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LA PAZ, BOLIVIA

# BEST AVAILABLE DOCUMENT

003/73

## END OF TOUR REPORT

Name: Allen D. LeBaron\*

Job Title: Agricultural Economist

Date of Appointment: August 22, 1976

End of Tour: June 30, 1978

\*Resource Economist, Department of Economics, Utah State University, Logan, Utah. Assigned as a consultant in part to the Director of the Office of Planning and Economic Development (MACA/CID), La Paz, Bolivia.

## END OF TOUR REPORT

Allen D. LeBaron

### Job description for counterpart to the Director of Planning (p. A-4 and A-5, CID Contract)

"Main task... advise and assist in development and preparation of agricultural projects, project analysis, policy formulation and program evaluation. Also... developing and directing an in-service training program, and ...planning and coordination of USDA and other short-term technical advisors inputs to the Office of Economic Studies and Statistics."

a. Actually there is no Office of Economic Studies and Statistics. The only short term advisors that fall under any control of the CID economist are those specifically requested by Ing. Gandarillas, Director, OPS, MACA. All other advisors (USDA and otherwise) are controlled exclusively by the local USAID Mission staff. Helen Soos, a former RDD employee specifically directed that the CID economist would have no planning or coordinating function such as implied above. This edict extends especially to any activities of MACA Statistics Section.

b. During my tour of duty with MACA OPS office, a few "agricultural projects" were developed but I never reviewed them. Except for some work of an early consultant, Bruce Brown, I never saw any project array other than one of my own examples.

c. Upon my arrival, two of the experienced staff members in OPS told me that "Bolivia was their country and American advisors shouldn't tell them what to do." I was never consulted except informally in any matters touching on policy formulation and I played only a sideline role in any program evaluation. For example, each year OPS prepares a Plan Operativo for the whole Ministry. This is meant to

be an implementing document based upon the Plan Quinquenal prepared earlier as a guide for sector development. These annual plans contain substantive elements of evaluation, but I never was asked for anything other than some statistical input to the operating plans prepared while I was assigned to OPS. Consequently, all program evaluation had to be on a completely informal basis.

d. A more accurate job description would therefore be as follows: The CID economist will perform such research, training, and advisory duties as are mutually agreed with the Director of OPS.

e. Other than the specific duties delegated to me by Ing. Gandarillas, OPS Director, my principal OPS function was to act as a kind of sounding board for the particular ideas or problems he wanted to discuss from time-to-time. My work plans were written and approved to fit the actual job assignment as described in (d) above, and any advisory or training role was minimized.

### Accomplishments

During my service in Bolivia, I finished the minimum requirements of my annual work plans well ahead of schedule. Only a few tasks were not fully completed due to changes in program emphasis, assignment, or lack of data. A number of research projects not specified in my annual plans of work, were also undertaken and completed.

#### A. Research

The following annotated, chronological, list of working papers or articles were completed during the period of my assignment in Bolivia. Part of the list represents tasks specifically called for in plans of work or performed in cooperation with other MACA sections (marked by single asterisk), and selections made from

possible topics mentioned in work plans (marked by double asterisk). The remainder of the list are items for which data were readily available and were written as examples of kinds of information that ought to be made available inside and outside the Ministry on a sustained basis and as examples of the types of reports which could be made the responsibility of junior staff members within the Sector Planning Office (OPS). It will be noted that the list includes a number of MACA co-authors.

- \*1. Informe sobre índices de precios al productor para la comisión de precios y salarios, MACA, Oficina de Planeamiento Sectorial, División de Comercialización, La Paz, Septiembre, 1976 (Ing. Freddy Arteaga H., Sr. Julio Mantilla y Dr. Allen LeBaron)

These calculations show the 1970-1975 trend in prices received by farmers at fairs, from ingenios, etc. The calculations are based on national rural prices and overall annual averages as reported in the MACA publication series: Boletín de Noticias de Mercado Agropecuario. The results do not allow for seasonal fluctuations. Major crop or livestock product groups are included and the individual products making up each group are given weights according to their relative share in the value of total agricultural production as shown by the results of a 1972 MACA/USAID survey of agricultural production.

The results convey the impression that farmers have done quite well, pricewise, during the period since devaluation of the Peso Boliviano. The index of meat prices has moved the least. The greatest movements have been registered by industrial crops, fruits and cereals. Index movements for all groups generally appear to have exceeded the rate of change of the La Paz consumer price index during the same period.

This set of indices continually should be updated and should be complimented with an index of prices paid by farmers. Movements in both indices would then provide a more accurate indication of whether the terms of trade are shifting for or against the agricultural sector during any time period under study.

2. Estimates of the distribution of urban and rural family incomes in Bolivia, CID Working Paper 010/76, November 1976 (also published by IACA as OPS Documento de Trabajo Serie E, No. 1, Mayo 1977). (Allen LeBaron, Bruce Brown, Raúl Ortiz.)

This report shows separate calculations of the distribution of total family expenditures for the main cities of Bolivia and for all the rural areas divided into 10 separate zones. The basic data sources are various household consumption surveys that have been executed in past years. Total expenditures are used as a substitute for total family incomes--this is a common methodological practice in situations where respondents are unwilling or unable to reveal accurate income information. The results are displayed graphically in the form of what is known as "Lorenz curves" and in the form of calculated "Gini coefficients." The publication includes none of the basic data.

The results give a general impression of approximately the same degree of expenditure inequality among the various cities (Gini coefficients lie between 0.35 and 0.41). There is not much difference in degree of expenditure inequality among the 10 rural zones (ignoring zone 8, North Altiplano; and zone 5, Brazilian Shield) although the average Gini coefficient for rural zones is about 5-7 points higher than in urban areas (more inequality).

A comparison with the Gini coefficients from a survey of 8 Western U. S. cities is included and the Bolivian urban results are very similar.

When all the rural data are pooled, the Gini coefficient is above 0.5 (quite unequal), but among zones the inequality is much less. And, as mentioned, Gini coefficients for individual zones are mostly in the range 0.40 - 0.45.

The study contains appendices that illustrate the likelihood that global Gini estimates based on pooled national data are larger than the values for individual regions and also illustrate the dangers of assuming the Gini coefficient of a sample is representative of a population.

3. Notes on the consumption of Bolivian crop and animal products # 1, Meat. CID Working Paper 611/76, December, 1976. (Dr. Allen LeBaron).

This report was made as an illustration of how various statistics should be cross-checked by utilizing as many sources of information as possible. The same type of study could be made for other types of meat and then continue to cereals, tubers, oilseeds, hortalizas, fruits, etc.

One of the objects is to illustrate a supplementary method of estimating the total number of beef and sheep animals in Bolivia. This is done by introducing various factors for annual herd off-take and dressed carcass weights. These are applied to meat consumption estimates. The consumption estimates are based upon the results of rural surveys, a 1973 meat improvement study, and other sources.

The results show how sensitive the calculations are to changes in such factors. According to the study results, there are somewhat more beef and sheep (goats) than official statistics show. But these results are only suggestive and may or may not be more accurate than official figures.

In addition to an actual census of animal holdings taken at convenient intervals, Bolivian agricultural economists badly need more information about animal slaughter weights and numbers slaughtered, especially from the Altiplano zones.

- \*4. An analysis of alternative management possibilities in Bolivian agriculture. Summary of the results of a linear programming model. CID Working Paper 001/77, January, 1977. (Bruce Brown, A. LeBaron, D. Nielsen). (Also translated into Spanish by Isaac Torrico and Jorge Zuna, and released with the same CID Working Paper identification.)

This report is a condensation of results obtained in an earlier study which was not available for more than one year after I reached Bolivia.<sup>1/</sup> Therefore, while this summary was never specifically called for by work plan, it did satisfy part of a major area of interest, that is, to consider the possibility of further agricultural sector model development effort.

The form of the original model is quite simple. There are no crop rotations. No costs are incurred in moving crops or labor between zones (1). There is no allowance for imports from abroad. The model does allow for land to be developed in order to meet projected food demand targets (these targets are quite unrealistic because they are based on old and incorrect data).

The output of the model is mainly interesting because it roughly approximated the results of the 1972 rural production survey and because it showed that least cost way of achieving the targets from domestic resources would be to rely heavily on new land development. The model used very little modern technology to achieve the target requirements.

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<sup>1</sup>Bruce Brown, Allen LeBaron et al. Some Management Alternatives for Bolivian Agriculture. Utah State On-Farm Water Management Program. Research Report A475. Department of Ag. and Irr. Engineering, Utah State University, Logan, Utah, October, 1976.

As a result of these findings, a decision (to be discussed in more detail below) was made to undertake a revision of this model in order to try to get more realistic results and to test whether a good planning tool could be developed from the data now available (or soon to be available) in Bolivia.

- \*5. Feasibility of a program to extend wheat flour with other cereals # 1, rice and soya. CID Working Paper 002/77, February, 1977. (Dr. Allen LeBaron).

One possibility of reducing Bolivian foreign exchange costs would be to reduce wheat imports by substituting some type of domestically produced grain for a share of flour requirement in national bread consumption. In effect, the study is on an evaluation of Bolivian comparative advantage vs. world markets; it is a study of the benefits of one type of import substitution.

The results show the resource costs of continuing to import wheat are considerably lower than to produce rice or soya substitutes given the current domestic production incentives (esp. for rice) and world prices for wheat (wheat flour). Moreover, it is doubtful that Bolivian rice would be competitive with world wheat prices even if the incentives (or EIA price umbrella) were removed. Soya might become more attractive once Bolivian farmers have gained experience with this crop.

At the present time, it would not be economically feasible to substitute domestic produced rice or soya flour in bread production because the costs would outweigh any savings in wheat or wheat flour imports. A program to fortify bread protein with soya flour might be justified on nutritional grounds. It might be possible to substitute corn flour in pasta (fideos) products (not in bread) if corn can be grown cheaply enough. An additional small study could easily cross-check this possibility.

- \*\*6. Income and household size elasticities (food) for urban and rural sectors of Bolivia. CID Working Paper 005/77, March, 1977. (Dr. A. LeBaron). Also published by MACA as OPS Documento de Trabajo Serie A: No. 2, Harzo, 1977.

These estimates for both rural and urban sectors are based on calculations contained in a USU/USAID special study that is unavailable to Bolivian planning agencies.<sup>2/</sup> The study mentioned, in turn, is based on earlier consumption survey data collected in 1967 and 1972.

The results indicate rather low expenditure elasticities of demand for all food groups (including meat) except processed products. Some individual items have high elasticities, but most values are no greater than 0.5.

Estimates of household size elasticities are also shown. In general, these are more significant indicators of potential family food demand than is income elasticity. However, there is presently little information about trends in Bolivian family size so the coefficients are inconvenient to utilize in planning studies. Some of the family size elasticity estimates for individual items are quite large and a number are above 2.0.

There has been a big demand for this report from various individuals and government agencies.

7. Estimaciones provisionales y proyecciones de la población urbana y rural.

MACA, OPS Documento de Trabajo Serie A: Coeficientes Básicos y Estadísticas

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<sup>2</sup>Resultados de la Encuesta por Muestreo de 1972 de los Sectores Rural y Urbano, Proyecciones a Largo Plazo de la Oferta y Demanda para Productos Agrícolas Escogidos, May, 1976, Report # 3 in Basic Foods Production and Marketing Contract AID-511-95t, USAID/Bolivia and Utah State University.

Sociales para la Planificación del Sector Agrícola No. 1, Marzo, 1977.  
(Dr. A. LeBaron y Julio Mantilla).

These projections, created especially for agricultural sector planning by Lic. Julio Mantilla, were the first to be made from the 1976 Bolivian census of population. We designed the projections to be on the simplest basis possible: a continuation of 1950-1976 trends. The calculations are shown by provinces, urban and rural groupings, for the 9 departments of the country, and also, in the same manner, for 14 ecological or agricultural zones.

A considerable number of persons and agencies outside OPS have utilized these projections. After the report was published as an OPS working paper, the National Institute of Statistics released preliminary counts of the population by provinces and department. The INE figures varied in very minor ways from the worksheets INE had earlier supplied to OPS for our own calculations. Therefore, the projections are based on almost exactly the final population counts as tabulated by INE. As mentioned in the report, however, it is probable that the census count was low--maybe by 10 percent.

This tabulation and the projections is an example of action that may be necessary to obtain planning data in the most suitable form and on a timely basis. It illustrates what could be accomplished by junior OPS staff and the benefits of maintaining good working relationships with key agencies such as INE.

\*3. Estimaciones de demanda para productos escogidos de origen agropecuario en Bolivia, 1930-1935. MACA, OPS Documento de Trabajo Serie A No. 3, Junio, 1977. (Julio Mantilla, A. LeBaron).

Originally this study was meant to be just one step in the process of setting up a long-range agricultural plan. It is a revision of a 1976 report to

USAID/Bolivia made by Utah State University. However, due to a number of errors in the calculations and to a lack of agreement with official MACA crop supply estimates, the working paper Series A, No. 3 was not widely circulated. Instead a further revision was made as part of my final assigned tasks in OPS. The latest revision was completed in two forms. One shows some general crop and livestock demands projected to 1990, for La Paz, other urban cities, and the total rural area as a whole. The other form is actually an appendix which contains other special estimates for the individual years 1976, 1977, and 1978 as required for a new diagnóstico being prepared as a description of the overall agricultural sector situation.

The revised demands are more in line with the historical supply estimates provided by the MACA Statistics Section. However, some substantial inconsistencies remain in 2 or 3 important crops. For example, where hortalizas or fruits are concerned, it is difficult to find any reliable demand or supply data.

As far as supply projections are concerned, considerable work and effort was put forth in early 1977 by Ing. Ovando of OPS. However as of the termination of my tour, it appeared that only a minor part of this work had been used since the actual assignment to make supply projections for the Diagnóstico was placed upon the MACA statistical section and therefore was the responsibility of Lic. Nogales.

In summary, only the demand portion of the final study was finalized by me for inclusion in the Diagnóstico. This may or may not be published as a separate CID report. The manuscript had been submitted to Ing. Gandarillas in draft form as my tour ended in early July.

\*\*9. Some estimates of non-food income and household size elasticities in Bolivia. CID Working Paper 003/73 (Allen LeBaron).

There is not much empirical or theoretical knowledge of the typical range of values for the income elasticities of demand for non-food items or whole categories of such items. The Bolivian data show larger coefficients for non-food and household elasticities than for food products, which is to be expected. Also, there is much greater statistical variability in these non-food coefficient estimates and many of them are not statistically significant at high levels of confidence.

Household size coefficients are also included in the study. In contrast to the food estimates discussed above, the household size coefficients for non-food products are less significant than those for income. That is, income changes appear to be more important than household size in explaining non-food purchases.

The data are arranged in a way that attempts to make the consumption categories or items from the urban, rural and La Paz data strictly comparable, but this is not always possible. The urban surveys covered a greater number of categories. These not included in the rural survey are broken out in some special comparisons made just for La Paz and the other urban areas.

\*10. Revision of linear programming model (not in report form).

As mentioned above, in May, 1977, a decision was made within OPS to explore the possibility of creating some type of computer model of the agricultural sector. Following consultations in the U. S., I recommended that the most feasible plan would be to restructure the original linear program by enlisting the services of one of its principal authors, Bruce Brown. The deliberations concerning computer facilities, de-bugging the revised activities matrix in the U. S., and progress

to-date have all been the subjects of a series of memoranda to USAID/RDD and MACA over the past twelve months and will not be repeated here.

In general, CID agreed to design a new model incorporating some of the missing features of the original model, i.e., crop rotations, interzonal transfer costs, some allowance for import/export demands, no shifts of crops until zonal demands are satisfied, etc. This model was successfully de-bugged and ready for testing and adjustment by mid-May 1973. However, in its present form, it requires a lot of cross-checking of results against the basic data. It also needs better and official data in place of the many estimates that had to be made by Brown and myself when preparing the initial data set.

In addition, it is necessary to adjust and refine all the "final" data in the model in order to discover if it can be made to generate results close to "reality." If this is successful, it then will be necessary to reach a decision about whether the model should be transferred to La Paz for installation on some local computer. At present, my plan is to provide detailed instructions to OPS personnel about what data should be revised and the form in which it should be put. Then, my suggestion would be to have two persons from OPS (Mojica and Bonadona) travel to the U. S. to enter the data, run the sensitivity tests, and write a report (under the supervision of Brown and myself) giving the results and their suggested program for any further steps in model development.

Although technically it would be possible to transfer the model to Bolivia prior to completion of this training, I would recommend against it. By providing the training in a location most congenial to progress and success, not only will there be a time and money saving, but a written product will be available upon which to base any decision on whether to go to the further expense of transferring the

whole model. Naturally, if this final step is undertaken, the two trained persons will be very well placed to participate fully in the transfer activities, the logistic planning and debugging which will have to take place in La Paz. By following my suggestions in the order given, as soon as the model is operational in La Paz, it can be put to immediate on-line service by OPS and MACA.

11. Socio-economic study of Santiesteban province - No. 1: The structure of agricultural production. CID Working Paper 010/73, May, 1978. (Manuel Ortiz, Allen LeBaron and Kendall Adams).

This study summarizes some of the most important findings of the social, economic and crop production indicators obtained in a large survey of farmers in one Santa Cruz department last year. Data on family size, land holdings, capital investment, credit use, land, titles, land utilization, crop production and livestock holdings, etc., are shown.

Much of the data are divided into Northern and Southern segments of the study province. In this way the great contrast in rates and level of development are highlighted. For example, while the land in farms are about equal between the two segments, well over 90 percent of the capital is concentrated in the South zone. Further analysis of this data is in progress. A second study will attempt to identify the particular social, demographic or institutional variables that have the greatest impact on family incomes or wealth positions.

The extension agents of CIAT in Santa Cruz who conducted this survey meant it to be a test of a system that might be extended to all of the Santa Cruz provinces. These same agents asked Dr. Larry Bond, former CID team member, and, later, myself to help establish the survey parameters and analyze the results.

After Dr. Bond completed his tour, Dr. Kendall Adams agreed to help in interpretation of the survey data.

12. Raising campesino incomes in the short-run. CID Working Paper 011/78, May, 1978. (Dr. A. LeBaron).

This document is an outgrowth of a seminar and discussion about agricultural sector planning methods, sponsored by COEPLA in March, 1977. One of the needs identified during the discussion was for some kind of "white paper" on the status and prospects for Bolivian agriculture, a document to which individuals and government agencies could react. This title is my version of such a white paper. It was reviewed within OPS via a seminar with five of the junior staff members and Ing. Gandarillas, who also read it, stated that he agreed with 95 percent of the content, and made only minor suggestions for changes. It was also reviewed extensively by Dr. Kendall Adams and other CID team members, by Stephen Wingert and Howard Steele of RDD and was the focus of a seminar open to all mission staff members held at Mr. Kimball's office in May of 1978.

The argument of the paper is that nearer term possibilities for raising poor people's incomes are rather limited for the reason that markets, domestic or foreign, are not likely to absorb the large incomes in Bolivian output that would be necessary to generate significant new income in the rural areas. No doubt some streamlining of market processes and up-grading in quality of food products would translate into a kind of extra increment of domestic demand, but the basic fact is that Bolivia is almost self-sufficient in food and even improved nutrition for some poor classes would not necessarily equate with more physical production, only with shift in the structure of agricultural output. Under these conditions, the main conclusion is that some farmers must leave the traditional lands in order for the

remainder to have larger shares of the pie. Another suggestion is for new lands to be distributed more rapidly, under a simple, food proof system, so that families might have the opportunity to shift their wealth positions, even if incomes do not move too much.

#### B. Training

An important objective of my assignment in the OPS was to help some people in that office to improve their procedures so that they would be more skillful in handling research problems. This objective was only partially satisfied during the two years I spent in Bolivia.

During the period of my assignment, I worked at one time or another with 8 junior staff members. All but one of these persons accomplished at least some tasks I tried to assign; however, only one of the eight carried through on a project I was able to give direction to. That is only one of the eight was really under my control even though I was nominally responsible for a certain share of the day-to-day output of the OPS. Others of the eight might have obtained more of what I could share in the form of on-the job training, but they were often busy on assignments set by the Director of OPS.

Even prior to my arrival as many as four Bolivian Ph.D.'s were supposed to be hired in an effort to upgrade the level of professional ability within OPS. Slowly, but surely, this plan withered and died. No doubt this plan was conceived in good faith, on the assumption that there would be a genuine opportunity for such persons to exercise their skills not only in up-graded research and problem solving, but also in formulating related agricultural sector policy. There also can be little argument that Bolivia needs some changes in agricultural policy and carefully planning discover the best ways of implementing such changes. At the same time, there

is no question that several well qualified Bolivian Ph.D.'s can be found within the country so that a reasonable demand for such services could have been satisfied. Nevertheless, for one reason or another, none of these people were attracted to MACA.

There is no way to know all the reasons for the failure of this plan, but it appears to me that higher echelons within MACA may not place the same value on the benefits of having Ph.D. trained personnel in OPS as do outside advisors. Probably the OPS staff would have to be contributing much more directly to agricultural policy formulation in order to justify the salaries Ph.D.'s would command. During my assignment in Bolivia, it appeared to me that the current OPS staff were capable of handling the majority of assignments given to the office. These are not assignments that would keep 2 or 3 Ph.D.'s happy. What would be required and what would be the most useful to the whole rural sector would be for the Minister to set some definite planning or coordinating questions that could only be answered with some long term study and research. These questions should be identified as one part of a process of analyzing the possible consequences of the range of national development options actually open to Bolivia. As soon as clear-cut questions, conducive to scientific investigation, are made the focus of a part of OPS staff concentration, much more attention must be given to the need to have better trained social scientists as part of the MACA staff.

Part of the above comments apply to the existing OPS staff. Those of whom I had reasonable knowledge were thoughtful persons, willing and able to do very good work. But they are in no position to guide data development, or even problem formulation because perceived MACA policy is concerned with short-run, day to day events or trouble spots and OPS has little or no role in coordinating or reconciling

long run policies that often are determined by the actions of persons or ministries far removed from MACA.

The demands on OPS staff are always fluxuating. This makes it difficult to always match talents, interests, and the tasks at hand. In such an atmosphere, it is difficult to think of organized attempts at "training." Sometimes it was possible to have an informal seminar or group discussion, or answer specific questions. But most staff members probably see little payoff in taking the trouble to learn a new skill. Day-to-day assignments do not call for much improvement in procedures, it is a struggle to even get accurate statistics or any hard data. Staff members are interested in concrete rewards such as viáticos, becas and better salaries. Sometimes these things can be obtained by working closely with foreign advisors and sometimes not. At present, one of the master offices to OPS, Statistics, has control over a very substantial budget. By contrast, OPS has a very small operating budget and is in a relatively much weaker political position within MACA. This influences staff moral and performance. As a counterforce, I argued and tried to demonstrate that even with the obvious constraints it was possible for junior staff members to always watch for opportunities to publish or circulate useful and worthwhile special findings that could always be obtained during the course of other assignments. In this way they could gain personal recognition, satisfaction and enhance the status of OPS within and without MACA.

#### Recommendations\*

1. The agricultural sector options for Bolivia are not great, despite an apparent abundance of agricultural resources. Almost all options involve develop-

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\*The general recommendations of this section are discussed in greater detail in my paper, "Raising Campesino Income in the Short Run," which is made a part of this report by reference (Appendix A).

ment of new or existing markets. The present over emphasis on production projects or production policy is a mistake. This emphasis should be greatly reduced and a realistic systematic, market exploration and exploitation program should be instituted. Bolivia badly needs to learn if it has short or long run international market potential or not. It should be recognized that these explorations will be expensive.

2. Bolivia needs an uncomplicated, workable system of food product grades and standards beginning at the farmer level. This should be backed up with enforcement of common weights and measures country-wide.

3. In the short run, the commercial as well as the traditional agricultural sector faces an uncertain future. In the long run, Bolivia's Oriente, which is part of a vast, unexploited "great frontier," might play a big role in future world food production. Some small part of agricultural research efforts should take this possibility into account (Question: What easily transportable "shortage" crops could be grown and at what costs?).

4. Ignoring minerals and hydrocarbons, the greatest non-human natural resources is probably wood. A rational program of exploitation could produce a great deal of rural income and wealth. It is easy to imagine that without alteration in historic thinking patterns, the economic benefits from Bolivia's larger timber supply will fall into a relatively few hands.

5. The above suggestions require the formulation of agricultural and rural development goals at the highest levels of government.

6. If the above suggestions are acceptable, then it requires planning, organizing and executing. MACA's OPS can play a big role in such activities if given a chance. MACA itself can support this role and still perform its predominantly

political function. But to accomplish much there will have to be much different orientation and much better information:

- a. An agricultural census.
  - b. Continuation with "area frame" program for sampling area and production (plus other topics).
  - c. Completion of the more important segments of the current plans for various farm surveys, and rural studies.
7. The OPS should concentrate on several broad areas of interest:
- a. Marketing--Domestic-international (including Andean free trade area) - grades, standards, etc.
  - b. Natural resources--wood, pastures, reclamation.
  - c. Production--prices and incentives (urban price controls--domestic demands and research needs)
  - d. Rural welfare and economic integration.
8. Complementing each of these interest areas should be four programs:
- a. Special economic and social studies (to create one basis for top level decisions);
  - b. Integration of data from a) into a continuously up-dated diagnóstico or current information book on the status of the sector and for annual operating plans;
  - c. Interpretation of data from a) into an operating model of the agricultural sector;
  - d. Coordination of all groups and agencies engaged in agricultural sector programs.
9. Each of the areas of interest (7) should be staffed by a combination of experienced MACA personnel and some persons holding advanced degrees in the social sciences.