

FARM POLICY STUDY
Annual Evaluation

April 15, 1980

According to the Project Paper, this evaluation was to be of an in-depth manner. However, due to delays in data processing of the respective surveys in this project and, subsequently, the lack of information with which to judge the reliability and applicability of the data, it has been determined that this should be a routine annual evaluation.

The final evaluation which will be an in-depth evaluation will be scheduled for March, 1982. This evaluation will deal with the period from June 15, 1979, to April 15, 1980, since the Regular Evaluation of June 15, 1979, presented an analysis of the first 15 months of the project.

The first part of this evaluation is patterned after the Logical Framework presentation in the Project Paper and details the progress during the evaluation period for each measurable input and output. The second part is dedicated to the presentation of a revised implementation plan and budget which more accurately represent the present situation and future possibilities.

I. Measurable Results

This section is divided according to the Logical Framework into the following components: program or sector goal; project purposes; outputs; and contracting plan.

A. Program or Sector Goal

1. The Program goal as defined in the Project Paper is to "Increase the per capita income and improve the standard of living of Bolivia's rural poor" as measured by "Achievement of a sustainable average rate of growth of real per capita income in the rural areas of three percent per year in 1982".

The measurement of the degree of fulfillment of this program goal requires the collection of data both from the activities under this project and from other primary and secondary sources during the life of the project (1978-1981). This information must then be analyzed in 1982 to determine the rates of growth and how they measure up to the established goal.

Income information from the project was collected for agricultural year 1976-77 under the Southern Valleys Survey and the Credit Analysis, for 1977-78 under the Socio-Economic Farm Survey, for 1978-79 under the Crop Technology Survey and the Credit Analysis, and will be collected for 1979-80 and 1980-81 under the Credit Analysis and Traditional Practices Study. Combining this information with that from other sources, such as the 1980 Agricultural Census to be undertaken in September and other surveys carried out by the MACA Statistics Division (such as the area frame surveys), sufficient data should be available by late 1981 to measure goal attainment.

However, it is not realistic for this project to have an impact on goal achievement in the time frame proposed. An increase in the rate of growth of real per capita rural income will only begin when project survey analyses are completed and begin to impact on project design and policy formulation in the sector.

2. The sub-goal as defined in the Project Paper is to "Improve GOB sectoral planning capacity through the collection and analysis of reliable rural base level information" as measured by "Successful completion of all seven project activities with new and presently employed GOB technicians".

The determination of the degree of sub-goal attainment must be made in 1981 close to the project completion date at which time all activities should be successfully terminating. Progress to-date on the various project activities by percent complete are the following: a) Socio-Economic Farm Survey (88%), b) Analysis of Southern Valleys Survey data (53%); Credit Analysis (35%); Crop Technology Survey (40%); Traditional Practices Study (40%); Rural Household Study (0%); and Data Integration (10%). (For further reference on calendar of activities, see Appendix A.)

Completion of project activities is not necessarily a good measure of an improvement in the sector planning capacity of MACA. The desired improvement may result from the availability of useful data or from personnel having participated in its collection and analysis.

To-date there has been no increase in numbers of personnel in the MACA planning office, nor has there been improvement in planning capability through participation in the analysis of data collected under this project. There has, however, been a significant improvement in the ability of MACA's Statistics Division to conduct field surveys and gather data. It can be expected that analysis of the data collected will provide excellent experience and thereby provide an increased analytical capacity within MACA by the end of project.

B. Project Purposes

1. The first project purpose as defined in the Project Paper is to "Obtain reliable information on the socio-economic characteristics of rural farm and non-farm households" as measured by "Statistical documents presenting in tabular form the characteristics and socio-economic performance of farm units and households."

Progress achieved during the period covered by the evaluation consists of the preparation of unedited data tapes by the National Statistics Institute (INE) for the Socio-Economic Farm Survey and for the two years of Credit Analysis information. Presently, the MACA has a data processing contract with INE, developed through a TDY by the U.S. Census Bureau (BUCEN) in March, 1980, to undertake editing, imputation, weighting and tabulation of the Socio-Economic Farm Survey data. An edited data tape of this information should be ready by September, 1980, while an edited data tape for

the Credit Analysis should be ready by December, 1980. Also, a hand coding and editing of the Crop Technology Survey information was completed.

However, Data collection and analysis is behind schedule. The major reasons are the 20 months delay in contracting services of an economic analyst and political instability in Bolivia. Cost increases will not allow completion of a complete Rural Household Study. However, the project may proceed to finance a pilot activity which will develop and test methodology for a Rural Household Study and generate preliminary data. It appears that the project will succeed in obtaining reliable socio-economic data on rural households, but on a somewhat reduced scale and with a delay of about one year.

2. The second project purpose as defined by the Project Paper is to "Utilize this information to better formulate strategies and policies which will contribute to the achievement of the project goal" as measured by a number of analytical documents, the publication of a Sector Assessment, the use of data and analysis in program planning, and the dissemination of statistical and analytical results.

During the period covered by the evaluation, progress on this second project purpose consists of a revision and expansion of Jim Riordan's Southern Valleys Analysis and the preparation of this work as the first Analytical Document under the Farm Policy Study project. This work is about two years behind schedule due to other work demands on the author.

Ladman's Rural Financial Markets activity of the Credit Analysis sub-project has produced the following publications from Bolivian research data:

- a. "The Role of Credit in Small Farm Households in Bolivia"
- b. "Lending to Rural Poor through Informal Groups: A Promising Rural Financial Market Innovation"
- c. "The Political Economy of Agricultural Credit: The Case of Bolivia"

Other documents will be prepared as indicated in Appendix B. The better formulation of policies and sector planning is dependent on yet-to-be gathered and processed data.

C. Outputs

With the data collection activities already completed before the period covered by this evaluation for the Socio-Economic, Southern Valleys, and Crop Technology Surveys and parts of the Credit Analysis and Traditional Practices Study, what remained during this period was the tabulation and analysis of the above mentioned studies and the initiation of the Rural Household Study. The delays with the data processing activities were mentioned earlier under Section B., and it was decided to postpone any Rural Household Study activities until later in the year. The Data Integration activity, planned to commence in 1980, got under way with the arrival of the Chief Resident Economic Analyst.

Project outputs are behind schedule and will be below targets. The Rural Household Study will proceed only on a pilot basis due to Project

delays and resultant fund shortages. Contracting of the Chief Resident Economic Analyst was 20 months behind schedule. On arrival the Economic Analyst had to assume major technical responsibilities for developing specifications and processing data. This delay had major impact on project progress, since, while this type of project is very time intensive for project management, the project manager was also assigned to numerous other sector management activities.

D. Contracting Plan

The contracting plan as originally contemplated in the project anticipated a mixture of long and short term technical assistance. Very serious delays in the contracting of the LTTA have adversely affected the entire project. These delays include the inability to find a qualified Chief Resident Economic Analyst under a PSC and later negotiation and processing delays in hiring him as a PASA. Seven changes of Minister in the Ministry of Agriculture and Campesino Affairs also lengthened the period before this technical assistance could be approved and brought on board. This 21 month delay in placing a crucial individual into the project has caused most of the project elements to be delayed.

According to the Project Paper, the following technical assistance was contemplated:

1. Chief Resident Economic Analyst for a period of 18 months to start April, 1978, with the possibility of extension of the

contract for an additional 12 months to be hired under a Personal Services Contract. The position was not filled until Dr. Loyd Brown of BUCEN, arrived in January, 1980, to begin a two-year assignment under a PASA.

2. Associate Resident Economic Analyst for a period of 12 months to start October, 1978, with the possibility of extension of the contract for an additional 12 months to be hired under a Personal Services Contract. It was decided during the evaluation period to convert this long-term position into short-term assistance so that specific data processing and analytical needs might be more adequately served.
3. Resident Project Coordinator for a period of 18 months to start March 1978, to be hired under a personal services contract. This activity was funded by AID Grant 511-0451 through the Consortium for International Development (CID) contract, thus freeing up these budgeted funds for other project activities.
4. U.S. Bureau of the Census (BUCEN) technical assistance for short-term expertise for a total of 12 1/2 person-months to start October, 1978, under a PASA. Until February, 1979, 8 person-months of TA provided by the BUCEN was accomplished through AID/W central funding.

In April, 1979, a PASA with BUCEN was put into effect to finance 7 person-months of TA during FY 1979. In February, 1980, the PASA was amended to provide an additional 18 person-months during FY 1980

because of the urgent need for increased assistance to process the data already gathered under the various studies. This arrangement also required budgeting readjustments, as will be observed in Appendix C.

5. Short-term technical assistance for the Crop Technology Survey for a period of one and one-half person-months to start October, 1978, to be hired under a Personal Services Contract. Due to the increasing capacity of the Statistics Division of the MACA to design the questionnaires and training manuals and successfully carry out the training and field supervision activities, it was determined not to contract this technical assistance.

6. Short-term assistance to carry out the Traditional Practices Study for a total of 12 person-months during a three-year period to begin in May, 1978, to be procured through technical competition. Rural Development Services, the firm selected for the contract, is now in its 13th month of program execution on a total contracted time of 30 months.

Short-term TA has generally been available on a timely basis and has been critical to continuing project activities.

II. Detailed Progress Report by Sub-Projects

A. Socio-Economic Farm Survey

The reasons for the considerable delays in this sub-project have been the difficulty in contracting data entry, programming and tabulation services locally and the delayed arrival of the Resident Economic Analyst. In August, 1978, considerable time was lost following up on each of these candidates for data processing.

Finally, in November, 1979, after 15 months of searching for a Bolivian organization acceptable to AID, MACA and BUCEN, the National Statistics Institute (INE) was identified as having the capability to do an acceptable job. INE had only recently increased its data processing staff to handle the Agricultural Census, which should have been undertaken in September, 1979, but was postponed for a year. Thus, it had available personnel, experience in processing agricultural surveys, was purchasing its own computer and showed interest in doing the work required. Consequently, a contract between INE and MACA was signed in November for data entry and verification of the National Socio-Economic and Credit Analysis data and by February, 1980, an unedited data tape was produced. In April, a second contract with INE was signed, this time to produce an edited data tape (including weightings, imputations, missing values, etc.) and tabulations (approximately 500 tables) of the Socio-Economic Farm Survey data. The data tape should be ready by mid-August and the tabulations by mid-October.

Now that a Bolivian agency has been contracted for the data processing, the BUCEN--through their resident technician and continual TDYs--are providing full-time assistance to INE and MACA in these activities. Additionally, MACA has contracted a data processing technician to work with INE and BUCEN on the processing of this data. If INE does as well as expected, the rest of the information gathered under the Farm Policy Study project will also be processed by them and due to the institutionalized capacity built up by this first effort, reliable results should be more rapidly produced for the remaining studies.

B. Analysis of Southern Valleys Survey Data

As mentioned earlier, a revised and expanded version of Jim Riordan's Southern Valleys Analysis was completed in November, 1979, and prepared for publication in April, 1980, as the first Analytical Document under the Farm Policy Study. This constituted almost a three year delay from the time of data collection to the completion of the first Analytical Document. The delay reduced the utility of needed data. This was due to the fact that responsibility for drafting the document was assigned to an AID officer with many other pressing demands on his time. The resident economic analyst who could have prepared the analysis was contracted late. An outside analyst should have been contracted to prepare this document.

Since his arrival in January, 1980, the Chief Resident Economic Analyst has been concentrating his efforts entirely on the development of the edit and imputation specifications for the Socio-Economic Farm Survey

and, consequently, has had no time available to undertake additional analysis of southern Valleys data. Thus, it has been necessary to reprogram the outputs for this sub-project as expressed in Appendix A.

The conclusions of the Riordan report are the following:

1. Lack of crop diversification and lack of intensity of input use appear to be more constraining than the limited amount of hectareage devoted to cropping;
2. Livestock activities appear to play a significant role in the welfare of the target region rural farm households and provide an opportunity to improve income levels;
3. Lack of technical training/assistance, lack of credit and lack of market access are the principal underlying constraints to small farm economic performance in the target region;
4. The most disadvantaged households appear to be those which are constrained by lack of access to non-farm income opportunities; and
5. While lack of market access is likely attributable to lack of access to roads, it appears as though lack of developed wholesale marketing mechanisms and lack of intermediate marketing centers may be more fundamental.

The initial Analytical Document "Southern Valleys - I" draws some general conclusions. However, there is additional data which has not been analyzed which could provide more specific conclusions. Project management should, therefore, proceed to contract the "Southern Valleys - II"

study in order to analyze and use all available data. This should be done as soon as possible since the data is already three years old.

C. Credit Analysis

This sub-project is divided into two major activities: impact analysis on credit recipients and research on Bolivian rural financial markets.

1. Impact Analysis

As mentioned earlier, the data from agricultural years 1976-77 and 1978-79 were passed from the questionnaires onto magnetic computer tape in January, 1980, and should be edited and tabulated by December, 1980.

The delay in the editing and imputation of information for this credit data is a result of deciding to wait for the development of these programs under the Socio-Economic Farm Survey so as not to duplicate efforts. Also, another field survey of the 115 credit recipients in the experimental group and 115 non-credit users in the control group will be undertaken in June, 1980.

2. Rural Financial Market Analysis

Research under this part of the Credit Analysis sub-project is being directed by Jerry Ladman of Arizona State University (ASU) under a subcontract with Ohio State University. The four main objectives of the research project are discussed below in detail.

The first objective was to analyze the credit information obtained from the Southern Valleys Survey in order to describe small farmer behavior with respect to his demand for credit. The principal purpose of the research was to identify differences among farm households that use credit, those who do not use credit but desire credit, those who do not desire credit, and formal and informal credit market borrowers. A second purpose was to analyze the factors that inhibit farmers who desire credit from obtaining it. This sample survey of 699 was drawn from small farmer households in the three-state region of Chuquisaca, Potosí and Tarija. A report of the findings was presented to the Mission in January, 1980, in the form of a Master's thesis completed at Arizona State University under the guidance of Dr. Ladman. The highlights of the results are:

- a. borrowers were most distinguished from non-borrowers (both those desiring and not desiring credit) by higher levels of education, use of better technology, and more integration into markets;
- b. formal market borrowers live closer to lenders and borrow larger sums than informal market borrowers;
- c. households which did not desire credit have less desire to expand production and more production constraints of labor and price security;
- d. households desiring, but not using credit, are most constrained in credit use by their perceived high transactions costs in paperwork and risk costs associated with fear of crop failure and/or loan

refusal. Both of these factors are associated with lower levels of education, Quechua language, large distances from lenders, and few assets.

This analysis should be very useful in the identification of potential credit recipients and refinement of sub-lending criteria for future AID funded programs. This analysis is not a study of the impact which formal and informal credit has had on the user. This will be obtained through the case study impact analysis under this subproject to be described later and through the Impact Analysis of 230 farmers described earlier.

The second objective of research was to study small farmer credit delivery systems with particular emphasis on group lending. For this purpose the credit delivery systems of the Bolivian Agricultural Bank, Integral Cooperatives sponsored by USAID funding, and a private development organization (DESEC) were studied in detail. In this research activity, a comparison is made between credit delivery systems in an attempt to measure the efficiency with respect to (a) reducing lender costs, (b) reducing default, (c) providing technical assistance, and (d) reducing borrower costs.

The data on borrower costs were obtained in a sample survey of borrowers from each of the institutions. After a pilot study in 1978, a detailed questionnaire was utilized in two regions--Betanzos, Potosí, and Punata, Cochabamba--to precisely estimate all borrower attitudes toward

group loans, etc. The farmer survey to obtain data on the Bolivian Agricultural Bank systems in Betanzos and the Integral Cooperatives in Betanzos and Punata was completed by a research assistant between June and October of 1979. The survey of the Bolivian Agricultural Bank loans in Punata was completed in January, 1980. The analysis of these comparisons should be completed by June, 1980.

Preliminary results of this research activity suggest:

- a. That group lending, as employed by the Bolivian Agricultural Bank, was not successful in increasing either lender and borrower efficiency in Punata;
- b. There is almost no technical assistance offered in any of the small-farmer credit programs; and
- c. The transaction costs of both borrower and lender are quite high in the case of the Bolivian Agricultural Bank (BAB). High borrower transaction costs demonstrate why many Bolivian farmers do not borrow from formal market institutions, but rather choose to borrow from informal market institutions that have considerable lower transaction costs although they charge much higher interest rates. This finding should be reflected in AID working with the BAB to further simplify borrowing transactions. AID projects with the BAB have very significantly reduced borrower transaction costs to date but apparently more needs to be done.

The third objective was to undertake an analysis of the impact of credit on the small farmer household. This has been achieved through three different methodologies: analysis of a series of case studies of a

number of individual households; application of a linear programming model of a representative small-farmer firm to project the impact of credit on farm production; and analysis of the impact of credit on farm operation.

The case studies of farm households was designed to carefully study and analyze the role of credit as an additional source of liquidity for the farm household and its linkages to cash flow, resource use, production, income and savings. To undertake this study, twelve farm households in the Punata region were to be selected, six being new borrowers from the Bolivian Agricultural Bank and six being non-borrower farm households that otherwise had similar characteristics and land bases.

Although the case studies were planned to begin in July, 1978, they did not begin until April, 1980. The delay was due to military operations in July and November, 1979, which prevented the signing of agreements between the U.S. and Bolivian governments to provide funds; the need to complete the study of small farmer credit delivery systems explained under the second objective; difficulties in obtaining the cooperation of the Bolivian Agricultural Bank in locating the farms in the sample; and the transfer of the project coordinator from Cochabamba to the study. The case studies will commence in April, 1980, with two pairs of farmers (with and without credit) in Cochabamba and two pairs of farmers in Chuquisaca to be interviewed over a 12-month period. Although this study will not show the possible impacts of credit over multiple periods, it should serve to give a good indication of the impact of credit in the farm household over a year's period.

The linear programming model of the representative farm unit will consist of two phases: first, as the farmer gains additional liquidity by successive units of credit, the impact of additional credit on the production pattern, income levels and resource use will be measured; second, a comparison will be made between farms using traditional and intermediate levels of technology to determine the amount of credit needed to employ an intermediate level of technology on the farm. These two phases of the study should be completed in draft form in April with the final report ready by June, 1980.

Because a very large proportion of small farmer lending by the Bolivian Agricultural Bank is used for the purchase of oxen, it is important to compare the expected benefits from oxen loans with annual crop loans. This will involve a theoretical model incorporating the factors of production, risk aversion and liquidity that are involved in oxen, since it appears as though the principal reason for small farmers borrowing to purchase oxen is not to work the land, but rather to fatten and sell for beef and as a source of liquidity to meet emergencies and pay back debts. This study should be completed in draft by April with the final report due by June, 1980.

The fourth objective was to study the informal rural credit market. An ASU student hired to commence research in Bolivia in June, 1979, resigned before arriving in La Paz. Subsequently, a Bolivian direct-hire employee (Isaac Torrico) of USAID/Bolivia was enlisted to direct

this activity. By November, 1979, all informal lenders in a small village close to Punata had been identified by Torrico and a part-time interviewer from the village. In March, 1980, a comprehensive study of informal lending in the Punata region was begun. Local interviewers have been employed to obtain detailed information first from the lenders and then from the borrowers who use their services. A theoretical model is being developed to explain lender behavior. This project should be completed around June, 1981.

In addition to these on-going research projects mentioned above, Ladman proposes to undertake the following during the remaining 18 months of the contract:

1. Analyze the credit component of the National Socio-Economic Farm Survey, the data coming from a sample survey of 1,600 small farms in all Bolivian states except the Beni and Pando. The work should begin in October, 1980, and be completed by April, 1981.
2. Assist the USAID Mission in Bolivia to analyze its 230 interviews on credit impact over the four-year period of the project. This activity should begin in January, 1981, and be completed by July, 1981.
3. Prepare a volume on Bolivian Rural Financial Markets as a final report for this sub-project.

The data of the Credit Study Component of this project will complement currently available studies on Bolivian credit institutions to provide

a comprehensive picture of the role and potential of rural credit. This in depth information should prove very valuable to the Mission with its large portfolio of credit projects directed at the rural areas.

D. National Crop Technology Survey

MACA completed data collection for the 450 interviews in June, 1979, and the hand editing and coding during the period covered by the evaluation. Several short-comings were discovered in the questionnaire design as the data was being hand-edited (such as aggregated data where detailed information should have been gathered, lack of important cross-check data, etc.). An evaluation of the problems is planned for June, 1980, to determine the accuracy of the data collected.

If the data proves to be of value, processing and analysis will proceed under contract. However, if errors in data collection are too great, this component of the project will be dropped. Again, problems in implementation stem from the delay in contracting a Resident Economic Analyst, who would have helped supervise questionnaire design.

E. Traditional Practices Study

Although this sub-project was initiated on April 1, 1979--later than originally planned in the Project Paper--it has been functioning smoothly since its inception due to the interest and enthusiasm of the Rural Development Services (RDS) team contracted to carry out the corresponding activities. At the time of this evaluation TDS has collected 12 months of baseline information from its participants--five com-

unities and 43 households in the Highland region and three communities and 40 households in the Valley region. In April, 1980, activities were expanded to five communities and 40 households in Lowlands of the Santa Cruz Department.

All participating households are keeping daily journals of their farming and off-farm activities, consumption purchases, market sales, labor use and inputs. These journals are supervised twice a month by a locally-selected farmer or paratechnician. The community supervisors are in turn supervised by Bolivian professionals, one per region. In addition to monitoring the records of participating farmers and community supervisors, the Bolivian professionals main responsibility is to prepare--through participant observation in farm tasks during scheduled visits--written descriptions of traditional agricultural and livestock practices. In March, 1980, two female paratechnicians (one each for Quechua-and Aymara-speaking regions) were hired to work exclusively with rural women in documenting their participation in farming tasks and, more importantly, their control of animal stocks. Technical backstopping and supervision of the entire project is provided by the Primary Researcher (Aguiles Lanao), who visits the project every three months for 2-3 weeks. Design of the project's methodology and write-up of final reports is the responsibility of the Project Analyst (John Hatch).

A major product of the contract will be a Traditional Practices Textbook, this will contain detailed information on traditional agricultural

practices in Bolivia and will be useful source of information for expatriate advisors and for Bolivian technicians who lack a rural, farming background. The information available from this textbook should allow technicians to design and implement future agricultural projects to better adjust and conform to traditional practices.

At the end of January, 1980, a four-day conference was held in Paracaya, Cochabamba, which gathered all Highland and Valley farmer participants in the program to evaluate the strengths and weaknesses of the project. This conference not only consolidated a strong sense of identification with the project among participating farmers, but generated the first traditional practices textbook ever written by peasants, a document which will be expanded and improved over the coming year by the aforementioned textbook.

In February, 1980, RDS presented a "Report on the Methodology Utilized in the Traditional Practices Project" to USAID/Bolivia in which a detailed explanation was given on: the overview of the project; selection of communities and participating households; selection of supervisors; farm journals; other data collection instruments; tasks of the Bolivian professionals; tasks of the Primary Researcher; tasks of the Project Analyst; and other considerations.

Upon the conclusion of the first complete crop cycle (May/June, 1980) the Project Analyst will begin to prepare the English draft of the Traditional Practices Textbook, including the selection of photographic

material to be used either directly or to be converted into illustrations. At this time a detailed analysis of individual farm journals will be initiated.

Based on the two years of experience which this project will have had with farmer record keeping systems and documentation of traditional farming practices by the time USAID begins to implement its Agricultural Communications/Extension project in 1981, there will be tremendous potential for this experience to be incorporated into the 1981 project as a model for communications and extension.

F. Rural Household Study

After considering the possibility of implementing this sub-project through the Ministry of Planning, it was finally decided to use the MACA capabilities in the Statistics and Planning Offices. This decision was supported by a meeting of the Andean Pact countries in Lima, Perú, in late September, 1979, (with the participation of the MACA Statistics Office and the INE) in which it was recommended that INE be responsible for undertaking "urban" household surveys in Bolivia while the MACA be responsible for "rural" Household surveys. Because of the need to increase the budget for the BUCEN PASA in order to finance higher levels of technical assistance for data processing (the principal bottleneck to the successful execution of the Farm Study Policy project), it was necessary to reduce the amount available for the Rural Household Study. Assisted by a TDY from the DSB/Nutrition Office in Washington, the

Mission determined that a full-scale survey effort--preceded by a pilot test--over a 12-month period and subsequent data processing and analysis would cost more than \$500,000 and take two and one-half years to complete. Since this was neither within the timeframe nor the budget of the present Farm Policy Study project, the Mission decided to opt for the pilot test and leave the full-scale field effort for possible later funding.

The project is obviously under-budgeted for this component study. This is due both to under-budgeting in the original project and to cost increases since. Delay in initiating the activity has allowed cost increases and reduced the options for correcting or compensating for budgetary deficiencies. Delay in contracting a Resident Analyst accounts once again for part of the problem in initiating this activity. The project will now have to delete the full Rural Household Study. Thus, project delays have eliminated a major output planned for the project.

In February, 1980, the Project Manager and Lic. Hector Nogales, Head of the Statistics Division of MACA, conversed in Washington with Roberta Van Haeften of DSB/Nutrition and Beverley Carlson of BUCEN concerning their support for this sub-project. The former indicated that DSB could finance the technical assistance required to prepare for (questionnaire design, sample design, etc.) and undertake the pilot survey (test) of the instruments and methodology used to collect rural household data, while the latter indicated that the BUCEN expertise in this area could be made available under DSB contracting.

The pilot survey will study a series of methodological questions including the following: appropriate length of the survey per household (seven days, three days, or 24-hour recall); methods to obtain quantitative data on food purchases and consumption (recall, weighing, or current observation); frequency of intervals to collect data on labor time allocation, production and income (weekly, monthly, or annually); and interviewer and respondent attitude to a long survey, as well as drop-out and non-response rates.

As presently planned the fieldwork for the pilot survey will take place in October, 1980, with the appropriate technical assistance support between April and October from DSB and BUCEN to develop the documentation and methodology. The results in the form of a Methodological Document should be ready in published form by July, 1981.

G. Data Integration

Under this sub-project three activities have been initiated during the period of evaluation. These are the following:

1. The Chief Resident Economic Analyst, financed by a PASA with the BUCEN, arrived in January, 1980, to commence his two-year assignment to process, analyze and integrate the data collected under this project into a USAID Agricultural Sector Assessment.
2. The first annual evaluation of the Traditional Practices Study, as mentioned earlier under the sub-project in reference, was financed by this sub-project. It is planned that the second annual evalua-

tion in February, 1981, will also be funded from this same source.

3. The input/output linear programming supply model of the agricultural sector developed by Alan LeBaron of CID and broadened by Joe Goodwin of University of Florida and Preston Pattie of Chemonics/Bolivia to include demand and transportation flows will be installed and made operational in May, 1980, through financing from this sub-project. This model will assist the MACA Planning Office in developing their Five-Year Agricultural Development Strategy and Investment Plans and also aid the Farm Policy Study project in the more sophisticated, multivariate analysis of its data.

III. Revised Implementation Schedule and Budget

Due to the delays in the project initiation, data processing and the arrival of the Chief Resident Economic Analyst, the implementation schedule has been revised. (See Appendix A for the detail.) Most final products will be produced 18 months later than originally planned, with the Sector Assessment being published in January of 1982, three months later than planned. Some of this loss in time may be recuperated by increased use of short-term technical assistance both for data processing and for analysis. This emphasis on TA is reflected in a 443 percent increase--from \$70,498 to \$383,000--in the budget for Data Integration. (See Appendix C.) This is to be financed by corresponding reductions in the budgets for the Socio-Economic, Southern Valleys, Crop Technology and Rural Household components of this project.

Total expenditures over the life of the project have not varied from the original budget. However, disbursements will continue through FY 81 according to the reprogramming. Only 14 percent of the USAID project grant funds have been disbursed through March 1980. However, these disbursements should increase rapidly over the next 18 months, since the principal target of this funding is for data processing and analysis (including the PASA resident position) which will be the main concentration during the remainder of the project's life. According to the rebudgeting, 35.7 percent of the total budget should be disbursed during FY 81.

Also to be financed by the reductions mentioned above is the increase of \$41,500 in the Rural Development Service contract for the Traditional Practices Study to include women researchers as explained in the following detail.

To date the Traditional Practices Study is working with 137 campesino families in 13 communities in the three areas of Bolivia mentioned above. Each family is keeping a daily record of its activities, including not only agricultural information but also details on socio-cultural activities. These data reflect the male viewpoint since almost all of the participants are men. Most of the women in the family are not only illiterate but also do not speak Spanish. This situation, of course, does not reduce the importance of the woman in daily production and decision-making activities of the Bolivian small farm.

Since this project has gained the confidence of the participant families who are now willing to communicate openly and be interviewed and photographed, this favorable situation should be exploited to add an additional component which would carefully document the role of the woman in the Bolivian rural household.

Objectives

1. Prepare an illustrated manual detailing by agricultural product and geographic area the marketing practices of the rural household (usually managed by the woman) in reference to on-farm storage, product preparation, methods of transportation, selling procedures and the resulting time, costs and income.

2. Prepare a detailed description of the organization, operation and management of domestic enterprises (weaving, ceramics, small livestock, etc.) and their resulting time, costs and income.
3. Prepare a manual, series of pamphlets and film strips or slides which illustrate and describe traditional practices of rural Bolivian households in reference to health, hygiene and nutrition.

Implementation*

A woman Bolivian professional who speaks Quechua will be contracted to work with women in the participant families in the Valleys and Lowlands. Also, a "promotora de pollera" will be contracted to work with women in the Highlands.

The Bolivian professional will be responsible for: (1) organizing and editing the narrative for the three regions, (2) residing an average of two weeks each month in the participant communities, (3) interviewing campesino women on marketing practices, domestic enterprises and health, hygiene and nutrition practices, and (4) accompanying campesino women in their domestic and field activities in order to actively document them.

The promoter for the Highland region will be responsible for spending most of her time in the field with up to two consecutive weeks spent in up to five indigenous communities. She will also undertake activities (3) and (4) described above.

* For a more detailed description of the methodology to be used, see "A Report on the Methodology Utilized in the Traditional Practices Project," Rural Development Services, February 9, 1980.

The female project personnel will have a tape recorder for interviews. They will also take pictures describing the observed activities and keep notebooks to detail their observations.

Supervision and Preparation of Final Documentation

The Traditional Practices Study already has a Principal Researcher (Dr. Aquiles Lanao, Peruvian) who makes quarterly supervisory visits to the participating communities to review the notebooks.

Presently, these visits last up to three weeks with an average of one day in each of the participant communities. In order to supervise the feminine component, Dr. Lanao will have to increase the length of his visits by one week, which would imply an additional 30 days for field work between August of 1980 and September of 1981.

Dr. Hatch, the Principal Analyst, is in charge of writing the final document and is responsible for the administration of the project. In order to analyze this additional data, Dr. Hatch will need six additional work days in Bolivia, plus 20 additional days in the U.S. to write the final document, prepare the film strip and slide catalogues, etc.

The final document which will be the "Traditional Practices Textbook" will be written in English. The Spanish translation will be the responsibility of Dr. Lanao, which will require an additional 20 days of his time. There will be 1,000 copies of the final document (500 in Spanish, 500 in English).

Budget

The total cost to implement this additional activity will be \$41,500 divided into the following components:

I. <u>Data Collection</u>	<u>US\$</u>
A. <u>Salaries</u>	
Woman professional: one year of 14 months + 2 months at \$400/month	6,400
Woman promoter: one year of 14 months + 2 months at \$150/month	<u>2,400</u>
	8,800
B. <u>Per Diem</u>	
Woman professional: 20 days per month x \$16/day x 12 months	3,840
Woman promoter: \$50/month x 12 months	<u>600</u>
	4,440
C. <u>Transportation</u>	
Woman professional: \$50/month x 12 months	600
D. <u>Materials</u>	
2 tape recorders x \$100/each	200
Film: \$25/month x 12 months	300
Paper	<u>150</u>
	650
	Sub-Total
	14,490
E. Contingencies (5%)	725
F. Overhead (33% of Salaries)	<u>2,904</u>
Total for Data Collection	<u>13,119</u>

II. Supervision and Preparation of Final Documentation

A. <u>Salaries*</u>	<u>US\$</u>
Principal Researcher: 50 days at \$125/day	6,250
Principal Analyst: 26 days at \$175/day	<u>4,550</u>
	10,800
B. <u>Per Diem</u>	
Principal Researcher: 32 days at \$45/day	1,440
Principal Analyst: 7 days at \$45/day	<u>315</u>
	1,755
C. <u>International Travel</u>	
Principal Researcher: 1 RT Ayacucho-Lima-La Paz	350
Principal Analyst: 1 RT New York-La Paz	<u>1,000</u>
	1,350
D. <u>Local Travel</u>	
Principal Researcher	210
Principal Analyst	<u>70</u>
	280
Sub-Total	14,185
E. <u>Contingencies</u> (5%)	709
F. <u>Overhead</u> (33% of Salaries)	3,564
Total for Supervision and Preparation of Final Documentation	<u>18,459</u>

III. Publications

Final Document (Traditional Practices Textbook) : 1,000 copies at \$5/copy	<u>5,000</u>
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GRANT TOTAL FOR PROJECT 41,577

Rounded to \$ 41,500

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- * Principal Researcher: 30 days in Bolivia for field supervision,
20 days in Perú for document translation.
Principal Analyst: 20 days in U.S. for writing final document,
6 days in Bolivia for field review.

IV. Lessons Learned

Experience with the project has yielded lessons relating to personnel management on staffing of such data-gathering and analysis projects.

The project is complex and requires co-ordination of many phases of the process from data gathering to policy formulation. Difficulties of institution building add to the complexity and make it very difficult to maintain the schedule set for the project. However, the following lessons have been learned:

1. Early contracting and arrival of the Resident Economic Analyst would have been essential to maintain the project on schedule. Delay in the analyst's arrival led to delays in contracting data processing and analyzing Southern Valleys data and errors in survey questionnaires for the Crop Technology Survey.
2. Related to the first lesson is the second: this type of project is very time-intensive for AID management. The late arrival of the Resident Analyst exacerbated the problem, but the project itself puts a high level of demand on project management. This led to late contracting for data processing, Southern Valleys - II analysis, and the Rural Household Study.
3. Workload and conflicting demands on time make it unwise to rely on AID direct-hire employees for drafting of major analytical documents. While the Southern Valleys - I Study was well done, it was completed fully three years after data collection.

APPENDIX A.REVISED IMPLEMENTATION SCHEDULE

<u>Sub-Project</u>	<u>Original Plan</u>	<u>1st Revision</u>	<u>2nd Revision</u>	<u>Activity</u>
a. <u>Socio-Economic</u>	<u>(3/78)</u>	<u>(3/79)</u>	<u>(3/80)</u>	
<u>Farm Survey</u>	12/78	8/79	8/80	Edited data tape prepared
	3/79	10/79	12/80	Statistical document in tabular form
	6/79, 9/79	2/80, 5/80	3/81, 5/81	Analytical documents
b. <u>Analysis of Southern Valleys Survey Data</u>	4/78, 7/78, 10/78	12/79, 4/80, 8/80	12/80, 4/81, 8/81	Analytical documents
c. <u>Credit Analysis</u>	10/79	10/79	12/80	Edited data tape on year 3 survey
	12/79	12/79	2/81	Interim comparative report
d. <u>National Crop</u>	9/79	9/79	2/81	Edited data tape prepared
	12/79	12/79	4/81	Statistical data tape prepared
	4/80, 10/80	4/80, 10/80	6/81, 9/81	Analytical documents
f. <u>Traditional Practices Study</u>		no change from 3/79		
g. <u>Rural Household Study</u>	10/78	2/80	10/80	Undertake pilot study
	8/80	9/81	3/81	Analyze results
h. <u>Data Integration</u>		no change from 3/79		

APPENDIX B:**FARM POLICY STUDY PUBLICATIONS**

<u>No. of Document</u>	<u>Name of Document</u>	<u>Estimated Completion Date</u>
A. <u>Methodological Working Document (MWD)*</u>		
MWD 1	Southern Valleys Survey	6/ 1/80
MWD 2	Socio-Economic Farm Survey	11/15/80
MWD 3	Credit Analysis	8/15/80
MWD 4	Crop Technology Survey	6/ 1/81
MWD 5	Rural Household Study	5/ 1/81
B. <u>Statistical Working Document (SWD) (Tables in Spanish)</u>		
SWD 1A	Southern Valleys Survey (Riordan)	8/ 1/80
SWD 1B	Southern Valleys Survey (Brown)	8/ 1/80
SWD 2	Socio-Economic Farm Survey	12/ 1/80
SWD 3	Credit Analysis	2/ 1/81
SWD 4	Crop Technology Survey	5/ 1/81
C. <u>Analytical Document (AD)*</u>		
AD 1A	Southern Valleys Survey (Riordan)	6/ 1/80
AD 1B	Southern Valleys Survey (Brown)	10/15/80
AD 2	Socio-Economic Farm Survey	3/ 1/81
AD 3A	Credit Analysis (Brown)	5/ 1/81
AD 3B	Credit Analysis (Ladman)	10/ 1/81
AD 4	Crop Technology Survey	8/ 1/81
AD 5	Traditional Practices Study	10/1/81
D. <u>AID Sector Assessment*</u>		1/ 1/82

* Original Documents written in English; Spanish translation to be published eight weeks after estimated completion date for English document.

ANALYSIS OF SOUTHERN VALLEYS DATA

Activity	Person(s) Responsible	Est, Com- pletion Date
1. Select old tables	Wing	6/ 1/80
2. Type MWD	Wing	5/15/80
3. Review Riordan AD	Wing	5/ 1/80
4. Type Riordan AD	Wing	5/15/80
5. Design new tables	Brown BUCEN - 1/2 PM	6/15/80
6. Run new tables	Brown BUCEN - 1/2 PM	7/ 1/80
7. Run old tables	Brown BUCEN - 1/4 PM	7/ 1/80
8. Reproduce MWD	Wing	6/ 1/80
9. Reproduce Riordan AD	Wing	6/ 1/80
10. Reproduce old & new tables (SWD)	Brown	8/ 1/80
11. Translate Riordan AD	Wing	8/ 1/80
12. Translate MWD	Wing	6/15/80
13. Complete Brown AD	Brown	9/ 1/80
14. Type MWD translation	Wing	7/ 1/80
15. Reproduce MWDtranslation	Wing	7/15/80
16. Type Riordan AD translation	Wing	9/ 1/80
17. Review Brown AD	Wing	9/15/80
18. Type Brown AD	Brown	10/ 1/80
19. Reproduce Riordan AD Translation	Wing	9/15/80
20. Reproduce Brown AD	Brown	10/15/80
21. Translate Brown AD	Brown	11/15/80

Activity	Person(s) Responsible	Est. Com- pletion Date
22. Type Brown AD translation	Brown	12/ 1/80
23. Reproduce Brown AD translation	Brown	12/15/80

SOCIO-ECONOMIC FARM SURVEY

1. Type MWD	Wing	11/ 1/80
2. Reproduce MWD	Wing	11/15/80
3. Review table specs, design table layout	Brown BUCEN - 1/4 PM	1/ 1/80
4. Translate MWD	Wing	12/15/80
5. Type MWD translation	Wing	1/ 1/81
6. Data entry and verification	Brown INE	2/ 1/80
7. Program edits and imputations	Brown BUCEN - 3 PM INE	6/ 1/80
8. Reproduce MWD translation	Brown	1/15/81
9. Program tabulation	Brown BUCEN - 2 PM INE	8/ 1/80
10. Run edits and imputations	Brown BUCEN - 2 PM INE	8/ 1/80
11. Run Tabulations	Brown BUCEN - 1 PM INE	10/1/80
12. Reproduce SWD	Brown	12/ 1/80
13. Complete AD	Brown	1/ 1/81
14. Review AD	Wing	1/15/81
15. Type AD	Brown	2/15/81

Activity	Person(s) Responsible	Est. Com- pletion Date
16. Reproduce AD	Brown	3/ 1/81
17. Translate AD	Brown	4/ 1/81
18. Type AD translation	Brown	5/ 1/81
19. Reproduce AD translation	Brown	6/ 1/81

CREDIT ANALYSIS (Brown)

1. Complete MWD	Wing BUCEN - 1/4 PM	7/ 1/80
2. Review MWD	Wing	7/15/80
3. Type MWD	Wing	8/ 1/80
4. Reproduce MWD	Wing	8/15/80
5. Program edits and imputations	-	complete*
6. Program tabulations	-	complete*
7. Data entry and verification	Brown	9/ 1/80
8. Translate MWD	Brown	9/ 1/80
9. Type MWD translation	Brown	9/15/80
10. Reproduce MWD translation	Brown	10/ 1/80
11. Run edits and imputations	Brown BUCEN - 1 PM INE	11/ 1/80
12. Run tabulations	Brown BUCEN - 1 PM INE	12/ 1/80
13. Reproduce SWD	Brown	2/ 1/81
14. Complete AD	Brown	3/ 1/81

Activity	Person(s) Responsible	Est. Com- pletion Date
15. Review AD	Wing	3/15/81
16. Type AD	Brown	4/15/81
17. Reproduce AD	Brown	5/ 1/81
18. Translate AD	Brown	6/ 1/81
19. Type AD translation	Brown	7/ 1/81
20. Reproduce AD translation	Brown	7/15/81

* These activities were completed under the Socio-Economic Farm Survey since the same programs will be used for both studies.

CROP TECHNOLOGY SURVEY

1. Complete MWD	Wing BUCEN - 1 PM	4/15/81
2. Review MWD	Wing	5/ 1/81
3. Type MWD	Wing	5/15/81
4. Reproduce MWD	Wing	6/ 1/81
5. Program edits and imputations	Brown BUCEN - 3 PM INE	12/ 1/80
6. Prepare table specs, design table layout	Brown BUCEN - 2 PM INE	12/ 1/80
7. Tranlate MWD	Wing	7/ 1/81
8. Type MWD translation	Wing	7/15/81
9. Program tabulations	Brown BUCEN - 2 PM INE	2/ 1/81
10. Data entry and verification	Brown INE	12/ 1/80
11. Reproduce MWD translation	Wing	8/ 1/81

Activity	Person(s) Responsible	Est. Com- pletion Date
12. Run edits and imputations	Brown BUCEN - 2 PM INE	2/ 1/81
13. Run tabulations	Brown BUCEN - 2 PM INE	3/ 1/81
14. Reproduce SWD	Brown	5/ 1/81
15. Complete AD	Wing Contractor - 2 PM	6/ 1/81
16. Review AD	Brown	6/15/81
17. Type AD	Wing	7/15/81
18. Reproduce AD	Wing	8/ 1/81
19. Translate AD	Brown	9/ 1/81
20. Type AD translation	Brown	10/ 1/81
21. Reproduce AD tranlation	Brown	11/ 1/81

RURAL HOUSEHOLD STUDY

1. Review Ferroni questionnaire	BUCEN - 1/2 PM	6/ 1/80
2. Prepare sample frame	BUCEN - 1 PM	7/ 1/80
3. Write and reproduce manuals	Wing BUCEN - 2 PM	10/ 1/80
4. Design table layout, prepare table specs.	Wing BUCEN - 2 PM	10/ 1/80
5. Undertake pilot survey	Wing BUCEN - 1 PM	11/ 1/80
6. Complete MWD	Wing BUCEN - 1 PM	3/ 1/81
7. Review MWD	Wing	3/15/81

Activity	Person(s) Responsible	Est. Com- pletion Date
8. Type MWD	Wing	4/15/81
9. Reproduce MWD	Wing	5/ 1/81
10. Translate MWD	Wing	6/ 1/81
11. Type MWD translation	Wing	6/15/81
12. Reproduce MWD translation	Wing	7/ 1/81

DATA INTEGRATION

1. Additional tabulations	Brown Wing BUCEN - 1 PM Contractor - 1 PM	8/ 1/81
2. Complete draft of Sector Assessment	Wing Brown Contractor - 1 PM	10/ 1/81
3. Review draft	RDD staff	11/ 1/81
4. Type Sector Assessment	Wing, Brown	12/ 1/81
5. Reproduce Sector Assessment	Wing, Brown	1/ 1/82
6. Translate Sector Assessment	Wing, Brown	2/ 1/82
7. Type Sector Assessment translation	Wing, Brown	3/ 1/82
8. Reproduce Sector Assessment	Wing, Brown	3/ 1/82

MWD = Methodological Working Document

SWD = Statistical Working Document

AD = Analytical Document

APPENDIX C.

COMPARATIVE DISBURSEMENT SCHEDULE OF USAID GRANT FUNDS BY SUB-PROJECT
(US\$) ACCORDING TO ORIGINAL BUDGET (3/78), FIRST REVISION (3/79) AND
SECOND REVISION (3/80)

CONFIDENTIAL

Sub-Project	FY 78			FY 79			FY 80			FY 81			TOTAL		
	3/78	3/79	3/80	3/78	3/79	3/80	3/78	3/79	3/80	3/78	3/79	3/80	3/78	3/79	3/80
1. National Socio-Economic Farm Survey	141,340	60,000	-	52,600	120,000	117,500	11,830	44,000	82,500	-	-	-	205,820	224,000	200,000
2. Analysis of Southern Valleys Survey Data	20,380	-	-	-	1,000	-	-	19,500	4,000	-	-	-	20,380	20,500	4,000
3. Credit Analysis	30,420	-	-	33,670	42,500	39,000	44,970	28,500	32,000	-	14,500	20,000	109,060	85,500	91,000
4. National Crop Technology Survey	-	-	-	94,720	51,500	40,500	46,288	74,500	14,000	-	12,500	36,500	241,008	138,500	91,000
5. Traditional Practices Study	23,706	-	-	61,161	62,500	62,500	51,576	86,000	91,800	-	88,000	123,700	136,443	236,500	278,000
6. Rural Household Study	56,154	-	-	57,849	36,500	-	35,788	196,500	3,000	-	116,000	65,000	149,791	349,000	68,000
7. Data Integration	-	-	-	-	-	-	70,498	-	230,200	-	61,000	152,800	70,498	61,000	283,000
Sub-Total	272,000	60,000	-	400,000	314,000	259,500	251,000	449,000	457,500	-	292,000	398,000	933,000	1,115,000	1,115,000
8. Contingency Inflation	-	-	-	100,000	-	-	82,000	-	-	-	-	-	182,000	-	-
TOTAL EXPENDITURES	272,000	60,000	-	500,000	314,000	259,500	343,000	449,000	457,500	-	292,000	398,000	1,115,000	1,115,000	1,115,000