three organizations could coordinate in their negotiation for the required policy changes or clarifications.

Another serious productivity constraint to agricultural credit is the extremely poor repayment record of Bolivian farmers. Credit is a vital tool in assisting technology transfer and increasing productions; therefore, it is imperative that the small farmers be included as credit recipients. In order to bring this about, proven technology and credit delivery systems must be adapted to Bolivian conditions. Credit and technological package delivery is too expensive to be a bank function. It must, therefore, be carried out by private sector groups working in close coordination with the BAB.

Input Supply

Bolivia is still attempting to feed its people and compete in the export market with an agricultural economy with low inputs or no inputs. The seed industry is in its infancy and partially supplies seed for only a few major crops. Pesticides, fertilizer, veterinary products, vaccines, and agricultural machinery and equipment all are import items. Because of the high price of imports, the use of agricultural inputs is minimal.

As long as low-level technology persists, there will be minimal progress in increasing non-traditional exports, increasing farm incomes, or reducing the cost of food to urban consumers. Bolivia, unlike many third world countries, has the natural resource base and access to joint venture financing to overcome these constraints for the most part and become a net exporter of agricultural inputs.

Technology Transfer

Much of the new technology applied in Bolivia is imported directly by farmers through development programs and adapted to local conditions. This system is slow and far from satisfactory but must persist until public and private sector entities can be strengthened to provide the required services. Use of new technology can best be linked with credit and promoted through transfer agents based in the private sector. New delivery systems must be developed in which the farmer and/or the processor pay the expenses.

On-Farm Resource Management

Steps must be taken to improve the farmer's ability to use his current resources better, with special emphasis on soil and water management, crop rotation, and range management. These measures require few materials and focus on the farmers' capabilities and production systems, including crops forages and livestock.

Research and Generation of Technology

The Bolivian Institute of Agricultural Technology (IBTA) of the Ministry of Rural Affairs and Agriculture (MACA) has a well equipped but poorly staffed network of crop and livestock research stations and sight nurseries that were designed and built to service the agricultural sector in the principal production areas of Bolivia. These stations have good physical facilities, adequate lands, good germ plasm, and an abundance of undelivered technology. Due to severe financial and personnel constraints, Bolivia is in danger of losing these irreplaceable resources. Ways and means must be found to save them and assist them to assume their rightful roles as generators of technology and as the source of quality foundation plant and animal germ plasm.

Environmental Protection and Natural Resource Management

Land and resource exploitation in Bolivia to date has been carried out with little or no concern for environmental impact. Donor agencies must insist that their resources are utilized in accordance with sound environmental principles. If this is done and private groups are encouraged, producers will gradually come to realize that they must protect their generous natural endowment.

Forests cover more than half the country, and timber products are the largest non-traditional export. However, initiatives to regenerate the more valuable species in the northern tropical forests, or to better utilize existing resources, are practically unknown. Expertise must be brought in to design initial and immediate actions in conjunction with the private and public sectors.

Other Constraints

Agricultural productivity is also affected by infrastructure constraints, market constraints, institutional constraints, policy constraints, and human resource constraints.

SELECTED INTERVENTIONS FOR INCREASED PRODUCTIVITY

Bolivia's capacity to respond to new opportunities and strategies arising from policy and marketing innovations can be improved by selected interventions to increase productivity. The first set of actions identified are those required to establish a science-oriented technology system. When established the system should stimulate a country-wide increase in productivity. Then the agricultural production sector will be capable of responding to expanded markets for both internal consumption and export on a cost-competitive basis. The second set of actions are examples of crop or livestock enterprises that could be chosen for emphasis. Further analysis is required by the project design team.

Science-Oriented Technology System

Production per unit area of major agricultural commodities in Bolivia is low by international standards. Added increments to production are usually obtained by planting more area or moving to less depleted lands. This system of "traditional agriculture," if continued, will assure Bolivia's inability to feed its growing population without accelerating food imports, while reducing its competitive position in the export markets.

The proposed Agricultural Marketing and Productivity Project could be used to demonstrate to public and private sector policy-makers that sustainable increases in productivity at competitive prices require technology that is state-of-the-art and science-oriented.

Science-based technology must include an economic balance of the key factors of production. These include:

- appropriate technology
- soil fertility
- pest control
- quality germ plasm
- capital
- labor
- management.

However, the system cannot be successful without organized and functioning marketing systems.

The proposed Agricultural Marketing and Productivity Project can provide long-term and short-term technical assistance to analyze constraints and identify opportunities (and possibly seed capital when required) to assist Bolivia to adopt and implement a science-oriented technology system for achieving increases in productivity that are cost competitive. It is clearly beyond the scope of this project to actively participate in the majority of the identified action required to alleviate critical constraints to production.

Many of these constraints will require separate projects that could be funded by USAID/Bolivia and other donors. Other actions will require large private sector investments. A key role of the proposed project may as a catalyst that helps direct the efforts of other donors and of Bolivia's impressive array of private sector agricultural groups.

Table 5 presents several elements required for an operative science-oriented technology system. Some of these elements are already available on a limited scale; there are examples of small scale irrigation, drainage, and soil conservation in both the Altiplano and Valley regions that utilize imported technology and inputs.

As the constraints to a science-oriented technology system are ameliorated, production will increase and the cost of production will diminish. Thus, the production system will be able to respond to increased demand in both the internal and export markets.

The estimated costs to the project are $1,400,00 in long-term technical assistance, $360,000 in short-term technical assistance, and local currency for Bolivian technicians.

Inputs

Inputs are available in some areas but at extremely high prices. Bolivia has the natural resources (natural gas, phosphate deposits, potassium deposits, and lime deposits) required to produce the nation's fertilizer requirements economically and to become a net exporter of fertilizer. Pesticides can be produced in-country with imports limited initially to basic ingredients. The same is true of veterinary supplies.

Table 5: Elements Required for Successful Science-Oriented Technology System

Opportunities	Possible Project Role	Implemented by
Natural Resources soil conservation small-scale irrigation drainage systems	Catalyst	Other donors
Rural Financial Markets	Full-time t.a. Form Working Group on Rural Finance	Other donors for new capital and existing lines of credit
Input Supply NPK and N production Pesticide formulation Veterinary supplies	Catalyst	Private sector
Research and Generation of Technology	Catalyst	
Analysis of MACA/IBTA	Analysis Catalyst	Petroleum revenues and Other donors
Germ plasm	Catalyst	IBTA and other donors
Technology Transfers		
Integrated Agroindustries	Pilot activities	Private sector seed money
Commodity Programs	Catalyst	Farmer organzations
Fresh Produce	Pilot Activities Catalyst Catalyst	PVOs and other donors PVOs and farmer organizations

Seeds

USAID/Bolivia funded a seed project that led to the formation of a National Seed Council, an autonomous body with power to regulate quality of seed production in Bolivia. Six Regional Seed Councils have seed cleaning and testing facilities and employ inspectors to monitor the growing and harvesting of crops so that the seed can be certified. The seed program depends on a supply of foundation seed from the MACA/IBTA Research Stations and on production by contract growers who pay for seed inspection, certification, and cleaning services.

The Seed Councils do not yet have sufficient turnover of funds to be financially viable. To build on the successful seed program started by USAID/Bolivia, additional resources from other donors are needed to expand the quantity and increase the number of species of seed being produced. The expanded program may well include better germ plasm for livestock.

Research and Technology

The generation of technology is a public good. In Bolivia this responsibility is institutionalized in a network of research stations covering the principal agricultural areas; the stations are well equipped but poorly staffed and underfinanced. Bolivia is in danger of losing these valuable resources. Assistance is needed so that they can be saved, can assume their rightful role in the generation of technology, and can be a source of quality foundation germ plasm. A portion of the petroleum revenues now going to the Departmental Development Corporations (DDCs) could provide adequate long-range funding.

The proposed project should not provide assistance in technology generation. It could provide possible technical assistance in the analysis of the system and in the identification of options for the Government of Bolivia (GOB) or other donors. For example, the project could utilize technical assistance and counterpart funds to demonstrate delivery systems for state-of-the-art technological packages linked with credit and marketing.

Specific Activities for Consideration

The following are examples of crop or livestock enterprises that could be chosen for assistance during the project. Further analysis is required by the project design team.

Barley: Import Displacement

Barley is a hardier crop than wheat and can withstand severe frost damage in the Altiplano and upper Valleys. It is an important food crop for small farmers. The straw and field residue is important for livestock feed.

The main commercial outlets for barley are the breweries for malt production. The Bolivian National Brewery of La Paz (CBN) and Taquina of Cochabamba purchase over one half of the country's barley production. Both breweries contract with several thousand barley growers for this production. They also contract with a few growers to produce seed, which is neither inspected nor certified. The breweries do not establish the selling price before the barley is planted, but wait until harvest time when prices are lowest to begin purchasing.

In 1987 barley production was estimated at 66,000 metric tons and was grown on 86,000 hectares for a very low average production of 0.77 tons per hectare. Imports amount to about 25,000 tons per year. There is ample room for import substitution through increased production per unit area.

Increased barley production would reduce imports and give more income to thousands of Altiplano farmers. If the breweries decide to participate in this activity, it will be a good example of an integrated enterprise where the end user stimulates increased production, inputs, technical assistance, and assured market.

Implementation of this activity is closely linked with the strengthening of other programs, such as the production of quality seed, the system for known technology transfer, and provision of credit through non-governmental organizations (NGOs) and private agricultural organizations (PAOs).

The project design team should explore the practicality of working with the breweries to increase the quantity and improve the quality of barley production. Scenarios and suggestions to be considered include the following:

- Use improved seeds to secure higher plant density on well prepared land. Good seed plus modest amounts of nitrogen-phosphorous fertilizer and pure nitrogen fertilizers will have a large production impact.

- Acquire hand operated seeding equipment that can service several farmers (at cost of about $150).

- Provide technical assistance through demonstrations to groups of farmers.

Increased production from this simple technology could increase yields to as much as 2.5 MT per hectare in many areas.

The quality of the barley grain sold by farmers is usually very poor due to improper rogugling in the field and the inclusion of grit and stones from the dirt threshing floor. It may be desirable to provide each participating community with a small motorized stationary threshing machine which will make the grain much more acceptable in the market place.

Cost of the seeding equipment and threshing machines could be recovered by charging a reasonable user fee to participating farmers. Estimated costs for one community would be 10 seeders at $150 each and 2 threshers at $1,000 each.

Llamas, Alpacas, and Vicuñas

The current productive capacity of the highland area can only marginally support the present human and animal populations. The volume of livestock products can be substantially increased in the long-term with a program that includes reduction in animal population and improved productivity.

Historically, the Altiplano has been camelid country. The introduction of cattle, sheep and goats has placed extreme stress upon the fragile environment. The long range strategy of the GOB should be to reduce the numbers of cattle, sheep, and goats in the Altiplano while giving incentives to increase the numbers and improve the quality of camelids.

Camelids offer an excellent opportunity to demonstrate a demand-led enterprise. There is no practical limit to world market demand for camelid wool. Support of camelids by the Government of Bolivia could be part of a long-range strategy of reducing grazing pressure in the ecologically fragile Altiplano and could provide better incomes for farmers and herdsmen.

Production of cattle in small numbers should be encouraged in the lower elevations and valleys. The possibility of expanding the intensive feeding systems should be explored.

According to Murillo (1987) there were about 2.2 million llamas in Bolivia in 1985, mostly in the highlands, but only about 350,000 alpacas. There is an undetermined and a shrinking population of vicuñas mostly running wild.

Because llamas can adapt to poor ranges with hard, rocky ground, the extensive grasslands in the highlands are well suited to the production of llamas. On the other hand, alpacas require better pasture and wet, soft ground, found in a limited microecological zone of the highlands. Commercial alpaca production should be encouraged in areas of this zone (Bofedal), while llama production should be stimulated on less selective pastures.

At present, the quality of alpaca and llama wool in Bolivia is poor and the volume of production per animal is low. This is due in lack of regular shearing schedule and poor shearing equipment. An animal and wool improvement activity, possibly patterned after the successful experiences of Peru, can be encouraged. With the use of available special equipment, the kemp or thick hairs of llama wool can be removed. Thus llama would provide wool similar to alpaca wool, which is considered a luxury natural fiber with an open world market. These wools could become the leading cash crop for many Altiplano farmers or herdsmen.

Llama meat in La Paz has a price nearly equal to that of beef (Bs. 3.2/kg in September 1988). Reports estimate that about 100,000 llamas are slaughtered each year to meet local demand for meat, while the hides are exported illegally to Peru.

In the highlands and parts of the valleys, a non-profit foundation, the Asociacion de Artesania y Moda (ADAM), is promoting and seeking resources to

finance the establishment of production modules for both alpacas and llama, as well as the repopulation of vicuña. This foundation and other NGOs should be consulted in developing the parameters of this activity and should be involved in implementation of any activity identified as important.

Coffee Renovation

Coffee production in Bolivia is an important source of income for over 30,000 families involved in production (approximately 22,000 hectares), harvesting, and processing. Coffee is also a principal source of export earnings and generated $11 million of foreign exchange in 1987. But coffee production in Bolivia is threatened by disease and pest infestations, such as coffee rust and coffee berry borer (broca).

The Asociacion Nacional de Productres del Cafe (ANPROCA) estimates that many producers are losing up to 50% of their harvest to these plagues. Yields, which are already quite low by international standards (8 to 10 hundredweight per hectare) will be further reduced as the disease and infestation continues to spread. There are effective chemical measures for coffee rust and broca. However, cost of the control program is approximately three hundred weight per hectare. It is clear that under current low-levels of technology, control measures are impractical.

The primary reasons for low production of Bolivian coffee are:

- High incidence of coffee rust and broca
- Widespread use of low yield varieties
- Low density of plantings
- Near total absence of fertilizer use
- Near total absence of fungicide use
- Near total absence of pesticide use
- Extensive overuse of shade
- Minimal pruning of mature trees.

The difficulties of the coffee industry in Bolivia are not limited to low yields and disease problems. The value of the crop is also low. It is reported that Bolivian coffee is penalized about 20 cents per pound on the international market due to poor quality.

Coffee renovation will assure that Bolivia can maintain its export quota. Incomes of participating farmers will increase dramatically in response to incentives

and improved technologies. The goals of renovation are an increase in the incomes and quality of life of valley farm families and increased export earnings.

The purpose of this activity will be to help reverse the decline in Bolivia's coffee industry. A proven technology package will be introduced to approximately 6,000 producers in 7 years, that will control disease and infestation and dramatically increase yields and improve quality. This intensive technology transfer program will be implemented through ANPROCA with its 3,000 members and the Coffee Cooperative Federation with its 2,000 members.

A successful coffee rehabilitation activity using state-of-the-art technology will increase production per hectare from the present average of 8 to 10 hundred weight to 45 to 50 hundred weight. Colombia and Honduras have reported productions of above 80 hundredweight per hectare. With these production increases, Bolivia will have to sell to non-international coffee agreement countries, obtain a larger quota, or initiate a diversification program.

If it is determined that the Agricultural Marketing and Productivity Project should support a strong coffee program, the project could provide technical assistance to the ANPROCA and the Coffee Cooperative Federation especially in the planning and initial phase of a coffee rehabilitation program.

The program will introduce proven coffee technologies from external sources to 6,000 small producers who agree to follow prescribed sets of production practices. Third country technicians will work with Bolivian technicians and develop technical packages from proven technology and will focus on intensive technology transfer processes.

Activity technicians and Bolivian counterparts will develop documents that describe the procedures for strengthening administrative capacities, for staffing and training, for making technology packages available, transferring the technologies, for self-financing the technical assistance program, and for funding an integrated credit program from counterpart and BAB resources.

The preliminary activity budget in support of this program will require an estimated $3.5 million over seven years. Payment for staff and operational support

costs will be assumed gradually by ANPROCA and the Coffee Cooperative Federation beginning at 30% in the third year and reaching full payment by the end of the fifth year. The technical assistance will include a coffee specialist for the first three years and 18 person-months of short term assistance in coffee production, economics, finance, and computerization.

Poultry Production

Poultry is an example of an enterprise with policy and information implications that are national in scope. The rapid development of the poultry industry in Bolivia in recent years demonstrates that the country has the ability to adopt and successfully utilize modern science-based technology. The industry also demonstrates that marketing information and strategy considerations for the industry must be addressed in a national context.

The departments of Santa Cruz and Cochabamba dominate the poultry industry. Santa Cruz produces 42% of the broilers and 70% of the national egg production. Cochabamba produces 52% of broilers and 22% of the eggs. In September 1988 the wholesale broiler price per kg is Bs. 3.50 in Santa Cruz, Bs. 3.60 in Cochabamba, and Bs. 3.50 in La Paz.

Cochabamba is successfully shipping broilers to La Paz using flaked ice. Santa Cruz has, to-date, been unable to compete due to transportation difficulties. Cochabamba is also able to compete successfully with Santa Cruz for the egg market. This is again largely due to the cost of transport. Illegal egg imports from Chile compete with both Santa Cruz and Cochabamba for the La Paz egg market.

Producers in the valley region of Cochabamba are investing in the production of corn and sorgum in Santa Cruz to help hedge feed cost. All of the concentrate from soybean meal comes from Santa Cruz. Thus, production and marketing constraints and opportunities are inter-regional.

Potential assistance to the poultry industry under the proposed project will be largely in the area of strategy and policy considerations. The assistance must however, be national in scope.

APPENDIX I

PARTIAL LIST OF INSTITUTIONS AND PERSONS CONTACTED

PUBLIC AND PRIVATE BOLIVIAN INSTITUTIONS

City	Institution/Address	Person
La Paz	**Ministerio de Asuntos Campesinos y Agropecuarios**	
	Av. Camacho 1471 Tel. 3766860 - 361396	Ing. Jose Guillermo Justiniano Ministro
		Mr. Jaime Muñoz-Reyes Navarro Asesor General-Coop. Intern'l
		Mr. Ricardo Ayala Director Nal. de Mercadeo Agropecuario
		Mr. Felix Palenque
	MACA - Instituto Boliviano de Tecnología Agropecuaria Estación Experimental "Patacamaya"	
		Ing. Agrónomo Fremioth Arambzo Mendoza
	MACA-MICRO	
	Av.Camacho 1471 - Piso 3 Tel. 376369 - 361396	Lic. Oscar Luna Claros Jefe Area Planificación
		Ing. Ramón EscóbarSerra Consultor Coordinador General
	Ministerio de Industria y Comercio	
	Av. Camacho esq. Bueno Tel. 372043 - 372044	Freddy Teodovic Subsecretario
		Hernán Deheza M. Almacenaje de Granos
		Sr. Antonio Camberos B. Director Gral. de Industria
	Tel. 372049	Lic. Jorge A. Zambrana F. Director General de Agroindustria

City	Institution/Address	Person
La Paz	**Banco Central de Bolivia**	
	Calle Mercado esq. Ayacucho Tel. 374151	Lic. Oscar Freudenthal Departamento de Desarrollo
		Luis Fernando Tamayo Gerente de Contabilidad y Estadística
	UDAPE (Unidad de Análisis de Políticas Económicas)	
	Edif. El Condor - 3er. Piso Calle Batallón Colorados Tel. 375512 - 369905 - 372333- 374628 - 358847	Lic. Gonzalo Afcha de la Parra Director Ejecutivo
		Sr. José Antonio Valdéz Analista
	Caja Central Ahorro y Préstamo para Vivienda	
	Av. Mcal. Santa Cruz 1364. Tel. 371280 - 371281/2/3	Sr. Ernesto Wende F. Presidente
	Federación Nacional de Cooperativas deAhorro y Crédito para Bolivia	
	Juan de la Riva 1480 Tel. 328564 - 343393	Sr. Jorge J. Vargas Ortega Gerente Regional
		Sr. Walter Bonilla B. Auditor
	INE (Instituto Nacional de Estadística)	
	Tel. 367443 - 368799	Lic. Marcelo Mercado Director
	Universidad Catolica Boliviana	
	Dep. de Estudios Cooperativos Av.M.Santa Cruz,Ed. Esperanza 2150 Piso 3 Casilla 4805 Tel.:364535	Lic. Luis F. Campo O. Director
	Estancias Elsner Hermanos Plaza S. Pedro Casilla 6007 Tel.363218	Bernardo Bauer K. Gerente

City	Institution/Address	Person
Santa Cruz	**CORDECRUZ (Corporación Regional de Desarrollo de Santa Cruz)**	
		Lic. Miguel Nuñez Depto. Comercialización
		Ing. G. Bailivián Asesor Unidad Programas Rurales y Agropecuarios
	Cámara Agropecuaria del Oriente	
	Tercer anillo Ing., entre Av. Piraí y Roca Coronado Tel. 44966 - 51391 - 23164	Ing. Edmundo Roca Voss Gerente General
		Lic. René Salomón Vargas Depto. Comercial. Agropecuaria
		Jorge Alvarez Molina
		R. Zabala Moreno, Anapo, seed processing, marketing
	Universidad Gabriel René Moreno	
	Facultad de Veterinaria Zootecnia Tel. 43661 - 43569	Dr. David Escalante Chávez Coordinador de Carrera
	Facultad de CienciasAgrícolas Tel. 42682	Ing. Alfredo Pérez A. Decano
	Federación de Ganaderos de Cruz	
	Av. Ejército esq. Solíz de Olguín	Sr. Jaime Parada Rossell Gerente General
		Ing. Wolfgang Peña C. Gerente Técnico
	Tel. 21039	Dr. Alejandro Pierront H. Veterinario - Economista Agrícola

City	Institution/Address	Person
Cochabamba	**Universidad Mayor de San Simón**	
	Tel. 24823 - 32540	Dr. Raúl Rico Gamboa Rector
	CORDECO (Corp. de Desarrollo de Cochabamba)	
	Tel. 23517 - 25155	Ing. René Saavedra A. Presidente
	Cooperativa Integral de Servicios COCHABAMBA Ltda.	
	Tel. 29292	Agr. Emilio Cano Escóbar Gerente
	Federacion Nacional de Cooperativas De Ahorrro y Credito de Bolivia	
	Antezana S-0383-Casilla 829 Tel.: 21374 21202 25275	Alberto Montero Cossio Gerente General
		J. Celiar Lopez Coelho Gerente de Operaciones
	Cooperativa de Ahorro y Credito "San Jose de Punata"	
	Rafael Urquidi 120 Casilla Fenacre 24, Punata Tel 29292	Angel Davila Gutierrez Gerente General
	Centro para el Desarrollo Social y Economico (DESEC)	
	Casilla 1420, Tel. 47959-45858	Edgar Guardia Gerente
	Accion Rural Agricola De Desarrollo Organizado(ARADO)	
	Av. Barrientos 2347 Casilla 1710 Tel. 24550	Ing. Agr. M.S. A. Moreira Rios Gerente General

City	Institution/Address	Person
Chuquisaca	**Corporación Regional de Desarrollo de Chuquisaca (CORDECH)**	
	Of. La Madona Tel. 22290	Dr. Marcelo Vargas Vacaflor Presidente
	Tel. 30260	Lic. Armando Serrudo H. Gerente Planificación y Proyectos
	Tel. 24008 - 24101	Lic. Juan José Bonifaz B. Gerente Administrativo y Financiero
	Cámara Agropecuaria de Chuquisaca	
	España 66 Tel. 24275	Sr. Ariel Avilés L. Gerente Técnico
Tarija	**Corporación Regional de Desarrollo de Tarija (CODETAR)**	
	Av. Las Américas esq. España Tel. 24298 - 23344	Sr. Luis Lema Molina Presidente
	Cámara Agropecuaria de Tarija	
	Alejandro del Carpio 156 Tel. 22000 - 25949	Lic. Jaime A. Castellanos Presidente

MULTI AND BILATERAL AID AGENCIES

City	Institution/Address	Person
La Paz	**Banco Mundial**	
	Edif. Banco Industrial El Prado Piso 12	Lic. Fernando Mendoza Representante Srta. Beatriz Balcázar
La Paz	**Banco Interamericano de Desarrollo (IDB)**	
	Edif. Banco Industrial Tel. 370293 - 350766 Pise 5	Sr. Luis Paulo da Silva Especialista Sectorial Sr. Angel Fanola G. Especialista Local Agropecuario
La Paz	**FAO**	
	Edif. Naciones Unidas Plaza Isabel La Católica Tel. 358597	Sr. Lozano Rep. Interino FAOR Sra. Martha de Andrade
Tarija	**FAO - Rural Development Project**	
	Tel. 22278	Sr. J. van Rooij Project Manager
	Comunicad Económica Europea (CEE)	
Oruro	Hotel Terminal - Piso 9 Tel. 42343 - 51759	Lic. Karl Wierer Economista Agrícola Co-Director PAC-CEE
La Paz	Tel. 367318	Sr. Edgar Spieker Co-Director
	WFP	
		Ing. Xavier Rouillard

City	Institution/Address	Person
La Paz	**IICA**	
	Edif. FONCOMIN Av. 20 de Octubre 2038 Tel. 352086 - 374988	Dr. Benjamín Jara Representante
		Sr. Gilberto Mendoza Especialista en Comercial. Agrícola
	GTZ	
La Paz	Edif. Herrmann - Piso 13 Plaza Venezuela 1440 Tel. 359968 - 390058	Sr. E. Fernandez Rehbein Director
	c/o Ministerio de Planeamiento y Coordinación Tel. 372069 - 378628	Dr. Alexander Schubert Coordinator
Cochabamba	c/o IBTA/GTZ Calle España esq. Ecuador Edif. Bolívar - Of. 302	Dr. Henning von Platen
	c/o FENACRE Antezana S-0397 Casilla 829 Tel. 21 Telex 6403 FENACRE BV	Kai Rehfeldt Representante DGRV
La Paz	**Embajada de la República Federal de Alemania**	
	Av. Arce Tel. 351980 - 352389	Lic. Paul Albert Resch Consejero
La Paz	**USAID/GOB PL-480**	
	Edif. Barrosquira - Piso 9 Calle Colón 161 Tel. 372200 - 372201	Sr. Jorge Noda Miranda Jefe Unidad Financiera
	UNDP	
		Sr. Timothy Painter Representante Residente

CONSULTING COMPANIES

City	Institution/Address	Person
La Paz	**Ronco Consulting Corporation** **Proyecto Organizaciones Agrícolas Privadas**	
	Edif. Ballivián - Piso 1 Calle Mercado 1328 Tel. 342510 - 324400	Dr. Luis Ampuero Especialista en Mercadeo
		Lic. Marcelo Miranda Intermediación Financiera para el Sector Agropecuario
		Sr. Patrick J. Moriarty Lic. Franklin Sandi Coordinador de Capacitación
	IDEA (Instituto para el Desarrollo de Empresarios y Administradores)	
	Av. Camacho 1485 Edif. La Urbana - 3er Piso Tel. 323146 - 370896	Ing. Héctor Encinas P. Gerente General
		Lic. Magda Lahore Gerente Académica
	Development Associates (Proyecto FOCAS)	
	Edif. Mcal. Ballivián - Mezz. Calle Mercado 1328 Tel. 350129 - 362926- 325190 - 342114 374376 - 343769	Sr. Kenneth D. Weiss Asesor en Mercadeo
		Sr. Peter H. Fraser Asesor en Pequeñas Empresas
	Consultant	
	Tel. 326155	Sr. René Urquidi
	PNUD/UNDP	
	Convenio with Ministry of Industry and Commerce	Juan Carlos Navajas Coordinador Nacional Convenio ATN/SF-2198-80

City	Institution/Address	Person
Santa Cruz	**Consultant**	
	Tel. 21039	Dr. Alejandro Pierront H. Veterinario - Economista Agrícola
Cochabamba	**Unidad Crediticia y Financiera (UCF)**	
	Edif. BBA - 1er Piso Tel. 26962 - 27742	Ing. Marcelo Prudencio R. Evaluador
Cochabamba	**Consultant**	
	Tel.43516	Agr. Oswaldo Sanabria L.
Cochabamba	**IDEA**	
	Tel. 24386	Augusto Iglesias R.
Chuquisaca	**AIBOL (Agroindustria Boliviana Ltda.)**	
	Tel. 21504	Lewis H.Thornton Gerente
Chile	**Consultant**	
	Av. Parque Antonio Rabat 6165 Tel. 2281446 Santiago, Cgile	Hernán Monardes M. Ing. Agrónomo Fernando Sánchez
U.S.A.	Consultant	
	531 Camino del Bosque N.W. Albuquerque, NM 87114 Tel. (505) 897-1119	Ernest Gurule
U.S.A.	**FCA (Farm Credit Administration)**	
	McLean, Virginia 22102-5090 Tel. (703) 883-4241	Patrick J. Moriarty Assistant Director
U.S.A.	**Institute of Resource Development**	
	Columbia, MD 21044 Tel. (301) 992-0066	Jim Rumph Project Director Bolivia Management Training Project

APPENDIX II

INTERNATIONAL ECONOMIC ASSISTANCE TO BOLIVIA

International Economic Assistance in Agricultural Marketing from Multilateral and Bilateral Agencies to Bolivia in 1988

Information on projects active in 1988 has been provided by multilateral and bilateral agencies to USAID/Bolivia and the Ministry of Planning and Coordination. Information from bilateral agencies is incomplete. All data are subject to revision.

The United Nations Development Program (UNDP)

UNDP is supporting two rural roads projects, financed by the UN Capital Fund, in the Department of La Paz and in Cochabamba area. Some marketing studies are included in the diversification projects of las Junglas and Chapare.

World Bank

The World Bank is formulating a rural development project in the eastern lowlands, to clear 20,000 hectares of land for soya and wheat production including a technical assistance and credit component

The World Bank also is considering supporting a project unit in MACA for formulating small projects (US$ .5 to 3 million) to be implemented through regional development corporations or NGOs.

The World Bank will finance the rehabilitation of the railroad Santa Cruz to the terminal Quijjaro, which will result in reduction of transport cost for export. (iv) will consider financing improvement of the road La Paz to Chilean border, which will result in reducing transport cost for exports to the Pacific.

International Development Bank (IDB):

IDB is conducting a feasibility study on pig production and marketing in three departments in the east of the country.

IBD has completed a marketing study on grains in the Santa Cruz area and is considering a study on export of meat in cooperation with FAO.

IFAD:

IFAD is financing two rural development projects:

- in Cotagaita-San Juan del Oro in cooperation with Cordepo, Potosi
- in the Norte de Chuquisaca in cooperation with Cordech, Sucre.

These include a marketing component, such as feeder roads, assembly stations, storage facilities, and a credit component.

United Nations Food and Agriculture Organization (FAO)

FAO operates a four year rural development project in the Gran Chaco area, which includes a marketing component. So far it has focussed on the feasibility of establishing centres de acopio.

A consultant mission is expected in September to study export opportunities for meat.

The World Food Programme (WFP)

WFP is assisting in building and improving rural roads through its Food For Work Programme. In 1985/87 it supported the building of 1,865 kilometers of new and 1,730 kilometers of improving rural roads.

European Economic Community (EEC)

EEC operates 3 rural development projects (Potosi, Oruro, La Paz). El Programa des autodesarollo Campesinos (PAC), has a duration of 8 years and will terminate in February 1992. Projects include a marketing component.

Instituto Interamericano de Cooperacion para la Agricultura (IICA)

IICA employs at present one international expert on agricultural marketing to advise MACA on marketing improvement and organize short-term training programmes. IICA intends to hire a short-term national consultant to advise on marketing improvement.

Denmark

A mission is expected during the fourth quarter of 1988 to study investments in agroindustries, such as improvement of existing milk plants, a slaughterhouse in Chaco, fruit and vegetable processing in Tarija and wood processing. The total expected credit line amounts to US$ 13 million.

USAID/Bolivia

Ronco Consulting Corporation is studying export possibilities for beef and for rabbit hairs through joint ventures.

United Kingdom

U.K. employs two consultants, attached to CORDECRUZ, to advise and assist in preparing studies on export opportunities and on the feasibility to improve marketing facilities. The consultants have assisted in the establishment of a market information service in the Agricultural Chamber of Santa Cruz.

Federal Republic of Germany

Federal Republic of Germany has opened a credit line of US$ 117 million in support of reactivating the economy. US$ 88 million are earmarked as long-term credit (40 years, ten years grace period, 1.37% interest rate) The balance of US$ 29 million is considered as donation. Identified projects include irrigation including rural marketing components.

A team of experts is completing its assistance (Sept. 1988) to the Ministry of Planning in the preparation of a medium-term development plan. Plan supports a number of rural development projects, which include rural marketing components.

Japan

Cordecruz hopes that Japanese Aid will carry out a feasibility study on the establishment of the wholesale market of Santa Cruz and may consider also financing it. The wholesale market would facilitate also marketing of fruit and vegetables of the Japanese farmers settled in the department of Santa Cruz.

ECONOMIC ASSISTANCE TO BOLIVIA BY INTERNATIONAL DONOR

	A	B	C	D	E	F	G	H
	AGREEMENT AMOUNT(1)	%	ACCUMULATED DISBURSEMENTS AS OF 03/1988	ACCRUED RATE OF DISB.	PIPELINE STATUS	ANNUAL DISBURSEMENTS(2) 1986	1987(pg)	1988(pj)
BILATERAL ASSISTANCE	608.6	35.1%	251.4	41.3%	357.2	52.6	120.0	161.5
COTESU(3)(4)	32.9	1.9%	1.1	3.3%	31.8	n.a.	6.1	6.7
GERMANY(5)	89.7	5.2%	19.4	21.6%	70.3	6.1	10.1	85.8
GREAT BRITAIN(6)	11.2	0.6%	1.2	10.5%	10.0	5.3	11.0	0.9
ITALY	52.8	3.0%	2.1	4.0%	50.7	n.a.	7.5	11.6
JICA	49.9	2.9%	32.5	65.1%	17.4	5.7	29.8	15.5
NETHERLANDS(5)	1.3	0.1%	0.1	4.6%	1.2	n.a.	n.a.	n.a.
SPAIN(6)	4.8	0.3%	0.0	0.0%	4.8	n.a.	n.a.	n.a.
USAID(7)	366.0	21.1%	195.1	53.3%	170.9	35.5	55.5	41.0
ANN.DISBURS./AGREEM.AMT.						8.6%	19.7%	26.5%
MULTILATERAL ASSISTANCE	1,126.7	64.9%	463.9	41.2%	662.8	132.2	179.5	241.0
CAF	148.5	8.6%	39.4	26.5%	109.1	8.6	27.6	31.1
FAO	4.6	0.3%	3.0	62.2%	1.8	n.a.	0.8	0.8
FONPLATA(8)	37.0	2.1%	16.7	45.2%	20.3	n.a.	4.5	6.9
IBRD	211.2	12.2%	52.8	25.0%	158.4	7.5	70.7	83.4
IDB	676.3	39.0%	327.9	48.5%	348.4	116.1	71.4	112.0
UNDP(4)	20.9	1.2%	10.5	50.1%	10.4	n.a.	4.5	3.8
UNFDAC	28.0	1.6%	13.6	48.5%	14.4	n.a.	n.a.	3.0
ANN.DISBURS./AGREEM.AMT.						11.7%	15.9%	21.4%
TOTAL	1,735.3	100.0%	715.3	41.2%	1,020.0	184.8	299.5	402.5
ANN.DISBURS./AGREEM.AMT.						10.6%	17.3%	23.2%

n.a. Not Available
(pg) programmed
(pj) projected

(1) Active projects for 1988.
(2) According to the IMF
(3) Since there is no available data in US$ for the agreement amounts, pipeline amounts are used also as agreement amounts.
(4) As of 02/88
(5) As of 03/88
(6) As of 09/87
(7) As of 07/88
(8) As of 06/87

Preliminary figures subject to revision.

SUMMARIZED BY: ECON/USAID
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AGRICULTURE & RURAL DEVELOPMENT

(000 US$)

AGENCY	PROJECT NAME	PROJECT DESCRIPTION	GRANT/ LOAN	INITIAL YEAR	FINAL YEAR	AGREEMENT AMOUNT	AMOUNT DISBURSED	PIPELINE STATUS	AS OF
CAF	Global Agricultural Credit		L			20,000	296	19,704	03/88
COTESU	PLARES	Micro Regional Planning System		12/85		571	0	571	02/88
COTESU	BAYFIN	Rural Development		06/83		857	0	857	02/88
COTESU	REYGAN	Livestock Promotion in Reyes		69		42	0	42	02/88
COTESU	TOFGAL	Dairy & Livestock Promotion		09/74		43	0	43	02/88
COTESU	FRUDEC	Fruiticulture Development in Cbba.		76		214	0	214	02/88
COTESU	FOREST	Reforestation in Cbba.		04/84		3,571	0	3,571	02/88
COTESU	UPS-SEPA	Potato Seed Production		09/84		2,143	0	2,143	02/88
COTESU	ALTO BENI	Alto Beni Rural Development		06/84		1,286	0	1,286	02/88
COTESU	NOGUB	Support to Nongovernmental Orgs.				3,786	0	3,786	02/88
FAO	Land Rehabilitation	Tarija River		87	88	2,400	1,207	1,193	12/87
FAO	Yield Improvement	Use of Fertilizers		87	88	2,317	1,780	537	12/87
FONPLATA	Cuenca Rio Beraejo	Aerofotogrametry	L	81		234	0	234	06/87
GERMANY	Altiplano-Valles Irrigation		L	06/86	89	14,767	11,118	3,649	03/88
GERMANY	Altiplano-Valles Irrigation	Technical Assistance		01/86	89	667	341	326	03/88
GERMANY	Technical Support to SEARPI	Santa Cruz		11/87		3,000	0	3,000	03/88
GERMANY	Integrated Rural Development	San Ignacio de Velasco		11/87		87	0	87	03/88
IDB	Agriculture Global Credit				09/88	32,000	31,179	821	03/88
IDB	Emergency Seed Program				09/88	22,144	21,376	768	03/88
IDB	Irrigation for the Chaco				08/88	11,051	9,884	1,167	03/88
IDB	Agric.& Agroind. Global Prgm.II	Credit	L	11/86	05/91	100,000	35,057	64,943	03/88
ITALY	Fruit Development				87	4,500	0	4,500	12/87
ITALY	Villa Montes Sachapera	Agricultural Development			89	8,269	0	8,269	12/87
ITALY	Porvenir	Agricultural Development			90	8,594	0	8,594	12/87
ITALY	Aiquile	Integral Development			92	3,500	0	3,500	12/87
ITALY	Ayopaya	Agricultural Development			89	6,925	1,200	5,725	12/87
ITALY	Hidrometheorology	Improvement of Equipment			88	1,600	0	1,600	12/87
JICA	Trout Production Promotion	Construction & Equipment	G	08/86		5,000	5,000	0	03/88
JICA	Seed Production Center	Vegetable Seed Production	G			11,500	0	11,500	03/88
JICA	X Increased Food Production	Additional Component	G	04/87		1,330	1,330	0	03/88
JICA	Artificial Insemination	Santa Cruz	G			1,000	0	1,000	03/88
SPAIN	Altiplano Campesino Dev.			86	90	1,500	0	1,500	09/87
SPAIN	Training for Slaughter. Pers.					418	0	418	09/87
SPAIN	Biological Station in Beni			82	87	500	0	500	09/87
SPAIN	Plague Control Lab.					493	0	493	09/87
SPAIN	Cooperatives Promotion			88	89	95	0	95	09/87
UNDP	Gran Chaco Development			85	90	2,045	577	1,468	02/88
UNDP	Oruro Micro Irrigation			86	90	1,525	189	1,336	02/88
UNDP	Potosi Micro Irrigation			86	89	1,461	353	1,108	02/88
UNDP	Copani Rural Development			86	88	150	94	56	02/88
UNDP	Viticulture Centre			83	88	390	302	88	02/88
UNDP	Meat & Dairy Production			83	89	445	27	418	02/88
UNDP	Strengthening MACA			87	88	99	24	75	02/88
UNFDAC	AGROYUNGAS	Agric. & Agroind. Dev. of the Yungas	L	86	89	20,500	9,500	11,000	12/87
UNFDAC	AGROYUNGAS	Additional suplement	L		88	600		600	12/87
USAID	Chapare Regional Development		G	10/83	08/90	5,900	3,212	2,688	07/88
USAID	Chapare Regional Development		L	10/87	08/90	12,500	3,887	8,613	07/88

USAID	Disaster Recovery Project	L	10/83	10/87	43,500	37,421	6,079	07/88
USAID	Disaster Recovery Project	G	10/83	10/87	7,250	6,307	943	07/88
USAID	Special Development Activities	G	12/64	12/87	1,817	1,279	538	07/88
USAID	Private Agric.Producer Orgs.	G	07/86	12/90	2,215	767	1,448	07/88
USAID	Emergency Agricultural Credit	G	09/86	03/88	10,000	5,888	4,112	07/88
USAID	Handicraft Export (ADAM)	G	08/85	08/89	3,000	1,864	1,136	07/88
USAID	Agricultural Sector II	L	11/77	09/86	11,300	11,241	59	07/88
USAID/PL-480 TITLE III	Promotion of Nat. Wheat Prod.	G*	78		9,533	4,090	5,443	06/88
USAID/PL-480 TITLE III	Development of Integral Coop.	G*	78		15,175	5,565	9,610	06/88
USAID/PL-480 TITLE III	Rural Development Projects	G*	78		14,230	14,560	(330)	06/88
USAID/PL-480 TITLE III	Expanded Small Farmer Credit	G*	78		33,477	14,627	18,850	06/88
USAID/PL-480 TITLE III	Campesino Scholarship Fund	G*	78		1,245	1,232	13	06/88
USAID/PL-480 TITLE III	Strengthening Producers Assoc.	G*	86/87		4,500	914	3,586	06/88
USAID/PL-480 TITLE III	Marketing & Production Credit	G*	86/87		14,000	6,822	7,178	06/88
USAID/PL-480 TITLE III	Wheat Production & Marketing	G*	86/87		2,200	809	1,391	06/88
USAID/PL-480 TITLE III	Support to Research & Extension	G*	86/87		950	86	864	06/88
USAID/PL-480 TITLE III	Preinvestment Studies	G*	86/87		400	280	120	06/88
USAID/PL-480 TITLE III	Training	G*	86/87		1,500	709	791	06/88
USAID/PL-480 TITLE III	Rural Developmenbt Projects	G*	86/87		4,000	1,657	2,343	06/88
USAID/PL-480 TITLE III	Renewable Nat. Res.Plann.& Mgmt.	G*	86/87		1,200	285	915	06/88
USAID/PL-480 TITLE I	Productive Credit Trust Fund	L	85		4,000	3,977	23	06/88
USAID/PL-480 TITLE I	Chapare Regional Dev. Acts.	L	85		1,000	165	835	06/88
USAID/PL-480 TITLE I	Land Use Capability Survey	L	85		1,000	770	230	06/88
USAID/PL-480 TITLE I	Rural Infrastructure	L	85		3,500	1,978	1,522	06/88
USAID/PL-480 TITLE I	PVO Natural Res.Mgmt. Protect.	L	85		1,000	181	819	06/88
USAID/PL-480 TITLE I	Integrated Pest Mgmt.	L	85		500	137	363	06/88
USAID/PL-480 TITLE I	Regional Rotating Dev. Funds	L	85		1,500	1,216	284	06/88
					516,011	262,760	253,251	

*Amounts committed are loans that automatically become grants when amounts are disbursed.

SUMMARIZED BY: ECON/USAID
OAntezana

PRIVATE & PUBLIC INDUSTRY

(000 US$)

AGENCY	PROJECT NAME	PROJECT DESCRIPTION	GRANT/ LOAN	INITIAL YEAR	FINAL YEAR	AGREEMENT AMOUNT	AMOUNT DISBURSED	PIPELINE STATUS	AS OF
CAF	Agriculture & Agroindustry	Equipment & Working Capital	L	06/87	06/91	20,000	100	19,900	03/88
CAF	Cerveceria Boliviana Nacional		L		11/87	6,500	1,070	5,430	03/88
CAF	Flor de Empresa		L		05/87	265	260	5	03/88
CAF	Industrial Reactivation	Working Capital	L	03/83	09/87	15,000	11,515	3,485	03/88
COTESU	SEFO-SAM	Production of Forage Seed		04/77		143	0	143	02/88
GERMANY	Experts II	Technical Assit. for Policy & Plann.	G	09/85		556	192	364	03/88
GERMANY	Experts III	Technical Assit. for Policy & Plann.	G	11/86		2,778	899	1,879	03/88
GERMANY	Small Industry & Artisanry	Credit Program (BISA)	L	12/87	90	2,778	0	2,778	03/88
GERMANY	Support to the Ministries			11/87		3,198	0	3,198	03/88
GERMANY	Institute of Ecology	Technical Support		11/87		1,628	0	1,628	03/88
GERMANY	Small Wood Industry	Santa Cruz		11/87		872	0	872	03/88
IBRD*	Public Finance Management		L	07/87	06/92	12,364	3,510	8,854	03/88
ITALY	Wine Center			87		1,500	0	1,500	12/87
ITALY	Small Industry & Artisanry	Promotion		87		1,200	0	1,200	12/87
SPAIN	Wine Center	Technical Assistance		88	90	134	0	134	09/87
UNFDAC	Institutional Support		L	.		4,000	3,350	650	12/87
UNDP	Development Administration			80	88	1,174	1,158	16	02/88
UNDP	FLACSO - Social Planning		L	87	90	252	0	252	02/88
UNDP	CONADEX (Debt)			87	88	95	73	22	02/88
UNDP	Statistics		L	84	88	155	132	23	02/88
UNDP	Industrial Policies		L	87	88	222	131	91	02/88
UNDP	Strengthening DICOPER (MPC)		L	86	88	227	141	86	02/88
UNDP	Administrative Support		L	84	88	371	339	32	02/88
UNDP	Leather Industry Development		L			350	0	350	09/87
UNDP	Wood Industry Development		L			400	0	400	09/87
UNDP	Meat & Milk Center		L			1,872	28	1,844	06/87
UNDP	Wine Center		L			252	36	216	06/87
USAID	Departmental Development Corps		L	09/79	03/87	10,000	8,851	1,149	07/88
USAID	Agribusiness and Artisanry		G	01/78	09/88	2,150	1,778	372	07/88
USAID	Agribusiness and Artisanry		L	01/78	09/88	9,200	9,170	30	07/88
USAID	Market Town Capital Formation		G	07/86	07/91	3,157	1,223	1,934	07/88
USAID	Market Town Capital Formation		L	07/86	07/91	9,003	2,153	6,850	07/88
USAID	Industrial Transition		G	06/87	09/91	4,269	184	4,085	07/88
USAID	Policy Reform		G	06/83	08/89	4,062	1,507	2,555	07/88
USAID	Strengthening Financial Markets		G	02/87	09/91	1,000	0	1,000	07/88
USAID	Union of Bolivian Banks		G	03/88	09/88	60	0	60	07/88
USAID	Planning Assistance Inc.		G	05/88	05/91	400	0	400	07/88
USAID/PL-480 TITLE III	MACA Reorganization		G**	78		1,174	1,070	104	06/88
USAID/PL-480 TITLE III	Agroind. & Artisanry Credits		G**	86/87		5,500	1,960	3,540	06/88
USAID/PL-480 TITLE III	Priv. & Micro Enterp. Support		G**	86/87		4,000	43	3,957	06/88
USAID/PL-480 TITLE III	Policy Analysis Unit		G**	86/87		900	164	736	06/88
USAID/PL-480 TITLE III	T.A. for GOB Banking Reform		G**	86/87		160	0	160	06/88
USAID/PL-480 TITLE III	MACA Restructuring		G**	86/87		1,000	147	853	06/88
USAID/PL-480 TITLE III	PL-480 Prog. Administration		G**	86/87		2,200	1,028	1,172	06/88

TRANSPORTATION

(000 US$)

AGENCY	PROJECT NAME	PROJECT DESCRIPTION	GRANT/ LOAN	INITIAL YEAR	FINAL YEAR	AGREEMENT AMOUNT	AMOUNT DISBURSED	PIPELINE STATUS	AS OF
CAF	National Transport Prgm.	Equipment & Bridge Construction	L	04/85	04/88	10,500	3,593	6,907	03/88
CAF	Road Maintenance - South	Equipment & Technical Assistance	L	07/86	01/89	15,975	50	15,925	03/88
CAF	Feasibility Study	San Buenaventura-Cobija	L	07/86	12/87	1,049	0	1,049	03/88
FONPLATA	Challapata-Tarapaya Road	Design Study	L	86		720	0	720	09/87
FONPLATA	Santa Cruz-Trinidad	Road Pavement	L	85		19,500	3,048	16,452	09/87
FONPLATA	Padcaya-Bermejo	Road Feasibility Study	L	83		1,000	769	231	09/87
FONPLATA	Valiegrande-Zudanez	Railroad Feasibility Study	L	79		585	0	585	06/87
FONPLATA	Kolacusito-Kulun-Pto.Busch	Feasibility Study	L	80		423	0	423	06/87
FONPLATA	Potosi-Tarapaya	Road Pavement	L	81		7,000	6,935	65	09/87
FONPLATA	Sucre-Yotala-Totacoa	Road Pavement	L	82		7,500	5,973	1,527	09/87
GERMANY	EMFE Locomotives	Rehabilitation	L	12/87	88	10,000	0	10,000	03/88
GREAT BRITAIN	Transport & Communication Prgm.		G	87	88	280	0	280	06/87
IDB	Transport Emergency Prgm.		L		03/88	15,356	5,590	9,766	03/88
IDB	Chimore-Yapacani		L		04/88	86,000	86,000	0	03/88
IDB	Chimore-Yapacani		L		05/89	32,100	9,296	22,804	03/88
IDB	Chimore-Yapacani		L		05/89	8,300	4,021	4,279	03/88
IDB	National Transport Prgm.		L		11/89	9,200	1,581	7,619	03/88
IDB	National Transport Prgm.		L		11/89	43,800	2,298	41,502	03/88
JICA	Road Rehabilitation		G			3,500	3,500	0	03/89
JICA	Ipias-Robore	Railroad Rehabilitation	L		12/87	23,100	21,000	2,100	03/88
JICA	San Borja-Trinidad	Final Design	G		12/88	3,000	1,500	1,500	03/88
USAID	Rural Access II		G	08/78	12/87	232	221	11	07/88
USAID	Rural Access II		L	08/78	12/87	9,042	4,577	4,465	07/88
						308,162	159,952	148,210	

SUMMARIZED BY:ECON/USAID

EDUCATION & TRAINING

(000 US$

AGENCY	PROJECT NAME	PROJECT DESCRIPTION	GRANT/ LOAN	INITIAL YEAR	FINAL YEAR	AGREEMENT AMOUNT	AMOUNT DISBURSED	PIPELINE STATUS	AS OF
COTESU	CIFEMA	Agric. Research & Extension Train.Center		78		214	0	214	02/88
COTESU	AGRUCO	Agrobiology at the Univ. of Cbba.		06/85		928	0	928	02/88
GERMANY	Fund for T.A. & Studies			11/87		1,163	0	1,163	03/88
GREAT BRITAIN	Book Presentations		G		03/88	18	9	9	06/87
GREAT BRITAIN	Scholarships		G		03/88	1,350	700	650	06/87
ITALY	School	Maintenance of Machinery (FONDI)			87	3,000	0	3,000	06/87
SPAIN	Self Education for Adults					900	0	900	09/87
SPAIN	Training for Univ. Professors			87	92	500	0	500	09/87
SPAIN	Training for Research Educ.					100	0	100	09/87
UNFDAC	Universidad Andina Simon Bolivar		G		88	30	0	30	12/87
USAID	Management Training (IDEA)		G	08/85	08/89	3,000	1,640	1,360	07/88
USAID	Narcotics Education Project		G	06/85	12/87	250	187	63	07/88
USAID	Narcotics Awareness		G	09/86	08/89	1,900	675	1,225	07/88
USAID	L.A.C. Training Initiatives		G	05/83	12/87	247	246	1	07/88
USAID	L.A.C. Training Initiatives II		G	04/85	09/90	868	449	419	07/88
USAID	Training for Development		G	08/85	06/89	2,500	723	1,777	07/88
USAID	Andean Peace Scholarship Training		G	05/88	09/93	1,000	0	1,000	07/88
USAID	Andean Peace Scholarship Prgm.		G	04/85	09/90	2,900	373	2,527	07/88
USAID	Rural Education II		L	08/77	03/87	10,000	9,223	777	07/88
USAID	Radio Learning		G	05/88	05/92	52	0	52	07/88
USAID/PL-480 TITLE III	Radio Learning in Rural Areas		G**	86/87		200	90	110	06/88
USAID/PL-480 TITLE I	Support for Private Educ. Inst.		L	85		1,500	116	1,384	06/88
						32,620	14,431	18,189	

*Amounts committed are loans that authomatically become grants when amounts are disbursed.

SUMMARIZED BY: ECON/USAID
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APPENDIX III
LIST OF REFERENCES

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