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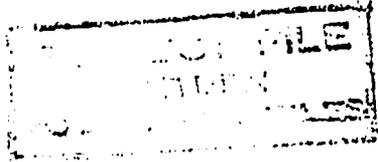
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*POLICY PLANNING  
AND INFORMATION SYSTEM FOR THE AGRICULTURAL  
SECTOR IN CHILE:*

*A TECHNICAL FEASIBILITY ASSESSMENT*

Prepared by  
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for U.S.A.I.D. Chile

December, 1975

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CUADRO A

BUDGET SUMMARY OF THE AGRICULTURE  
SECTOR POLICY PLANNING INFORMATION SYSTEM - PPIS

(US\$ 000 or Equivalent)

	A I D <sup>1</sup>		Government of Chile	T O T A L
	US\$	Local Currency		
Segment 1 - Survey Component	150.0	377.0	50.0	577.0
Segment 2 - Census Component	488.7	70.0	750.0	1,308.7
Segment 3 - ODEPA Information System	332.3	42.0	0.0	424.3
Segment 4 - Evaluation Component	41.0	134.0	-	175.0
T O T A L	1,012.0	623.0	850.0	2,485.0

<sup>1</sup> These totals include 1,500,000 Loan Funds, 40,000 Grant Funds for the evaluation segment and an anticipated 95,000 CONPAN contribution out of loan 513-T-066.

## INTRODUCTION: THE INFORMATION REQUIREMENTS FOR FORMULATING PROJECTS AND POLICIES TO CONFRONT RURAL POVERTY

In Chile poverty is concentrated in a series of pockets whose geographic, cultural, and economic location make policy and project formulation particularly difficult. This difficulty is incurred because little is known about the current economic status and potential of the households of these classes. That they are poor is about the extent of current knowledge. The principal poverty groups are as follows:

1. Small Farmers (whether in collective or individual ownership patterns)
2. Rural landless agricultural workers
3. Rural households employed in various rural agricultural services activities such as marketing, or rural industries such as food processing (mostly village dwellers)
4. Urban poor concentrated mostly in amorphous marketing and service activities or virtually unemployed
5. Urban poor employed in industrial activities

Of these five poverty pockets, virtually nothing is known about the economic potential and current status of the first four. Only in the case of the urban industrial poor there is sufficient information available to make even rough judgments about needed projects, programs, and policies to confront their poverty. Some have suggested that no empirical information about the target group is necessary in order to design useful programs, but studies in other countries have confirmed that the poor are as economically complex as any other large group of economic entities. It is interesting, and perhaps encouraging, that many studies of the poor reveal their economic situation to be

characterized by instances of striking efficiency alongside disappointing inefficiency. What this indicates is that the areas in which the significant impact of poverty exists are likely to be very specific. High payoff projects and programs lie in specific products, specific technologies, specific geographic areas, specific family types, etc. It should not be surprising to anyone who has done business or engaged in agriculture in a developing economy that there is no way to separate a project aimed at helping the poor from the complex economic and business environment in which the poor must enter in order to elevate their standing.

Until something is known about the specific resource situation of the poor, their economic potential, and the specific business opportunities which can be engaged in to elevate this class, policies and programs aimed at them will be difficult to formulate and even harder to evaluate. The purpose of this policy/planning information system is to provide two basic functions:

1. Provide base line measurements of the resource situation and specific economic potential of all households in the first four above noted categories
2. Provide an ongoing mechanism for the evaluation of the impact of projects, programs, and policies aimed at altering the welfare of these groups

One of the major reasons that little is known about these groups is the difficulty of studying them. Two related problems account for most of the lack of available information.

1. The groups are geographically disperse and not easily sampled. Only expensive area frame sampling techniques are adequate to obtain statistically significant information.
2. The principal problems of the poor; income, employment, health, and nutrition are each extremely complex

problems requiring a depth and detail of data and analysis of each case which is far beyond the resources of individual institutions which deal with only a part of the problem. The information pattern which naturally emerges under these conditions is sporadic, characterized by either in depth case studies of a particular problem which are unusable for policy making or project formulation because of the narrow statistical confidence in their conclusions, or statistically significant but insufficiently detailed information which is unusable simply because it fails to deal with the problems themselves in enough depth to suggest any specific policy or project directions.

Numerous examples of each of these two study types are available in Chile, and one feels confused by the rather plentiful nature of both. This scarce knowledge can only be surfaced by solving the mirror image weakness of each into one complete policy/planning information system. The two principal characteristics which distinguish the proposed PPIS is that it combines national level probability samples with in depth content.

The most obvious implication of combining the element of content depth and statistical coverage is elevated cost. As the reader proceeds with this pre-feasibility assessment he should be careful to note that the costliest elements of the system are always related to the poor segments of the populations covered. For example in the agricultural marketing segment, it is relatively cheap to gather information on the principal wholesale and retail establishments. Their central geographic location and small number mean that sampling from inexpensive list frame methods will be cheap and rapid. To gather information on the status and potential of the thousands of rural, village and city located small vendors whose livelihood comes from some small link in the food marketing chain is a complicated and relatively expensive task. In addition to the elevated costs of sampling and logistical expenses related to the poor populations, the costs and related difficulty in achieving the necessary depth of content in the information obtained is much higher.

Few of these marginal businesses carry any

records at all, and consequently the interviews must be carefully timed and followed by more extensive accounting analysis than the large scale establishments. When the cost implications of these two combined factors are tallied it is no surprise that public sector planners and policy makers find such information unavailable. No university department, or even individual public sector institution concerned with only a part of the problem could muster the necessary resources for such an effort.

PART I: SUMMARY DESCRIPTION OF THE FOUR SEGMENTS COMPRISING  
THE AGRICULTURAL SECTOR POLICY/PLANNING INFORMATION  
SYSTEM

Four different types of information activities comprise the overall PPIS system. The first and most important of these is survey based analytical information about agricultural production units, marketing and processing establishments, and consuming households. The second is general information about the structure of agriculture resulting from the Agricultural Census. The third is an institutional information system which is the management center for analyzing, interpreting publishing and distributing the final results of all but the census based information. In addition to the results of the survey based efforts the institutional information system contemplates the inclusion of agricultural information which originates in the various functioning entities of the sector. The fourth is an evaluation component focused directly on assessing the impact of the agricultural credit component of the AID loan.

Part I is an overall description of these four segments. Parts II, III, IV and V are feasibility assessments of each of the segments.

SEGMENT ONE: SURVEY BASED ANALYTICAL INFORMATION, THE CORE  
OF THE POLICY/PLANNING SYSTEM

This segment is a problem oriented information system. The problems which are its focus are:

1. The insufficient income level of the poverty level households in the rural sector
2. The income related problem of unemployment and under-employment of the mass of the rural population
3. Malnutrition and related health problems
4. Balance of payments problems related to food imports and exports

These problems provide the sorting mechanism for

deciding about the content, coverage, and analytical nature of the system. Information gathered must be directly related not only to the poor but to these particular problems also. There are literally thousands of different types of information which could be extracted from the wealth of basic data which will be gathered as a part of PPIS, but only those pieces which bear direct problem solving relationship to these problems will be surfaced and analyzed by PPIS. This does not eliminate the possibility that the data base could be made available to private and public entities for other kinds of analysis, but it does mean that the PPIS will not get lost in the undoable task of trying to engage in the broader effort.

For the purpose of clarifying the nature and content of Segment One four types of information are defined.

1. Summary basic data from surveys. This type of information can be extracted directly from a survey and printed in tables by region, farm size, factory scale, etc. It is distinguished from the other types of information in that the only activity required after the survey in order to produce this information is data processing and cross tabulation. This data or information is 'raw' in the sense that no accounting or analytical work is required. Items like farm size, area cultivated in various crops, family structure are examples of this information type. In almost no case is this type of information problem oriented in the sense which was set as a criterion in the last section. These types of data seldom point directions to either a quantification of the problems outlined, nor do they illuminate useful directions or potential areas for solutions to the problem. Though they are cheap and easy to produce their usefulness is very nearly nil. Even to decide what the poverty or health status is of the population studied, these data are not helpful, considerable accounting and analysis is necessary to arrive at these base line measurements.

2. The second type of information is somewhat arbitrarily termed 'accounting information'. No small farmer will know what his net income is, in fact the accounting

concept of net income is unfamiliar to him as are the accrual and deferral procedures required to compute it. Only careful accounting manipulation of the physical and financial flow and stock information gathered at the farm level will produce useful estimates of family income. Since income is one of our focus problems no data on this problem which falls short of at least quantifying it is useful, indeed simply estimating the base line income status is just the beginning of the information necessary to rationally confront the problem.

In the case of nutrition a similar example might be given for consumption data. Knowledge of the physical quantities of food consumed needs to be passed through simple accounting transformations to quantify nutrient intake accounts for the individuals and families involved. The accounting information includes a wide variety of information which takes an intermediate amount of analytical effort to produce, more than the raw data-processed summary of the gathered statistics, but considerably less than last two categories.

It is relatively easy to distinguish between the first two types of information and to distinguish the first two from the last two. The last two require formal statistical and economic analysis techniques to produce their results. It is more difficult to distinguish between the two last products, since the difference is one of degree and not of kind.

3. The third group of information is the product of rather simple and theoretically neutral analytical procedures, and is therefore termed 'simple analytical information'. These results are generally repetitive computations of a particular economic or social phenomenon or indicator such as an income elasticity of demand, for many products, income levels, geographic regions, family sizes, etc. The techniques are generally partial and non-relational in that they do not usually seek to quantify interrelationships which require either an elaborate theoretical or analytical model.

4. The last type of information is termed 'information on interrelationships'. This information is characterized by the necessity of rather long time lags between conception and completion, but requiring a narrowly focused, theoretically rich analytical process

Segment One of PPIS will include only the accounting and simple analytical information as its principal focus. Elaborating and processing basic unanalyzed structural data on the sector will be left to segments two and three. Complex interrelational analysis of the data gathered in the survey process will be left to specialized entities, such as the analysis of yield response to varietal differences will be left for the agricultural research network, the nutrition/health interrelationships to CONPAN, and the long catalog of other issues to the relevant university, public, or private entity best suited and interested in the more detailed analysis. For example, ODEPLAN will no doubt find the basic data very useful in elaborating national accountings and in the construction of a national input/output model. However these and other uses for the data are only by-products, as the main focus is on accounting and simple analytical information relating directly to the four problems listed above.

#### OUTLINE OF THE SECTORAL COVERAGE OF SEGMENT ONE

The data for segment one originates in three national sample surveys which will be conducted on a recurring basis. The intent of the sectoral coverage of the surveys is to cover the economic entities and households who are either an integral part of the focus problems, or have critical and direct impact on alternative solutions. Using this criteria, the first group to be covered are farms themselves. This first survey is a national survey of agricultural production units. Given the importance of agricultural marketing and processing activities in Chile, the second survey is a survey of agricultural marketing and processing establishments. The last major group are

the households, both urban and rural, who generate the demand for agricultural products. The third survey is a national household survey.

Since each of these surveys and the accounting/ analytical information which they will provide presents distinct issues, problems, financial and personnel requirements, each will be discussed in considerable detail in Part II.

Considerable resources for farm production and agro-industry will be available to Chile from international donor agencies during the next three to five years. The focus of PPIS on processing and primary production matches well with inflow of funds and should provide ODEPA with the necessary analytical information to rationally allocate these funds, as well as the considerable Chilean resources which are being drawn to agricultural development.

## SEGMENT TWO: CENSUS BASED BASIC DATA ON THE STRUCTURE OF AGRICULTURE

The last decade has seen a dramatic change in the basic structure of the agricultural sector in Chile. The most important part of this change has been the shift in tenure patterns due to massive land reform. There is no available base line statistical description of the composition of the entire sector available which post dates these structural shifts. It is therefore critical that the planned census be undertaken, and just as important that its results be processed and released in a timely fashion. The second segment of PPIS is comprised of the census based structural information.

In addition to providing useful overall structural information, the census will provide a reliable method for evaluating the representative nature of the area frame samples used in segment one.

### SEGMENT THREE: INSTITUTIONAL INFORMATION SYSTEM

The purpose of this segment is to provide an improved institutional capacity in ODEPA to analyze, interpret, publish and distribute the various final information products which will flow from other segment of PPIS.

This segment is composed of three parts:

1. Providing ODEPA with modern word processing and data processing equipment and software along with the necessary technical assistance for the ODEPA staff to train them in its efficiency use.
2. Establishment of small group of analysis to manage the interpretation and analysis function with the necessary technical assistance.
3. Inclusion of agricultural information which originates in the various sector institutions with the survey and census based information from the other segments.

While data gathering and processing are important elements of PPIS the last steps of interpreting and publishing the results of the data are critical bottlenecks. This segment confronts that stage of the PPIS process. In the last two years automated word processing has come of age, recent developments in mini-computers with word processing software and peripherals have allowed office systems which integrate the processing of numbers with the bulky and time consuming steps of writing, editing and publishing reports. The data processing elements of PPIS utilize the best data processing technology available to rapidly obtain reliable statistical results. This segment seeks to modernize and consequently accelerate the writing, editing and publishing of final reports on these results.

#### SEGMENT FOUR: AGRICULTURE CREDIT EVALUATION

This component of PPIS is focused on measuring the impacts of the AID/GOC financed small farmer credit and for providing ongoing guidance for disbursement of the later portions of the loan. The evaluation system will also create an institutional capacity in ODEPA to conduct detailed empirical evaluation activities which could be applied to a wide variety of agricultural policies and programs.

The evaluation component of PPIS seeks to measure the change in farmer income associated with credit infusion. In addition it will provide impact information on employment, technology, and indicate the advisability of the target group selection in the loan.

Surveys of selected credit applicants will begin in the first year in order to gather "before and after credit" information. The type of information gathered on the sampled farms is identical to that specified under the general PPIS agricultural production survey. Careful interpretation of the impacts over time will be gathered from follow-up surveys on an annual basis, and cross sectional comparisons with control groups of non-credit farms will be possible with subsamples of the larger PPIS production survey universe.

PART II: SURVEY BASED ANALYTICAL INFORMATION FOR AGRICULTURAL  
POLICY AND PLANNING

1. ANNUAL SURVEY OF AGRICULTURAL PRODUCTION UNITS

a. CONTENT OF THE SURVEY

The agricultural production unit survey is the heart of PPIS, as it provides the principal information on the farm families and their potential as farmers. The agricultural survey focuses on the production unit, its resources, production patterns, and potential. The level of the survey is dual in that it attempts to capture both farm level interactions of the various cropping activities and also elaborates crop level accounts.

The basic idea of the farm level accounts which emerge from the data is to explore the farm business, the efficiency of its various parts, and its potential for providing income. A detailed inventory of farm assets, land, labor capital goods, and credit provide the resource background for examining alternatives.

The questionnaire includes an exploration of the farmers own impressions about the limiting factors which are currently preventing him from expanding or improving his farm business.

Studies in other countries have indicated the utility of

this kind of information. Some have suggested that particularly small farmers have little to contribute in terms of ideas about their predicament and its possible solutions. The conclusions of the farmers and the results of careful professional analysis of their situation do vary somewhat, but the level of complementarity and the reasonableness of farmer responses argues strongly in favor of this section of the survey. Among the factors which the farmer is asked to comment on is his potential for expansion and improvement with added credit. The farmer is asked for specifics in terms of quantity and use destination of credit. Market limitations, input availability, and increased information are among the limiting factors explored.

Utilization patterns of the available land in the farm along with a careful classification of the types and quality of land in the farm constitute the land resource section. Questions about the possibility, from the farmer's point of view, of increasing the cultivated area in his farm are explored.

Because of the importance of crop mix, and of crop mix changes for the income of small farmers, we deal with this issue in considerable detail. The crop mix on the farm for the past four years is obtained and the farmer is asked what crop mix he would select if he could obtain the necessary financing and could market his produce at the current price. This series of questions is intended to provide insight into the potential of the farm to change its mix of crops.

For each of the crops planted during the last crop year, the farmer is asked to recall the quantities and values (at purchase) of the principal inputs. In addition he is asked to explain what was done with the produce: was it held for consumption on the farm, sold, lost, stolen, held for seed, fed to animals, etc.

Requiring the farmer to recall both input and output quantities and values for the past crop year makes

the timing of the survey critical. In the case of Chile the seasonal differences from North to South facilitate efficient gathering of this type of data, since it permits a smaller group of trained and experienced interviewers to move gradually South without changing the relationship of the date of interview to the harvest date. The ideal time for the annual survey is after the harvest of the principal crops is completed and the disposition of the produce is clear. This usually implies an interview about five to six weeks after the major harvests are completed.

There is a variety of specific data which do not lend themselves to gathering on a once per year basis. In addition the quality of the once a year recall of quantities and values of inputs by crop need to be checked on a more frequent basis. For these reasons a subsample of the overall survey population would be selected for more frequent interviews during the year preceeding the full sample. These monthly (or more often during critical seasons) interviews on a small subsample would be used to provide adjustment coefficients for data which the annual survey either proved unable to gather with sufficient accuracy, or to complement the annual survey with seasonal data not attempted.

The employment question is so important that labor use is gathered in the annual survey on a month by month basis for each crop. Hired labor distinguished from family labor and the labor requirements for major crop tasks are carried separately. It was discovered in the case of Guatemala and Colombia that the unemployment rate varied widely by farm size, with the smaller farm facilities dramatically less employed than larger ones. This is another case where the data gathering is a much more complex and costly process if we wish to focus on the poverty strata. If the objective of the survey were to look only at the larger holdings, since the employment rates are probably high, there would be little necessity for obtaining detailed monthly employment accounts by crop. For the small farmer, however, the seasonality of his family labor use may well be the principal determinant of his low income level. If crops, and crop mixes could be combined on his farm in such a way as to

significantly reduce the seasonal variation in his labor use, his income would change substantially.

The sources and use of credit are topics for which crop and institution specific data are obtained. Banks, co-operatives, money-lenders, input suppliers, product purchasers, and other public sources are among the possible credit sources investigated. Summary level information is gathered on credit at the crop level, and then detailed information about interest rates terms and repayment patterns are gathered at the farm level. The farmer is also asked to give his ideas about the possible changes in his credit situation which would improve his production and income situation. He is asked to outline the specific amounts and uses to which he could put more credit than he is currently using. In his responses he is asked to outline only those potential uses which in his estimation would produce sufficiently to allow him to make timely repayments at the current interest rates. When small farmers were asked this question in Guatemala the results were conservative and appeared to be reasonably consistent with the other data available on the farm. For example, those farms which were currently inefficient seldom wanted added credit to expand their inefficiency. Those farmers interested in receiving the largest amounts of added credit were also among the most efficient in their past use of credit. Considerable guidance about the demand for credit can be obtained from these responses, principally by suggesting the types of investments which farmers perceive as warranting added financing. The absolute amounts of the credit desired may be a less important number than the proportional distribution information about priority crops and input uses for credit.

The technical assistance input is tracked on a crop by crop basis to help evaluate the impact of technical assistance and to suggest improved forms of increasing technology on the farming unit. The types and quantities of education and specialized training in addition to extension visits are investigated, and the farmer's interest and reactions to the value of increasing or changing this type of technical assistance or training are elicited.

Capital stocks and changes in inventory are accounted for in order to allow for accrual and deferral of capital costs. Significant distortion of net income measurements can occur if capital expenditures are not properly distributed across the useful life of the durable good. This is particularly true again for the small farmer since his capital purchases are likely to be more infrequent, and when they occur, a larger portion of any given year's income. While the absolute value of individual capital goods owned by a small farmer in the form of animals, tools, buildings and machinery may be small, the capital intensity of his operation if measured by the value of capital per cultivated hectare may be rather high. In the case of Guatemala the capital intensity of cultivation was substantially higher on the small farms than on the large ones.

Animals and livestock products are treated in the same way as crops in that input and output patterns are elicited in both quantity and value terms.

Nonfarming activities may provide a significant portion of farm family income and employment, particularly on smaller farms where the labor absorptive capacity of the farm itself may be minimal. Farm level processing of agricultural products, artesanía or off-farm employment in rural service, and marketing activities or village work are among the possibilities. In the case of processing of agricultural products, input and output accounts are elaborated in the survey. The potential of these activities as family income generators is an important issue to analyze. A complete family income account is obtained which includes income from off farm sources.

Farm produce which is consumed on the farm is an important form of income, again, particularly on the smallest holdings. Data therefore on auto-consumption on a crop by crop basis including production of gardens and domestic animals is computed. Not only is this data important for the income account, but it is also vital for obtaining information relevant to the nutrition problem. When valued at average farm gate values this added income is added into the family total income account.

The content of the agricultural questionnaire is focused on obtaining the necessary basic farm and crop level data to elaborate the accounting and simple analytical results which bear directly on the income, employment, nutrition, and balance of payments problems. Of all of these problems by far the most difficult from a data gathering point of view is the income problem. No small farmer can estimate his income directly; the only alternative is to gather income and expenses information by crop and to elaborate capital and income accounts after the fact. The gathering of the income data has the useful by-product of detailed crop by crop costs of production and input-output relationships which are extremely useful in and of themselves. Even though these crop level accounts are extensively utilized in the final information products which result from the survey, it should be recognized that the justification for the cost of gathering them is simply the necessity of measuring income and associating changes in income with crop mix, yield, technological, and area differences. It is a desire to seriously examine the income problem which accounts for most of the expense in data gathering and not the other three focus problems.

#### b. SAMPLE SIZE AND CONFIGURATION

INE is currently carrying out a National Agricultural Survey each semester. The INE survey is based on an area frame sampling system and will serve as the basis for the PPIS survey sampling frame. The INE survey frame and the part of that frame which is used in the actual semester surveys is quite different. The survey frame includes the capacity to select village and non agricultural lands such as forestry 'explotaciones', as well as cultivated lands. This extended capacity of the INE area frame is important for the consumption and rural service industry samples to be discussed later.

The PPIS Agricultural Production Units Survey would be drawn from an updated and improved version of the current INE area sample frame. The number of observations (farms) included would be approximately 7,000 compared with

INE's current number of approximately 37,000. The average cost per interview of INE's current survey is approximately \$3.50, and the average interview lasts 15-20 minutes. The PPIS interview would cost about \$12.00, and take approximately 90 minutes.

The basic infrastructure for expanding and improving the sample frame and selecting from it the necessary segments to constitute the 7,000 desired observations exists in INE. It would require only marginal addition of financial and technical assistance to complete the task. The inadequacy of the current INE survey lies principally in its content and not in the sampling procedure or coverage. The current INE sample is aimed at a different set of problems than PPIS in that it focuses on measuring only the physical volumes of output and a few summary economic indicators at the farm level.

In addition to the 7,000 farm units which would be surveyed on an annual basis, approximately 300 representative farms would receive frequent visits during the year to gather data which might be expected to have substantial seasonal sensitivity not captured in the annual survey, and to provide a detailed check on the accuracy of the annual recall information in the overall survey.

The PPIS sample would be national in character and it would include all of the agricultural territory of the country even though in some minor agricultural sections of the country a list frame sample may have to be used in order to obtain reasonable coverage. The concentration of observations would be adjusted for population as well as agricultural area so as to assure the statistical significance of results from highly populated poverty areas such as Cautin.

c. SURVEY INSTRUMENT, INTERVIEWER TRAINING, AND CODING PROCEDURES

The content of the survey instrument for the

Agricultural Production Units has already been described above. The instrument itself would be similar to those developed by AID and the Governments of Colombia, Guatemala, Bolivia, and the Dominican Republic. The instrument contains approximately 1,500 separate quantities or values which might be gathered from one farm. In practice, since not all farms have all of the crops, livestock, and processing activities allowed for, the actual number of cells used is probably about half of that total. The four example instruments are too bulky to include in this report but copies are attached to the report for the use of INE and ODEPA in evaluating the existing instruments and designing a Chilean version adapted to their unique agricultural situation.

Since the PPIS agricultural survey instrument is much more complex than the instruments for the other PPIS surveys, the training of interviewers and the coding and quality control procedures are more important. It is important that the number of interviewers be as small as possible to increase the probability that they will learn and improve with repeated interview and correction experiences. The unique seasonal distribution of the harvest period in Chile, starting in the North months before it comes to the South, facilitates having a small number of interviewers who physically migrate from North to South. The training and selection of these interviewers can be more intensively controlled since their number is small. Maintaining the same personnel is also facilitated by using them in the other season on the household, industrial, and marketing surveys, as well as in the seasonal subsample of the agriculture. Vehicles for moving these interviewers are an important resource which is included in the budget as appropriate for AID financing.

As important as the interviewers themselves is the role of coding and supervision of the interviewers in the field. Often the coding and correction of the questionnaires in a survey like this is handled after the field work in the office. This procedure is not adequate to assure reasonable quality data with an instrument as complex as the PPIS Agricultural Production Units Survey. The coding must be done in the field by the supervisors

themselves. This implies a larger number of supervisors per interviewer than is normally the case. One supervisor per five interviewers is an acceptable level. The supervisor does the coding while the interviewers are in the field each day, and is responsible for reviewing each entry and checking it for apparent consistency and accuracy. Admissibility limits for each entry type must be preliminarily fixed before the interviewing begins so that the supervisor has these limits in mind when he goes through each questionnaire. If there is any question about any of the entries, the problem is identified before the survey team leaves the area and the form is returned for a supplemental interview to correct the apparent problem or confirm the questionable figure. It is impossible to sensibly adjust for these problems in the office in a survey such as this since the number of observations is small for any given crop or farm type in a region, and consequently so called 'hot deck' procedures are of questionable value.

#### d. ANALYSIS OF BASIC DATA AND ELABORATION OF FINAL INFORMATIONAL RESULTS

The final objective of Segment One of PPIS is to produce a set of accounting and simple analytical results useful in designing and evaluating projects, policies, and programs. This section discusses both the content of those final results and the analytical process which produces them.

#### CONTENT OF THE ANALYTICAL SERIES

The results would appear as a series of published accounting and analytical statistics which could be used by both the public and private sectors in agricultural decision making. The analytical series might contain a wide variety of different types of information, since the underlying data base required for the simple income computations

is broad enough to support an extremely wide range of farm level information. The descriptions of suggested final content contained in this section are only illustrative. The final choice should be based on extensive discussion with potential users in both the private and public sector.

### COSTS OF PRODUCTION

The costs of producing each crop and livestock product would be presented in an accounting format, with both the quantities and values of all inputs used. 'Cuadro 1' and 'Cuadro 2' are sample formats for the costs of production results. It will be obvious on careful examination of the two formats that these results are not obtainable directly from the sample, but require considerable accounting and analysis. The key in the accounting and analysis procedures is arriving at comparable figures for different farm situations. For example, a land cost must be included in all farms or ignored in all farms in order to arrive at costs which will be comparable between rental, share cropping, cooperative, and owner operated holdings. Imputed land costs derived from estimated land values are used to force consistency on this input item. Capital costs, interest expenses, administrative overheads, repairs, maintenance on farm produced inputs, animal purchases, and changes in inventories all cause accounting difficulties which must be solved with consistent procedures if the costs of production information is to be comparable and useful for actual project and policy decisions.

Rapid price inflation creates problems of similar dimension, but unfortunately their distortion is not entirely compensated for by sophisticated adjustment procedures. All of the values will be adjusted to 'pesos' of a common date, and that will adjust for inflation distortion based on the assumption that relative prices have not changed. Since all inputs do not change at the same rate, and since prices of products may shift relatively, the actual quantity relationships may be changed as a result of uneven inflation. Only to the degree that farmers can

decipher these differential inflation rates and make technological factor substitutions based on them will the adjustments be inaccurate. Attributing this kind of

Cuadro 1

CUADRO 1 COSTOS DE PRODUCCION (Cuentas Ilustrativas para Trazo)  
TIPO (por región y tamaño de cultivo)

Región	Tamaño de Cultivo (Héctareas)	ELEMENTOS														
		Semillas	Abono Nitrogeno	Abono Fosforo	Abonos otros	Insecticidas	Fungicidas	Herbicidas	Materia orgánica	Maquinaria	Mano de obra	Transporte	Alquileres	Intereses	Seguros	Impuestos
Tarapaca - Coquimbo	0-1 Héct. Básicas															
	1-3 Héct. "															
	3-6 Héct. "															
	6-25 Héct. "															
	25+ Héct. "															
Valparaíso - Aconcagua	0-1 Héct. Básicas															
	1-3 Héct. "															
	3-6 Héct. "															
	6-25 Héct. "															
	25+ Héct. "															
Santiago - O'Higgins - Colchagua	0-1 Héct. Básicas															
	1-3 Héct. "															
	3-6 Héct. "															
	6-25 Héct. "															
	25+ Héct. "															
Curico - Linares	0-1 Héct. Básicas															
	1-3 Héct. "															
	3-6 Héct. "															
	6-25 Héct. "															
	25+ Héct. "															
Muble - Malleco	0-1 Héct. Básicas															
	1-3 Héct. "															
	3-6 Héct. "															
	6-25 Héct. "															
	25+ Héct. "															
Cautín - Osorno	0-1 Héct. Básicas															
	1-3 Héct. "															
	3-6 Héct. "															
	6-25 Héct. "															
	25+ Héct. "															
Magallanes - Chiloe	0-1 Héct. Básicas															
	1-3 Héct. "															
	3-6 Héct. "															
	6-25 Héct. "															
	25+ Héct. "															
Araucanía - Magallanes	0-1 Héct. Básicas															
	1-3 Héct. "															
	3-6 Héct. "															
	6-25 Héct. "															
	25+ Héct. "															

1/ = Valores inflacionados e inflacionados a un índice de 100 = 1960

Cuadro 2

CUADRO 2. COSTOS DE PRODUCCIÓN (Cuadro Ilustrativo para trigo)  
TRIGO (por Región y nivel Técnico.)

	INGREDIENTES											PRODUCCIÓN							
	Ferti- lilas	Abono Nitro- geno	Abono Fosfo- rato	Abonos y otros mezcla- dos	Insecti- cidas y Herbi- cidas	Funghi- cidas y Herbicidas	Riego	Maqui- na -- prepa- rado Terreno	Mano de obra prepa- rado Terreno	de Obras Otras	Trans- porte Fletes	Empa- que (sacos)	Comis- nes	Inter- eses o Seguros	Tierra Arrenda- da u Imputa- da	Otros Gastos	Canti- dad	Valor	Precio Por SQ
	00	\$ T/	\$ T/	\$ T/	kg.	kg.	\$ m <sup>2</sup>	hr.	hr.	lan	lan	\$ No.	\$	\$	\$	\$	\$	\$	\$
Yallarica - Antofagasta																			
Nivel Técnico																			
Alto																			
Medio																			
No Técnico																			
Santiago - Colchagua																			
Nivel Técnico																			
Alto																			
Medio																			
No Técnico																			
Curicó - Linares																			
Nivel Técnico																			
Alto																			
Medio																			
No Técnico																			
Maipo - Valparaíso																			
Nivel Técnico																			
Alto																			
Medio																			
No Técnico																			
Secano Técnico																			
Alto																			
Medio																			
No Técnico																			
Contra Técnico																			
Alto																			
Medio																			
No Técnico																			
Llanquihue - Chilo																			
Nivel Técnico																			
Alto																			
Medio																			
No Técnico																			
Aisén - Magallanes																			
Nivel Técnico																			
Alto																			
Medio																			
No Técnico																			

sophisticated relative price movement awareness to any large group of Chilean farmers is very questionable by itself. When the added requirement of technical flexibility on the part of the farmer to make quantity substitutions in his production process is added, the implausibility of the combination of assumptions makes the potential distortion

which might result appear to be minimal. Because of the difficulties caused by inflation, and the usefulness of physical relationships for comparison purposes all of the input items will be carried in both physical and value terms. For items such as machinery, non-fertilizer chemicals, and some other items, quantities will be difficult to assign, however there are reasonable solutions to these difficulties on a case by case basis.

As the two samples indicate, these accounts would be presented for each crop by region, by farm size, and by technological level. The planning and policy utility of statistically reliable costs of production by crop are so obvious that little discussion is needed. Almost every entity engaged in or related to agriculture is currently using some kind of explicit or implicit estimates of these accounts in the decision making process. Credit agencies need these accounts to estimate credit and input requirements, project planners to select crop alternatives and estimate project dimensions, research and extension institutions to guide the content and process of investigation and farmer advice, and farmers to suggest directions for change.

#### NET INCOME INFORMATION

Under the heading of net income information four principal indicators or accounting ratios would be included. The first of these are the profitability ratios.

Profitability ratios present the net farm income (including imputed values for home consumed farm produce) in a variety of form. The first type of these ratios are farm levels indicating the profitability of the combination of crop and livestock activities on the farm. The second type are crop level ratios which quantify the profitability of individual crop or livestock activities.

CUADRO 3 RENTABILIDAD A NIVEL REGIONAL

	Ingreso Reto por Proble	Ingreso Reto por Capital	Ingreso Reto por Trabajo	Tasa de Retorno Reto	Ingreso Reto por HA Cultivada
<b>Tarapaca - Coquimbo</b>					
0-1 HÁ.					
1-3 HÁ.					
3-6 HÁ. Maíces					
6-25 HÁ.					
25+ HÁ.					
<b>Valparaíso - Antofagasta</b>					
0-1 HÁ. Maíces					
1-3 HÁ.					
3-6 HÁ.					
6-25 HÁ.					
25+ HÁ.					
<b>Santiago - O'Higgins - Colchagua</b>					
0-1 HÁ. Maíces					
1-3 HÁ. Maíces					
3-6 HÁ. Maíces					
6-25 HÁ. Maíces					
25+ HÁ. Maíces					
<b>Curico - Linares</b>					
0-1 HÁ. Maíces					
1-3 HÁ.					
3-6 HÁ.					
6-25 HÁ.					
25+ HÁ.					
<b>Buho - Malleco</b>					
0-1 HÁ. Maíces					
1-3 HÁ.					
3-6 HÁ.					
6-25 HÁ.					
25+ HÁ.					
<b>Cautín - Osorno</b>					
0-1 HÁ. Maíces					
1-3 HÁ.					
3-6 HÁ.					
6-25 HÁ.					
25+ HÁ.					
<b>Llanquihue - Chiloé</b>					
0-1 HÁ. Maíces					
1-3 HÁ.					
3-6 HÁ.					
6-25 HÁ.					
25+ HÁ.					
<b>Aisén - Magallanes</b>					
0-1 HÁ.					
1-3 HÁ.					
3-6 HÁ.					
6-25 HÁ.					
25+ HÁ.					
<b>Valparaíso - Antofagasta</b>					
<b>Nivel Técnico</b>					
Alto					
Medio					
Bajo Técnico					
<b>Santiago - Colchagua</b>					
<b>Nivel Técnico</b>					
Alto					
Medio					
Bajo Técnico					
<b>Curico - Linares</b>					
Riego Nivel Técnico	Alto				
Riego Nivel Técnico	Medio				
Riego Bajo Técnico	Bajo				
<b>Buho - Malleco</b>					
Riego Nivel Técnico	Alto				
Riego Nivel Técnico	Medio				
Bajo Técnico					
Becano Técnico					
Bajo Técnico					
<b>Cautín - Osorno</b>					
Riego Técnico					
Bajo Técnico					
Becano Técnico					
Bajo Técnico					
<b>Llanquihue - Chiloé</b>					
Becano Técnico	Alto				
Bajo Técnico	Medio				
<b>Aisén - Magallanes</b>					
Técnico					
Bajo Técnico					

The intent of these two series of analytical results is to identify the profitability of different crops, different types of agriculture, and different farm sizes. Land, labor, and capital profitability (internal rate of return) computations are included.

Physical and value input/output coefficients are







## EMPLOYMENT PROBLEM

Analytical results, bearing on the problem of unemployment, would provide both an ongoing measurement of the dimensions and location of the problem, as well as apparent alternatives for reducing it. Employment levels calculated in terms of the man days occupied for each of the farm family, as well as the hired labor patterns, would be computed. By combining the farm level and crop employment accounts, employment projections (seasonal and annual) could be made based on the crop forecasts which are also a part of PPIS.

## PRODUCER PRICES FOR INPUTS AND PRODUCTS

Input and output prices faced by producers would be published on both annual and monthly basis. The annual figures would result from the annual sample and the monthly prices would originate from the monthly subsample. Both would be published by region, crop or product, and would serve as an ongoing source of agricultural market information for many entities in both private and public sector. This is not intended to compete with the daily market price systems; it is aimed at slightly longer intervals (one month) and at tracking changes in price levels for major input and products types, both to adjust the annual survey and to be used as market indicators. A wide variety of more aggregate indicators would be generated as a part of Segment One PPIS. Among these are the following:

1. Regional production accounts by crop, indicating the output by region of each of the crop and livestock components of the agricultural sector
2. Estimates of seedings for each crop for the coming year, and therefore estimates of potential supply by crop. When these estimates of supply are combined with the demand estimates, based on the consumer surveys, reasonable balance estimates can be made

3. Regional and national estimates of the demand for agricultural inputs, domestic and imported by region.

e. INSTITUTIONAL ARRANGEMENTS AND TECHNICAL ASSISTANCE REQUIREMENTS FOR GATHERING AND ANALYSIS OF THE AGRICULTURAL PRODUCTION UNITS SURVEY

The steps involved in carrying the agricultural units survey from conception to final analytical results will require considerable institutional collaboration and outside technical assistance. In order to outline nature, dimensions, technical assistance requirements, and suggested institutional configuration of the process we will begin with a simple listing of the steps in the process.

OUTLINE OF THE PRINCIPAL STEPS FROM DESIGN TO DIVULGATION OF THE RESULTS OF THE AGRICULTURAL PRODUCTION UNITS SURVEY:

1. Adjustment of the INE National Agricultural Area-Frame Sampling System
2. Selection of a subsample of areas from the frame
  - 2.a. Selection of a sub-subsample for monthly interviews
3. Design of a survey instrument
  - 3.a. Design the subsample survey instruments for the monthly follow-up interviews
4. Field test of the survey instrument
5. Selection and training of interviewers and supervisors

6. Field interviews coding and correction
  - 6.a. Field interviews, coding, and correction of the monthly follow-up subsample
7. Punching data, transfer to tapes, and final editing
8. Design of accounting, amortization, inflation adjustment, factor imputation, and other comparability procedures
9. Writing accounting, amortization, inflation adjustment, and factor imputation programs
10. Run accounting programs
11. Interpret accounting results and draft statistical and narrative report
12. Design econometric measurements
13. Write front end programs for entry of data into econometric packages
14. Interpret analytical results and write final analytical series and narrative comments
15. Arrange for distribution of results

Steps 1-7 are basically sampling, statistical, and data processing tasks and as such are properly inside the range of expertise and role of a national statistical institute such as INE. The design of the survey instrument is the one important exception to this, in that the principal task of questionnaire design (not necessarily questionnaire format) should be under the direction of the economists who will be responsible for the design and interpretation of the accounting and analytical results.

Assuming that these first 7 steps are principally housed in INE, the following technical assistance and funding are implied.

Step 1.	Four man months of technical assistance of a sampling expert familiar with area frame samples to assist in the adjustment and subsample selection procedures	\$24,000
Step 3.	One man month of statistician and two man months of economist for design and field adjustment of the survey instruments for agriculture	\$ 6,000 (Statist.) \$12,000 (Econom.)
Step 5.	One man month of statistician and one man month of economist for design of training manuals, coding procedures, and training of INE survey personnel	\$ 6,000 (Statist.) \$ 6,000 (Econom.)
Step 7.	Three man months of systems analyst/programmer to assist in the design of programs for editing data files	\$18,000
Step 8.	Three man months of economist to assist in the design of accounting and adjustment procedures to produce basic farm and crop level accounts	\$15,000
Step 11.	Two man months of economist to assist in the design of econometric measurements and the interpretation of the accounting results	\$10,000
Step 14.	One man month of economist to assist in the interpretation of the analytical results	\$ 5,000

A resident data processing advisor would be involved in all of these steps devoting approximately 2 man months to coordinating the above activities

\$ 8,000

The survey itself will require marginal additions to the existing resources. These additional resources in-

clude interviewers, and vehicles for transportation. For the agricultural production units surveys these costs are estimated as follows:

Survey (7,000*\$12.50 per interview two thirds of which would be considered marginal to GOC current costs and added for three)	\$175,000
Vehicles	25,000

## 2. SURVEY OF AGRICULTURAL MARKETING AND PROCESSING ESTABLISHMENTS

### a. SURVEY CONTENT, INSTRUMENT, SAMPLE SIZE, AND SECTORAL COVERAGE

Many of the principal constraints to agricultural development, and particularly the development of the small farmer are marketing and market constraints. These marketing and processing surveys focus on these intermediate constraints.

The content of these surveys is very similar to the content of surveys already underway in INE covering the marketing and agricultural processing industries. This is a completely different situation than is the case in agriculture where the proposed survey content bears little resemblance to the current INE surveys. Because of the similarity it is possible to use only slightly modified instruments aimed at adding approximately 10% in size and complexity. By contrast, in the agricultural survey the content proposed is about 400% as large and complex as the current INE surveys.

Not only is the content change less dramatic, but the consequent increase in the marginal costs of realizing the sample in the form required by PPIS is also smaller.

### SURVEY OF AGRICULTURAL PROCESSING INDUSTRIES

The agricultural processing industries to be covered in the sample are a subset of the ones currently included in INE's annual industrial survey. Cuadro 7 indicates the sample size and sectoral coverage of the proposed survey. Cuadro 7 includes however only medium and large scale establishments, and since the intent of PPIS is to focus on the marginal families and small scale operations the final configuration of the survey will have to await careful analysis of the INE registers which include the small scale business

establishments. The presentation of Cuadro 7 without those establishments is made simply because at time of this the full INE industrial registers have not yet been reviewed.

CUADRO 7  
AGRICULTURAL PROCESSING  
Sample Size and Production Coverage for  
Medium and Large Scale Establishment

	CIIU	Number of Establish- ment	Value <sup>1</sup> Added	% of Value Added
Slaughter & Meat Products	3,111	33	518,268	6,6
Milk Products	3,112	24	980,140	12,5
Fruit & Vegetable Canning	3,113	20	372,711	4,7
Fish & Sea Food Products	3,114	24	301,286	3,8
Edible Oils	3,115	27	523,710	6,7
Milling	3,116	25	253,846	3,2
Bakery Products	3,117	38	590,788	7,5
Sugar Processing	3,118	7	565,889	7,2
Chocolate & Candy Products	3,119	12	430,016	5,5
Miscellaneous Food Products	3,121	227	357,714	4,6
Animal Feeds	3,122	3	49,368	0,6
Liquors	3,131	8	50,421	0,6
Wine	3,132	24	497,040	6,3
Beer	3,133	10	151,897	1,9
Non Alcoholic Beverages	3,134	18	281,798	3,6
Tabacco	3,140	2	1.033,536	13,2
<b>TOTAL FOOD PROCESSING</b>		<b>507</b>	<b>6.959,328</b>	<b>88,5</b>
Sawmills and Planning Utilts.	3,311	78	720,763	9,2
Wood Boxes and Containers	3,312	2	16,359	0,2
Other Wood Products	3,319	3	41,969	0,5
Furniture Products	3,320	19	120,888	1,5
<b>TOTAL WOOD PRODUCTS</b>		<b>102</b>	<b>899,979</b>	
<b>TOTAL AGRICULTURAL PROCES.</b>		<b>609</b>	<b>7,859,307</b>	

<sup>1</sup>In 1974 000 Escudos

In addition to the small scale agricultural processing establishments (1-4 workers) in the INE registers, a significant amount of processing takes place on farms. Weaving, artesanía, wood products, and other farm level processing activities are accounted for in considerable detail in the agricultural survey instrument. The small scale segment of the processing industry will be covered then in two sources, the industrial survey, and the agricultural survey.

The overall sample size for food processing will be not over 1,500 when the small and large scale are included. Compared with the 7,000 farms in the agricultural sample this is a small task, and the ease is further facilitated by the urban location of the large majority of the establishments. Though the 'miscellaneous products' sub-sector would be included in the annual survey it would be excluded from the monthly subsample because of the inaccuracy of using seasonal adjustment coefficients due to product heterogeneity.

The monthly subsample would be constituted by approximately 100 establishments stratified by scale and product but not by region. The instruments would be similar to the annual instrument but omit capital accounts.

In the case of the agricultural survey an entirely new instrument will have to be developed building more on experiences in Colombia, Guatemala, Bolivia, and the Dominican Republic. Copies of these questionnaires are attached. In the case of the agricultural processing industry an adjusted form based on the INE industrial survey instrument is possible. The author has made a reasonably careful review of the INE questionnaire in light of the analytical requirements of PPIS and has drafted a revised version which is presented below in Appendix 1. Appendix 2 presents the INE questionnaire so that the proposed and the actual can be compared. In addition a newly designed small scale establishments questionnaire is presented in Appendix 3. The detail and extent of information gathered on the small scale establishments is understandably less than is the case for the medium and large scales, and Appendix 3 (the proposed small scale instrument) is an attempt to adjust for that while not losing more than is necessary in comparability.

## SURVEY OF AGRICULTURAL MARKETING ESTABLISHMENTS

Rural to urban migration has proceeded with surprising speed in Chile during the last two decades. Less than one third of the population is in agriculture. This has special implications for poverty since a smaller percent of the poor are rural small farmers in Chile than almost any other Latin American country. The large majority of these poor migrants do not enter the industrial workforce and are seldom classified as totally 'unemployed'. They become part of the so-called 'service sector', a classification with such indeterminate sector boundaries and obscure economic characteristics as to defy serious analysis. The only information available is that this is the location of a strata of poverty families, perhaps as large as the rural poor.

Though PPIS is not directly aimed at providing information and analysis on this group as a whole a large segment of this group fall within the purview of PPIS in the form of urban dwellers engaged in some form of marketing of agricultural products. Some of these urban poverty households are employed in large scale marketing establishments, but the large majority of those engaged in agricultural products marketing are engaged in very small scale, including ambulatory marketing activities.

The survey for the large scale whole and retail agricultural product establishments can be conducted with little alteration from the current IIE 'Encuesta de Comercio y Servicios'. The annual survey would in fact cover all large and medium scale establishments, and the monthly follow-up survey would be drawn from the existing IIE register. The problem of a sample for the small scale and ambulatory marketing activities is significantly larger. It is complicated by the fact that many of those households engaged in small scale marketing activities are rural. These families engage in moving products to market from rural points and the line between transportation and marketing becomes fuzzy.

Because of the interest in the marginal population and ambulatory nature of its marketing activity the possibility of using a modified urban and rural area frame sample was suggested in conversations with INE. Considerable work needs to be undertaken before a satisfactory sampling procedure could be fixed on, but it is useful at this point to commit PPIS to adequately including this population in the survey. The principal work which is left to be done and the majority of the marginal costs of the marketing effort are related to the sample frame development and interview costs of these poverty households engaged in urban and rural marketing activities.

The survey instruments currently used by INE for their commerce and service interviews will serve with a few alterations for the medium and large scale establishments. Appendices 4 and 5 present the INE questionnaire for commerce, for retail ( 4 ) and wholesale ( 5 ) establishments.

These instruments lack three areas of information which will need to be added. The first of these is the book value of all durable assets, the second, information on financing and lastly, information on the apparent factors which the small businessman perceives as limiting his expansion or improvement. All of these missing segments are presented in Appendix 1 above, so it was not deemed necessary to present a revised version of the marketing questionnaire.

The questionnaire to be used for the small scale marketing activities should be the same as the retail form shown in appendix 4.

#### b. ANALYSIS OF THE MARKETING PROCESSING DATA

The analytical and accounting series of results produced for the marketing and processing sector will be similar in kind to those produced for the agricultural production units. The list presented below is illustrative only of the types of results:

1. Costs of production for each processed product by region, scale of operation, and technological type
2. Physical input and output coefficients by product, region, scale, and technological level
3. Marketing costs by product, marketing step, scale, region, and technological level
4. Marketing margins by stage, product, region, scale and technological level
5. Profitability measures (similar to those outlined in agriculture except for land) for net income and internal rates of return to both marketing and processing establishments by product, scale, region, and technological level

6. Capital productivity ratios for marketing and processing by region, scale, product, and technological level

7. Product prices at various marketing stages, with monthly variation on a subsample basis by product and region

8. Employment and income patterns of households engaged in small scale urban and rural marketing activities.

These analytical and accounting results would have to evolve in much the same way as was outlined for agriculture. Technical assistance and direct support for the marginal costs of the marketing and processing surveys are outlined as follows:

A. One man month of statistician/sampling expert to assist in the development of a small scale processing and marketing extension to the INE list-frame registers	\$ 6,000
B. Two man months of economist to assist in the design of accounting and analytical procedures for marketing and processing	\$ 12,000
C. Two man months of the resident data processing advisor and 2 man months of short term programming to assist in designing and writing accounting and analytical programs for marketing and processing	\$ 20,000
D. Two man months of economist to assist in the interpretation of the analytical and accounting results	\$ 12,000
 T O T A L Technical Assistance for Marketing and Processing	 \$ 50,000

The funding required for the incremental costs of interviewers for gathering the additional data would be \$ 8,000

T O T A L costs (Technical Assistance and Direct) of the marketing and processing components of PPIS \$58,000

### 3. URBAN AND RURAL HOUSEHOLD SURVEY

The major problem areas outlined at the beginning of this paper which were to be the principal focus of PPIS included nutrition. The urban and rural household survey component of PPIS would focus on two major issues; first, the demand for agricultural products, and second, nutritional status and intake of the population. One important reason for including the nutritional objective was the ease of adding it from a data gathering point of view. If demand is to be projected for agricultural products a representative sample of the consumption patterns of food products is required. That is so similar to nutritional intake that the added cost of providing useful data for analysis of this vital issue was deemed far below its value.

The dual focus of this survey is to investigate the demand patterns for food products and generate a nutrient intake and nutritional status profile of both rural and urban households. It also has the useful by-product of providing income and employment profiles of the landless rural population which is another of the important poverty pockets.

a. SURVEY CONTENT, SAMPLE SIZE, AND SAMPLE FRAME

The household survey should be divided into three segments since each will require a different sampling procedure. The first is the urban survey, second, the rural landless households, and the third are rural farm families.

The content for the farm families is different from the other two since care needs to be given to the issue of farm produced consumption items. In the agricultural survey careful accounting is made for the disposition of farm produce. Among the possible uses is farm family consumption. A subsample of approximately 1,000 (1/7 of the total agricultural sample) would receive the consumption forms in addition to the production questionnaire. When these two consumption sources are added together the family nutritional intake could be ascertained.

The rural landless population would be divided into two groups, first those rural workers who live and work on farms which they do not own. This group would be sampled by including all residents inside the agricultural area-frame segments for the purpose of consumption survey in one out of each seven production survey segments. The resident households and their members would be made the subject of the consumption survey on a 'closed segment' basis. For those landless workers who live not on farms but in the small villages, too small to be admitted into the urban list frame, a special area frame sample based on the currently unutilized non-agricultural land area segments which exist in the INE files would be developed.

In the urban areas a list frame based on the census will suffice. The total size of the sample would not exceed three thousand households (1,000 agricultural, 500 landless rural, 1,500 urban).

Since no current household surveys are being conducted by INE, the proportion of total costs which are

marginal is small. Both the sample frames and the interview infrastructure must be created. Before discussing content it is important to mention that part of the funding for the household survey would come from AID loan funds for nutrition managed by CONPAN. This addition in funding is to cover the nutritional status elements in the survey itself and a part of the sampling and interviewing overhead related to these segments. Due to the importance of health interactions, nutritional information on births and deaths in the last five years, and incapacitating illnesses in the last year are also included.

Appendix 6 contains a preliminary draft based on a household survey experience in Colombia and Guatemala, and a nutrition and health status survey in Guatemala. Since the author is neither a health nor a nutrition specialist the status of this draft should be considered very preliminary in respect to these two issues. Comments from CONPAN on the content and instrument format will be sought before any final agreement is reached.

b. ANALYSIS OF CONSUMPTION AND NUTRITION DATA

The analytical products of the household surveys focus on demand for agricultural products and nutritional issues. The important results are:

1. Price elasticities of demand by product and region, estimated on a cross sectional basis
2. Income elasticities of demand for agricultural products by product, income strata, household size, region, rural, and urban
3. Net income and employment profiles for the sampled populations, by region, income level, occupation, and education level
4. Education profiles of the population and relationship to nutrition and income
5. Nutrient intake profile of the sampled population by region, family size and age, occupation, income level, education level, etc.
6. Health status outline by region, family size, age, income level, occupation, education level

The household surveys will require considerable technical assistance and direct support since these efforts are not building on currently operating surveys underway in INE. Those budgetary and personnel requirements are as follows:

- |  |          |
|--|----------|
| A. Two man months of statistician/sampling specialist to assist in the design of the sample frames                             | \$12,000 |
| B. Two man months of Nutrition/health specialist to assist in the design of the survey instrument and training of interviewers | \$10,00  |

C. Two man months of nutrition/health specialist to assist in the design of nutrition and health data transformation procedures	\$10,000
D. Two man months of economist to assist in the design of econometric models to estimate price and income elasticity measurements	\$12,000
E. Five man months of programmer/systems analyst (2 man months of resident data processing advisor and 3 man months of short term TDY) to assist in the design and writing of the programs for editing, the data and implementing the nutrition, health, and econometric analyses	\$26,000
F. One man month of economist and one man month of nutrition/health analyst to assist in the interpretation of the results	\$12,000
T O T A L Technical Assistance	\$82,000

Direct assistance will be required for collecting the data. The costs for this item is as follows:

Data collection (5,000 interviews per year at \$5,00 per interview)	\$75,000
T O T A L Household Survey Cost	\$157,000

SEGMENT ONE: SURVEY COMPONENT

(ODLPA/INE) - ESTIMATED PPIS BUDGET  
(in US\$1,000's and equivalent)

Description	Farm Level Survey	Household Budget Survey	Marketing & Processing Survey
Technical Assistance			
. Data Processing			
Resident (Same as other components)	8.0 2MM	8.0 2MM	8.0 2MM
Short term	30.0 5MM	18.0 3MM	12.0 2MM
Short term Sampling	24.0 4MM	12.0 2MM	6.0 1MM
. Data Analysis			
Short term	50.0 9MM	44.0 8MM	24.0 4MM
Data Gathering			
. Transportation (Vehicles)			
	25.0		
. Local Survey Costs			
	175.0	75.0	8.0
Sub-component Total	312.0	157.0	58.0
Total Cost All Surveys \$527.0			

### PART III: CENSUS BASED INFORMATION ON THE STRUCTURE OF AGRICULTURE

The last decade has seen a dramatic change in the basic structure of the agricultural sector in Chile. The most important part of this change has been the shift in tenure patterns due to massive land reform.

There is no available baseline statistical description of the composition of the entire sector which post dates these structural shifts - the last agricultural census was carried out in 1965. It is therefore critical that an agricultural census be undertaken, and that its results be processed and released in a timely fashion.

The U.S. Bureau of Census has provided the Mission and the GOC with the advisory team charged with jointly elaborating the necessary elements to process and publish the census in a timely and efficient manner. Its report is available in the Mission and LA/DR files.

The team found that in the data processing area, INE was far behind comparable institutions in other Latin American countries. In areas outside of data processing such as sampling, methodology, etc. INE's capacity was generally found to be outstanding from a theoretical point of view; however, even these capacities were limited by a lack of contact with modern data processing techniques.

The reasons why INE has not developed in the data processing area are twofold: (1) Government policy in the late 1960's and early 1970's emphasized the creation of a centralized public sector data processing facility, ECOM, at the expense of data processing capability in other public sector entities; and (2) the GOC austerity program has forced a cut in data processing budgets generally.

At the present time there exists an awareness in the GOC that all public sector data processing activities cannot be centralized and ECOM has lost its public sector data processing monopoly. It also is generally realized within the GOC and especially within INE that it is not possible to develop a modern statistical facility without and expertise in data processing and relatively easy access to processing facilities.

An important by-product of the PPIS is the building of INE institutional ability to integrate modern data processing techniques into its statistics processes. Both the processing of the agricultural census and the three surveys will contribute to that end. The planned technical assistance and short-term training as well as the in-service training practice on the censal and survey exercises using modern data processing should leave INE with a modern statistical data processing capability.

This document does not intend to provide a detailed specification of the hardware and software to be funded. In order to arrive at reasonable overall figures a preliminary configuration was elaborated. The following table presents these cost estimates as well as the technical assistance support which will be funded to assure the efficient utilization of the system. A computer systems consultant will outline the specifications of the equipment as a result of trip to Santiago.

INE AGRICULTURAL CENSUS PROCESSING  
AND  
PUBLICATION BUDGET

<u>DESCRIPTION</u>	<u>ESTIMATED COST</u>
<u>Mini Computer and Peripherals</u>	
Central Processing Unit 88 MB Disk 128Kb core 800/1600 BPI Master Tape Drive and Controller Input Keyboard & Output Type- writer 16 Character Bupper	\$ 117,000
Additional Core (512 Kb)	\$ 46,000
Three 800/1600 BPI Tape Drives	\$ 27,000
One Punch Card Reader (300 CPM)	\$ 6,000
Two Line Printers (300 LPM)	\$ 24,000
Papertape Punch and Read	\$ 4,000
Two Graphics Remote Terminals	\$ 8,000
Three Remote Terminals	\$ 7,500
Dual Flexible Disk Drive	\$ 4,000
	<hr/>
	\$ 243,500
<u>Software</u>	
Fortran 4	\$ 3,000
Cobol	\$ 7,000
Basic	\$ 2,000
Type Setting - Word Processing & Graphics	\$ 25,000
Scientific & Statistics Packages	\$ 1,200
Data Base Management Systems	\$ 5,000
	<hr/>
	\$ 43,200

<u>DESCRIPTION</u>	<u>ESTIMATED CCST</u>
<u>Other</u>	
Shipping	\$ 16,000
3 year Maintainance Contract	\$ 50,000
Supplies	\$ 16,000
Spare Parts	\$ 40,000
	<hr/>
	\$122,000
 <u>Publication</u>	
Photo Typeset	\$ 20,000
Press	\$ 12,000
Collator Binder	\$ 5,000
Camera/Platemaker	\$ 12,000
	<hr/>
	\$ 49,000
 <u>Technical Assistance and Training</u>	
Resident (12 MM Shared with ODEPA)	\$ 50,000
Short Term 6 MM	\$ 36,000
Training Costs	\$ 15,000
	<hr/>
	\$101,000
 <u>T O T A L .</u>	 \$558,700

## PART IV: ODEPA INSTITUTIONAL INFORMATION SYSTEM

### 1. Planning Logistics

We can visualize the function of ODEPA as gathering, manipulating, and interpreting critical information and writing analytical documents for policy formulation. It is important to realize that only a part of this difficulty of achieving efficiency in this process is related to analytical expertise and the quality of the professional personnel. More important are bottlenecks which we shall call "planning/analysis logistics".

Since logistical problems frustrate the achievement of efficient staff services more often than do the more sophisticated problems such as planning and analytical methodology, it is important that careful attention be directed to them. These critical bottlenecks are:

- a. Data Processing Inadequacy
- b. Inefficient Text Processing and Report Generation
- c. Insufficient Resources for Interpretive Writing

Regardless of what issues are chosen for focus, the staff function will involve gathering and manipulating relatively large amounts of data, interpreting the policy meaning of those numbers and producing a final report. Experience in numerous cases has demonstrated that most of the time lags from start to finish are simple logistical as opposed to analytical in nature. The intent of the ODEPA Institutional Information System is to provide funding and technical assistance to confront these planning logistics problems.

## 2: Final Results of the ODEPA Institutional Information System

The final product of a large part of ODEPA's work is made up of written reports containing quantified indications of sector performance and narrative interpretations of policy directions.

A careful balance must be achieved in ODEPA divisions between creating a professional environment in which serious analysts can be attracted and retained, but at the same time avoiding the inefficiency of an academic style environment. Final reports must flow from the ODEPA divisions with regularity.

Gearing all of the professionals to work against report deadlines, and then providing them with the modern equipment and trained support staff necessary are at the heart of achieving the necessary output of final reports.

The provision of the equipment, software and technical assistance to achieve this staff efficiency is the function of the ODEPA Institutional Information System.

## 3. Agricultural Sector Statistical Series.

We can visualize the final results of ODEPA information and analytical activities as consisting of three types of final reports:

1. The Agricultural Sector Statistical Series
2. Interpretive Analysis without quantitative models
3. Quantitative Analysis This section deals with the substantive content of the first of

these, the Agricultural Sector Statistical Series. Though this series was discussed in part two where the analysis of the surveys was treated, the final preparation and publication of the statistical series and the interpretation of its policy implications is the function of the ODEPA Institutional Information System, and hence the series is dealt with in more detail in this section.

The principal need to be served by the ODEPA Institutional Information System is the need for an intermediate statistical product, one which covers all products, farm system types, and reaches into marketing and demand. At the same time the series needs to contain numbers which have been partially processed so that the numbers themselves have policy implications without further sophisticated manipulation.

The series would be published annually in six separate reports. The reports would have no narrative interpretation except for detailed explanations of the way in which each of the indicators or coefficients were calculated and the economic or agricultural meaning of the number itself. The six reports are detailed below with the suggested statistics which would be contained in each.

#### STATISTICAL SERIES VOL. ONE CROP AND LIVESTOCK COSTS OF

##### PRODUCTION.

A. Costs of Production for 50 principal products  
Quantities and farm gate values of inputs for 50 principal crop and livestock products. Both quantities and values would be computed per cultivated hectare and per ton and per Peso of output. They would be published by region, by farm size, and by farm system type (to represent technological level). Inputs would be grouped into about twenty principal categories. Imputed values would be included for farm level generated inputs, land, and labor.

B. Costs of Marketing and Processing for 50 Principal Products. Quantities and values for the inputs in marketing and processing of the

principal agricultural products. The quantities would be computed per ton processed or marketed and the values would be computed per Peso of output. They would be published by region, by firm size, and by product type groupings.

C. Profitability Ratios for farm level production of the fifty products. Internal rate of return to total assets, owned assets, and marketable assets. These would indicate comparable profit margins by region, farm size, and farm system type for each product.

D. Profitability ratios for marketing and processing activities covering the fifty principal products. Ratios would be published by region, firm size, and product type.

#### STATISTICAL SERIES VOLUME TWO: RURAL INCOME, AND EMPLOYMENT.

A. Net income earned by farm families. Income would be discriminated by source between five crop types, and three off farm sources. Income would be computed on a cash basis and alternatively including imputed values on farm produced consumption items. Net incomes would be computed per family, per capita, per economically active family member, per arable hectare, and per man month of labor utilized. The ratios would be published by region, farm size, and by farm system type.

B. Employment would be computed in a variety of ways. Man days utilized per farm family, man days utilized per arable and cultivated hectare, man days utilized per economically active family member, percentage of available man days utilized. These employment ratios would be published by region, by farm size, by month and year, and by farm system type. Regional employment accounts would also be published attributing employment among the fifty principal crop and livestock activities.

#### STATISTICAL SERIES VOLUME THREE: PRODUCTIVITY AND OPERATING RATIOS

A. Land Productivity ratios. Output quantities and values per land area in farm, land area arable, and land area cultivated would be calculated. These ratios would be published for each of the principal products, by farm size, region

and farm system type. To the degree that reasonable measures of land quality they would also be published by land type.

B. Capital Productivity Ratios. Output quantities and values per capital unit. These would be computed by region, farm or firm size, product, and farm system type for both primary agricultural production and marketing/processing.

C. Labor Productivity Ratios. Output quantities and values as well as value added per labor unit. Labor productivity ratios would be computed per man day worked, per man years available for each product, by region, farm or firm size, and farm or firm system type. They would include farms and marketing or processing firms.

D. Financial Operating Ratios. In addition to the factor productivity ratios a number of other operating ratios would be calculated. Indicators of debt burden would include ratios of short and long term credit per hectare, per output unit and per worker would be calculated by product, farm or firm size, and region. Mechanical intensity of cultivation would be estimated in terms of the value of durable equipment per hectare, per output unit and per worker by product, region, by farm size, and by farm system type.

#### STATISTICAL SERIES VOLUME FOUR: DEMAND AND AGRICULTURAL PRICES

A. Price Elasticities of Demand. Price elasticities of demand indicate the change in quantities which would be demanded if the price changed. They would be computed for as many products as possible, which would depend on the number of products for which sufficient observed price fluctuations are included in the samples. They would be published by region and by household income level.

B. Income Elasticities of Demand. Income elasticities of demand indicate how quantities of particular agricultural products would vary if household incomes change. They would be computed for each product and published by region and household income level.

C. Export patterns for agricultural products, and import patterns for agricultural products and agricultural inputs. Quantities and values by country of destination and origin.

D. Export prices of principal Chilean export

products. CIF prices in principal markets on a weekly basis.

E. Producer prices for agricultural products. Farm gate prices for 50 principal products published by region on a weekly basis.

F. Wholesale prices for agricultural products. Wholesale prices for 50 products by region on a weekly basis.

G. Retail prices for agricultural products. Published by product, marketing type, and region on a weekly basis.

#### STATISTICAL SERIES FIVE: AGRICULTURAL PRODUCTION SUMMARY AND CROP FORECASTS

A. Area seeded, area harvested by crop, by region, by farm size and by farm system type.

B. Production and disposition balance sheet by quantities and values for the principal crops.

C. Production summary by quantities produced. Published by region, farm size, product, and farm system type.

D. Land use account. Hectares by use in general category, by region.

E. Land tenure summary. Land in farms by farm size and tenure type. Production, income, and land use by tenure type.

#### STATISTICAL SERIES VOLUME SIX: NUTRITION AND HOUSEHOLD STATUS

A. Nutrient Production account. By region, product, and farm size.

B. Nutrient intake patterns. Nutrient intake per person per day by region, family size, farm size, income level, products for urban and rural families.

C. Nutrition status. Height, weight, and age by region family size, income level, nutrient intake level.

D. Fertility, morbidity and mortality rates by region, family size, income level, nutrient intake level.

E. Educational levels by region, farm size, farm system type, income levels, nutrient intake level, and farm profitability.

The statistical series volumes would be used by three different groups

1. The Minister and Director of ODEPA directly for policy making purposes
2. By other institutions of the public and private sector in their own decision processes, and by individual farmers and businessmen making investment and management decisions.
3. By ODEPA in their evaluation studies and economic analyses.

D. Interpretive Analysis of the Sector Statistical Series and Supporting Institutional Information.

Inside ODEPA a small group of three economists and two clerks should be constituted as a kind of Analysis and Multi Year Planning team.

The economists who constitute the interpretive analysis team would produce narrative reports focusing on alternative agricultural strategies and policies for achieving national objectives in the sector. Their data input would be principally the statistical series, complemented by whatever institutional information may be relevant to their policy oriented writing. Their role would be to interpret the policy meaning of the available statistics. Their principal support would be in simple algebraic and arithmetic manipulation of the statistical series and in the preparation, editing and publishing of reports. The problem focus of their reports would be determined on an annual basis by the minister, and the director of ODEPA.

This group would specifically be prohibited from engaging in quantitative modelling as a technique for arriving at statistical conclusions. Support for this group would be heavily weighted in the direction of word, as opposed to data processing.

A critical part of the streamlining of the ODEPA staff function is the minicomputing hardware and supporting software which is designed specifically to accelerate the manipulation of data and word processing required to produce timely reports.

The specification of a detailed list of the types of computing hardware and software required is beyond the scope of this report, this specification will be the purpose of a trip by a computer systems consultant. It is necessary, however, in this document to outline the general equipment types and some rough estimates of the prices of the equipment involved in order to arrive at an overall budget figure for the project. The following table presents this preliminary cost estimate. Included in the table are the technical assistance and related costs which will be necessary to insure the efficient utilization of the system.

INSTITUTIONAL INFORMATION SYSTEM

O D E P A

<u>DESCRIPTION</u>	<u>ESTIMATED COST</u>
<u>Mini Computer and Peripherals</u>	
Central Processing Unit 88Mb Disk 128Kb Core I/O Terminal 800/1600 BPI Tape Drive & Muster Control	\$ 117,000
One Punch Card Reader (300 CPM)	\$ 6,000
One Line Printer (300 LPM)	\$ 12,000
One Flatbed Plotter	\$ 8,000
One Paper Tape Read and Punch	\$ 4,000
Four Graphics Terminals	\$ 16,000
One Dual Flexible Disk Drive	\$ 4,000
	<hr/>
	\$ 167,000
<u>Software</u>	
Fortran 4	\$ 3,000
Basic	\$ 2,000
Typesetting - Word Processing - Publications	\$ 25,000
Statistical Packages and Other Data Base Management Systems	300 \$ 5,000
	<hr/>
	\$ 35,300

<u>DESCRIPTION</u>	<u>ESTIMATED COST</u>
<u>Other</u>	
Shipping	\$ 12,000
3 Year Maintenance Contract	\$ 40,000
Supplies	\$ 8,000
	<hr/>
	\$ 60,000
<u>Technical Assistance and Training</u>	
Data Processing	
Resident 6 MM (Shared with INE)	\$ 25,000
Short Term 3MM	\$ 18,000
Data Analysis	
Resident 24MM	\$ 40,000
Short Term (Market Information) 3MM	\$ 18,000
Training	\$ 11,000
	<hr/>
	\$112,000
T O T A L	\$374,300

PART V: AGRICULTURE CREDIT EVALUATION

Among the most important questions to be answered in the course of the Project's evaluation are:

1. Is the Project's definition of the target group an appropriate one? If not, how should it be reformulated?
2. Are the Project's eligibility criteria structured so as to maximize the probability of reaching the poorer 50% of Chile's agricultural landholders?
3. Is a significant share of the Project's resources reaching the poorest members of the Project's target group?
4. If in the course of Project implementation the target group is found not to be adequately served, how can the eligibility criteria best be reformulated?
5. Are the recipients of the Project's resources utilizing them in a productive manner (i.e., are their net incomes being affected favorably by the Project)?
6. Are the Project's resources contributing to a better utilization of family labor, hired labor, land, and other resources?
7. Is more food being produced by credit recipients than formerly?
8. What relationship, if any, exists between the recipients' incomes and/or wealth and their loan repayment records?
9. What relationship, if any, exists between the differing technologies employed and the recipients' incomes? Does the presence or lack of T.A. have a bearing on recipient success?

10. Do differing outreach mechanisms employed in the Project have a bearing on the recipients' ability to utilize credit productively or on loan repayments (e.g., IRDAP recipients versus banking system recipients or municipal coops versus campesino cooperatives)?

11. Have the nutritional levels of the credit recipients improved?

12. Are data systems such as the PPIS a worthwhile development assistance investment?

The Project's planned evaluations will attempt to answer the above questions as well as similar ones which may arise in course of the Project's implementation. USAID does not think that answering the above questions definitively will be easy given that other GOC resources and programs will be aimed at the same group of recipients; no doubt the effects of other factors such as changes in crop prices also will be difficult to isolate. In spite of the foregoing reservations, a careful attempt will be made to assess the Project's impact both during its implementation and at its end.

## 1. Evaluation Methodology

The Policy Planning Information System (PPIS) contains components that will provide both the instruments and the control data needed for the contemplated in-depth evaluation of the Project. The principal instruments to supply data for the evaluation will be the PPIS annual farm level micro-economic survey and its annual rural budget survey. The farm level micro-economic survey, built on the format, methodology, and experience developed by the Latin American Bureau Sector Analysis Group in Colombia, Guatemala, and the Dominican Republic, will provide the necessary data base for studying the evaluation questions related to farm level profitability, income, employment, wealth, changes in factor utilization, etc. The rural budget survey will provide the necessary data base for answering questions about possible induced changes in consumption patterns

and nutritional levels. These two surveys will be administered to randomly selected samples of credit applicants and to randomly selected samples of the rural population at large through the normal PPIS interviews.

What is contemplated is the administration of the two PPIS questionnaires to the credit applicants about the crop year prior to entering the program and on a yearly basis thereafter. Thus the surveys would provide baseline and year-by-year data for both credit program participants and unsuccessful applicants. In order to compensate for changes other than the availability of credit, the beneficiaries of the Project can be compared with non-beneficiaries of the Project who have been interviewed in the PPIS component of the Project (the control group). For the purposes of the evaluation, the program applicants who by chance would be included in the normal PPIS sample would be lumped together with the credit applicant group. Similarly, every intent will be made to normalize for extraneous factors such as regional variations and price changes to assure maximum comparability between groups and sub-groups of the samples. Total normalization will of course not be possible.

In order to minimize distortions in the answers by credit applicants, the interview process will not be associated with the credit application procedure. The sample frame for the credit evaluation will include all applicants for credit under the program. A sample of both successful and unsuccessful credit applicants will be followed, thus permitting comparisons between the successful and unsuccessful applicants and providing one important basis for the ongoing evaluation of lending criteria. Interviews of credit applicants will be carried out in conjunction with the regular interviews under the PPIS but will not form part of the regular PPIS stratified random sample.

## 2. Evaluation Schedule

Special evaluations are scheduled for 8 months after the first loan disbursement. Because its principal purpose will be to determine whether changes are needed in the Project's

eligibility criteria and lending mechanisms, the scope of the first evaluation will focus on addressing principal evaluation questions 1-4, which relate to the Project's direct beneficiaries, its target group, and to the lending eligibility criteria.

The second evaluation, scheduled to take place 12 months after the first, would address the more difficult questions about the Project's impact on the incomes and lives of the Project beneficiaries (e.g., principal evaluation questions 5-11). The final evaluation is scheduled for the end of Project. In addition to covering similar ground to that covered in the first two evaluations, it would add as an additional focus the evaluation of the PPIS and of the evaluation system itself.

### 3. Evaluation of the PPIS

The evaluation questions associated with the PPIS deserve further attention. To attempt to answer the larger question of whether or not information systems like the PPIS are a worthwhile activity for external assistance (principal evaluation question 12), the following points need to be examined:

a. Is the system providing baseline measurements of the income, resources, and specific economic potential of the Chilean poor?

b. Is the PPIS an ongoing mechanism in place for the evaluation of the impact of projects, programs, and policies aimed at altering the welfare of Chile's poorer groups?

c. Has the PPIS system been of use in the evaluation of the agricultural credit component of the Project?

d. Has the PPIS system been useful for the formulation or evaluation of other development projects in the food and nutrition area; has it contributed to focusing those projects on the needs of the poor?

e. Is PPIS generated information being employed by others beside ODEPA; is it readily available to them?

f. Is the PPIS a relatively cost-effective means for gathering, analyzing and disseminating reliable and statistically significant information needed for the formulation and evaluation of development projects?

g. Assuming that the PPIS is found to be an activity worth continuing, how could it be improved?

The focus of this Evaluation Plan on special evaluation questions does not mean that more routine evaluation questions will not be dealt with by USAID.

#### 4. Evaluation System Implementation

An estimated 16 MM of technical assistance will be needed for the design of the evaluation system and for the performance of the periodic evaluation analyses. The technicians involved could be Chilean, third country nationals, or from the United States. However, approximately 7 MM of evaluation T.A. should be from sources familiar with A.I.D. evaluation needs and procedures; these technicians probably will come from the U.S.

#### 5. Evaluation Costs

The evaluation costs are summarized in the following budgets:

EVALUATION TECHNICAL ASSISTANCE BUDGET  
(US\$ 000)

A.I.D.

Grant Funded

Evaluation System Design	2MM	2.0	5.0
Design of Credit Applicant Sample	2MM	2.0	5.0
		<u>        </u>	<u>        </u>
TOTAL GRANT FUNDED	4MM	4.0	10.0

Loan Funded

First Evaluation Analysis	2MM	2.0	6.0
Second Evaluation Analysis	4MM	4.0	10.0
Final Evaluation Analysis	6MM	6.0	15.0
		<u>        </u>	<u>        </u>
TOTAL LOAN FUNDED	12MM	12.0	31.0

EVALUATION SURVEY BUDGET

A.I.D.

LX            FX

Grant Funded

First Year Field Work & Coding	25.0	-
TOTAL GRANT FUNDED	<u>26.0</u>	-

Loan Funded

Second Year Field Work & Coding	39.0	-
Third Year Field Work & Coding	53.0	-
	<u>        </u>	
TOTAL LOAN FUNDED	92.0	-

TOTAL EVALUATION COST SUMMARY

(US\$000)

	A. I. D.				
	CY 76	CY 77	CY 78	CY 79	CY 76-79
<u>Grant Funded</u>					
Technical Assistance	14.0	---	---	---	14.0
Survey Costs	26.0	---	---	---	26.0
	<u>40.0</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>40.0</u>
<u>Loan Funded</u>					
Technical Assistance	---	8.0	14.0	21.0	43.0
Survey Costs	---	39.0	53.0	---	92.0
	<u>---</u>	<u>47.0</u>	<u>67.0</u>	<u>21.0</u>	<u>135.0</u>
Loan Funded	---	47.0	67.0	21.0	135.0
	<u>---</u>	<u>47.0</u>	<u>67.0</u>	<u>21.0</u>	<u>135.0</u>
Total Evaluation Costs	40.0	47.0	67.0	21.0	175.0

These budgets do not include two MM of AID/W assistance requested by USAID for the review of the system and of the sample design and for participation in the review of the evaluation analyses. Similarly, the costs of data processing are covered under the PPIS component of the Project. The above budgets assume that during the first year 1,000 credit applicants will be interviewed, during the second year 1,500, and during the third year 2,000. Note that these figures must be refined in the course of the credit applicant sample. Should the amounts budgeted for the credit applicant sample be either too large or too small, Loan funds

could be shifted as needed between the survey component of the PPIS and the survey costs of evaluation. ,

APPENDIX 1

MUESTRA NACIONAL DE ESTABLECIMIENTOS INDUSTRIALES  
DE ELABORACION AGROPECUARIO 1976

PARA USO EXCLUSIVO DEL IICA				PARA USO DEL PRODUCTOR			
Número de Orden	Código de Industria	Código geográfico establecimiento		Código geográfico provincia		Número de sector	Número de orden
		Provincia	Municipio	Provincia	Municipio		

PERSONAL OCUPADO, SALARIOS Y PRESTACIONES SOCIALES CAUSADAS					
CATEGORIA DE OCUPACION	Personal ocupado en la muestra (que incluye el 31 diciembre)			Salarios en efectivo y especie en el año..... (pesos)	Prestaciones sociales causadas durante el año..... (pesos)
	Total	Hombres	Mujeres		
Propietarios y socios sin remuneración (1)	1				
Familiares sin remuneración (1-b)	2				
Personal directivo y profesional técnico	a) Nacionales	3			
	b) Extranjeros	4			
Empleados de oficina	5				
Obreros y operarios	6				
Aprendices	7				
<b>TOTAL</b>	<b>8</b>				

PERSONAL VINCULADO DIRECTAMENTE A LA PRODUCCION Y HORAS-HOMBRE TRABAJADAS DURANTE EL AÑO.....								
Mes (a)	Operario, Obrero y Aprendiz (b)	Horas Hombres trabajadas (c)	Mes (d)	Operario, Obrero y Aprendiz (e)	Horas Hombres trabajadas (f)	Mes (g)	Operario, Obrero y Aprendiz (h)	Horas Hombres trabajadas (i)
1 Enero			5 Mayo			9 Sept.		
2 Feb.			6 Junio			10 Octob.		
3 Marzo			7 Julio			11 Nov.		
4 Abril			8 Agosto			12 Dic.		
						<b>TOTAL</b>		
						<b>PROMEDIO (12) mes en blanco</b>		

EQUIPO DE FUERZA MOTRIZ INSTALADO EN EL ESTABLECIMIENTO EN 31 DICIEMBRE.....

MOTORES PRIMARIOS											
MAQUINAS Y TURBINAS DE VAPOR			PUERAS Y TURBINAS HIDRAULICAS				DIESEL Y GASOLINA			OTROS (DE CARBON, GAS, ETC.)	
CANTIDAD	Caballos de fuerza aplicados (HP)		CANTIDAD	Caballos de fuerza aplicados (HP)		CANTIDAD	Caballos de fuerza aplicados (HP)		CANTIDAD	Caballos de fuerza aplicados (HP)	
	A las maquinas	A los generadores		A las maquinas	A los generadores		A las maquinas	A los generadores		A las maquinas	A los generadores
GENERADORES ELECTRICOS			MOTORES ELECTRICOS				CAPACIDAD TOTAL DE ENERGIA DEL ESTABLECIMIENTO (Potencia en Kilowatts, para uso exclusivo del IICA)				
CANTIDAD	Potencia en kilowatts (K.W.)		CANTIDAD	Potencia en kilowatts de fuerza		Aplicada a las maquinas		Aplicada a generadores		Capacidad de energía	

CONSUMO DE ENERGIA ELECTRICA DURANTE EL AÑO						
ENERGIA COMPRA		ENERGIA GENERADA		ENERGIA VENDIDA		ENERGIA CONSUMIDA
Cantidad (KWH) (a)	Valor (pesos) (b)	Cantidad (KWH) (c)	Cantidad (KWH) (d)	Valor (pesos) (e)	Valor (pesos) (f)	Cantidad (KWH) (g)

GASTOS GENERALES	
DETALLE	Valor (Pesos)
0	Arrendamientos
1	Servicios profesionales (honorarios)
2	Intereses sobre créditos
3	Seguro (excepto seguro a vital)
4	Agua, correo, teléfono, etc.
5	Publicidad y propaganda
6	Depreciación durante el año
7	Impuestos indirectos causados en ...
8	Impuesto de regalías
9	Otros (especifique en anexo)
<b>TOTAL</b>	

GASTOS INDUSTRIALES	
DETALLE	valor (Pesos)
1	Accesorios y repuestos de duración menor de un año
2	Combustibles y lubricantes consumidos
3	Pagos por trabajos de carácter industrial realizados por otros esta...
4	Pagos a trabajadores a domicilio
5	Pagos por trabajo de reparación y mantenimiento efectuados por ter...
6	Valor de compra de materias primas y otros productos vendidos en ...
<b>TOTAL</b>	

GASTOS DIVERSOS	
a.	Alquiler, arrendamiento
b.	"Royalties"
c.	Mantenimiento y reparación del ...
d.	Publicidad y propaganda
e.	Mieter y transporte
f.	Intereses y gastos bancarios
g.	Servicios profesionales y de asistencia técnica
h.	Imprevistos
i.	Leyes sociales
j.	Premios de seguros de accidente para los trabajadores
k.	Premios de otros seguros
l.	Fondo de jubilación
m.	Indemnizaciones de enfermedad
n.	Impuestos y timbres
o.	Otros gastos (si son mas de 20\$ del total indique los en una hoja aparte)
<b>p. TOTAL</b>	

FINANCIAMIENTO				ENTREVISTADOR:		Utilice (1) Seguro ya consulté, (2) Bueno, (3) Es posible (4) No probable (5) No ya consulté							
Código	Fuente	Plazo Meses	Uso	Código	Valor	Tasa de interés	Fecha de obtención	Potencial de obtener financiamiento de esta fuente				Código	
								Renovar de Crédito existente	Obtener 50% más	Obtener doble	Más indique la cantidad		
	Del negocio y sus ingresos												
	Familiares												
	Socios												
	Amigos												
	Compradores del producto												
	Vendedores de los insumos												
	Bancos (indique)												
	Banco												
	Banco												

VALOR EN LIBROS DE LOS ACTIVOS FIJOS E INVERSIONES DURANTE EL AÑO ...

CLASE DE ACTIVO FIJO		Valor de inversiones efectuadas durante el año ...			Valor de las ventas de activos fijos durante el año ... (pesos)	Valor de los activos fijos al 31 de diciembre ... (pesos)
		COMPRADAS		Producidos o contruidos y para su propio uso (pesos)		
		Nuevos (pesos)	Usados (pesos)			
1	Terrenos					
2	Edificios y estructuras					
3	Maquinaria y equipo					
4	Equipo de transporte					
5	Equipo de oficina					
6	Total de Valores					

VALOR EXISTENCIAS

CLASE DE EXISTENCIAS		VALOR DE LAS EXISTENCIAS (PESOS)	
		1º Enero de ....	Diciembre 31 de ....
1	Materias primas, materiales, combustibles y lubricantes*		
2	Productos en proceso de fabricación (a precio de costo)		
3	Productos acabados (a precio promedio de venta en fábrica)		
4	TOTAL		

\* a precio promedio de costo en fábrica).

COMBUSTIBLES Y LUBRICANTES UTILIZADOS Ago 1974 - Julio 1975

	Cantidad	Valor		
1. Carbon de piedra-----	2294	2295		
	tm	Q		
2. Coque-----	2296	2297		
	tm	Q		
3. Carbon vegetal-----	2296	2299		
	tm	Q		
4. Diesel-----	2300	2301		
	gal	Q		
5. Petroleo combustible-----	2302	2303		
	gal	Q		
6. Nafta-----	2304	2305		
	m <sup>3</sup>	Q		
7. Kerosene-----	2306	2307		
	gal	Q		
8. Gasolina-----	2308	2309		
	gal	Q		
9. Alcohol-----	2310	2311		
	gal	Q		
10. Gas liquificado de petroleo-----	2312	2313		
	lb	Q		
11. Otros tipos de gas-----	2314	2315		
	tm	Q		
12. Leña-----	2316	2317		
	tm	Q		
13. Otros combustibles-----	2318	2319		
		Q		
14. Lubricantes-----		2320		
		Q		
15. TOTAL-----		2321		
		Q		





Producto	Código	Producto	Código

e.) Ineficiencia del negocio en sí o falta de capacidad técnica  
EXPLIQUE

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Siempre Ud. que su educación ha sido?

Código

\_\_\_\_\_

a.) De importancia directa en su trabajo.....

SI NO

b. De asistencia general.....

SI NO

c. No hay conocimiento importante.....

SI NO

¿Qué otro factor importante estima Ud. que tendría mayor impacto sobre la eficiencia de su negocio?

a. Fuga.....

SI NO

b. Un personal operario en un negocio grande eficiente.....

SI NO

c. Más servicios públicos.....

SI NO

d. Más escuelas secundarias.....

SI NO

e. Educación más costosa.....

SI NO

f. Capacidad especial.....

SI NO

¿Qué es el factor más importante que limitó que Ud. o su familia no ha sido lo que se le esperaba?

a. Distancia.....

SI NO

b. Costo alto.....

SI NO

c. Puso obstáculos en ayudar en el trabajo del negocio.....

SI NO

d. No consideraron que una educación formal tendría impacto directo en el ingreso.....

SI NO

¿Cuáles son las limitaciones más importantes que restringen una expansión de su negocio?

a. Disponibilidad de crédito.....

SI NO

EXPLIQUE

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

b. Disponibilidad de mano de obra.....

SI NO

Código

Profesional.....

EXPLIQUE

\_\_\_\_\_

Administrativo.....

EXPLIQUE

\_\_\_\_\_

Operarios u obreros capacitados.....

EXPLIQUE

\_\_\_\_\_

Obreros no capacitados.....

EXPLIQUE

\_\_\_\_\_

c. Disponibilidad de mercado para sus productos.

SI NO

¿Cuáles son los productos que puede producir más pero que no tiene quien los compre?

Tipo	Código	Tipo	Código	Tipo	Código

¿Cuáles son los productos que estime Ud. que puede vender más que ya produce?

Tipo	Código	Tipo	Código	Tipo	Código

d.) Disponibilidad de materiales primos, componentes u otros materiales.

APPENDIX 2







B.- ELECTRICIDAD COMPRADA, GENERADA Y VENDIDA DURANTE EL EJERCICIO			
ELECTRICIDAD	Cantidad S.D.M. (1)	Valor \$ <sup>2</sup> (2)	USO OFICINA
22.- ELECTRICIDAD LUMBRADA	7	1	
24.- ELECTRICIDAD GENERADA	7		
23.- ELECTRICIDAD VENDIDA	7		

SECCION IV.- VENTAS E INGRESOS

En esta Sección deben proporcionarse los datos correspondientes al valor total de las ventas y de los trabajos o otros establecimientos de la misma empresa (valorizados como si se tratase de ventas), además de otros ingresos que aparezcan especificados. Los valores deben estar de acuerdo con el precio que pagaron los compradores; es decir, incluye los impuestos y excluye el valor de los rebajas o descuentos. NO INCLUYA GASTOS DE TRANSPORTE desde el establecimiento al cliente ni venta al consumidor, a menos que se efectúen en vehículos pertenecientes al establecimiento. BAJE EL VALOR DE LOS PRODUCTOS QUE FUERON DEVUELTOS.

Las informaciones correspondientes a REPARACIONES, deberán ser contestadas tanto por los establecimientos dedicados solo a reparar, como los que dedicándose principalmente a la elaboración de artículos, efectuaron trabajos de reparación.

VENTAS - INGRESOS	VALOR \$ <sup>2</sup> (Incluye impuestos)
36.- VENTA DE PRODUCTOS FABRICADOS POR EL ESTABLECIMIENTO.	6
37.- VENTA DE PRODUCTOS DESPACHADOS A OTROS ESTABLECIMIENTOS FABRILES DE LA MISMA EMPRESA.	6
38.- VENTA DE PRODUCTOS SIN ELABORACION ADICIONAL, MANUFACTURA O MONTAJE.	6
39.- TRABAJOS POR CONTRATO O COMISION EFECTUADOS POR CUENTA DE TERCEROS utilizando materiales de propiedad de éstos.	6
40.- TRABAJOS DE REPARACION Y CONSERVACION EFECTUADOS PARA TERCEROS	6
41.- TRABAJOS DE INSTALACION EFECTUADOS PARA TERCEROS	6
42.- IMPUESTOS A LA COMPRANTA Y SERVICIO, Y A LA PRODUCCION	7

SECCION V.- EXISTENCIAS

Informe el valor de todas las existencias, o valor de inventarios de propiedad del establecimiento, no importe donde se encuentren ubicadas. INCLUYA las existencias de su propiedad en poder de terceros, NO INCLUYA las existencias de propiedad de terceros.

EXISTENCIAS	Valor Principio del Ejercicio (E <sup>2</sup> ) (1)	Valor Finis del Ejercicio (E <sup>2</sup> ) (2)
43.- MATERIAS PRIMAS Y OTROS MATERIALES. Combustibles, ingredientes, suministros, envases, artículos de fábrica, etc. SE INCLUYEN los materiales para las construcciones efectuadas por cuenta propia. Si no hay contabilización de estas existencias, deben evaluarse al precio de entrega de cada artículo en la última transacción hecha antes de la fecha que se emplea como referencia (principio y final del ejercicio).	6	6
44.- TRABAJOS EN CURSO. El valor de todos los bienes que intervienen en el proceso de producción, pero que no están listos para ser despachados en las fechas de referencia. NO SE INCLUYE el trabajo en curso que se dedica a la construcción de bienes fijos por cuenta propia. Si se hay contabilización de estas existencias, debe evaluarse teniendo en cuenta el costo del trabajo realizado, incluyendo por lo menos el costo de los materiales y de la mano de obra que intervienen directamente.	6	6
45.- PRODUCTOS ACABADOS. SE INCLUYEN aquellos listos para ser despachados en las fechas de referencia y los bienes producidos adquiridos con el propósito de re venderlos en el mismo estado en que se compraron. Si no hay contabilización de estas existencias, deben evaluarse al precio que tenían los productos despachados inmediatamente antes de las fechas que se emplean como referencia.	6	6

SECCION VI.- BIENES DE CAPITAL FIJO, INVERSIONES, VENTAS Y EXISTENCIAS

A.- INVERSIONES Y VENTAS DE BIENES DE CAPITAL FIJO DE ESTE ESTABLECIMIENTO

Se refiere a todos los gastos incurridos durante el ejercicio, que en su contabilidad se cargan a cuenta de activo fijo y para los cuales se obtienen cuentas de depreciación. Si alguna inversión ha sido hecha por la empresa para asignada a su establecimiento considerado como real, todo por este NO INCLUYE inversiones de tipo social como pólizas de vida, etc.

CLASE DE INVERSION	Edificios \$ <sup>2</sup> (1)	Máquinas y otros accesorios e instalaciones \$ <sup>2</sup> (2)	Vehículos y material rodante \$ <sup>2</sup> (3)
46.- COMPRA DE BIENES NUEVOS (los que no han sido usados anteriormente en el país). INCLUYE el precio de entrega más los gastos de instalación y los necesarios para su puesta en marcha.	6	6	6
47.- COMPRA DE BIENES USADOS (los que han sido usados en el país). Se los de entrega más instalaciones y procesamiento. Incluye aquellos bienes transportados de establecimientos de la misma empresa, según el valor señalado en los libros.	6	6	6
48.- VENTA DE BIENES USADOS POR EL ESTABLECIMIENTO. SE INCLUYE TAMBIEN aquellos bienes transportados a establecimientos de la misma empresa, según el valor señalado en los libros.	6	6	6
49.- DEPRECIACION Y AJUSTES DE VALORES POR DEPRECIACION. Estos valores corresponden a inversiones que muestran la vida económica de, bien, o su capacidad de producción NO INCLUYA los gastos de reparación y conservación, los cuales deben anotarse en la pregunta 33.	6	6	6
	7	7	7



APPENDIX 3

REPÚBLICA DE CHILE  
 INSTITUTO NACIONAL DE ESTADÍSTICAS  
 Casilla 6177 - Correo 22  
 Teléfono 397794  
 Santiago

FORMULARIO II (Microempresas)

CONFIDENCIAL

ENCUESTA de COMERCIO y SERVICIOS  
 Año 1974

Todas las personas naturales o jurídicas están obligadas a suministrar los datos y antecedentes estadísticos solicitados por la Dirección de Estadística y Censos de acuerdo al Art. 16 del DFL 319 del 6 IV-1960.

(Datos en escudos a menos que se indique lo contrario)

Uso Oficina						
Nombre	E	Nº	...	Comuna	T	C

1. INDIVIDUALIZACIÓN DE LA EMPRESA

1.1 Razón Social .....

1.2 Dirección .....  
 (calle) (Nº) (ciudad-pueblo) (comuna)  
 .....  
 (casilla)

1.3 Tipo de Empresa (Señale con una "X" la casilla correspondiente)

1  Propietario individual      3  Sociedad colectiva      5  Otra (especifique)

2  Sociedad anónima      4  Sociedad cooperativa

1.4 Período contable anual desde ..... hasta .....

Si el período no coincide con el año calendario infórmese el último ejercicio terminado, que cubra un período superior a 6 meses dentro del año que aquí se solicita (señalado al comienzo de este cuestionario).

1.5 Actividad Comercial (Declare la actividad principal de la Empresa de acuerdo a los tipos de productos que la Empresa vende): .....

1.6 Número de establecimientos (sucursales) de la Empresa. no debe incluir la casa matriz .....

2. PERSONAL DE LA EMPRESA

En el personal de la Empresa no deben incluirse las personas que trabajaron a honorarios o por cuenta propia.

CATEGORÍAS	Nº de personas que trabajaron en los meses-1974				
	Febrero	Mayo	Agosto	Noviembre	Uso de Oficina
2.1 Propietarios o socios que trabajan en la empresa					
2.2 Familiares que trabajan sin remuneración fija					
2.3 Empleados					
2.4 Onereros					
2.5 Total					

3. VENTAS DE LA EMPRESA EN EL AÑO 1974

Anote el valor total de las ventas facturadas de bienes y servicios, hechas a otras personas o empresas durante el período contable. Se incluyen los gastos de instalación, transportes y embalajes, así como los gastos de venta hechos por la empresa. También deben considerarse como ventas los bienes retirados por los propietarios para su uso propio, se deducen del valor de las ventas, los descuentos y las devoluciones de ventas.

3.1 Ventas de mercaderías al contado sin incluir impuesto	
3.2 Ventas de mercaderías al crédito sin incluir impuesto	
3.3 Impuesto de compraventa y a los servicios	
3.4 Total (Puntos 3.1, 3.2 y 3.3)	

CAPITULO IX - GASTOS DURANTE 1970

a) CLASE DE GASTOS	b) Valor en pesos (Céntimos)
(45) Arrendamiento	
(46) Depreciación durante 1970	
(47) Energía, agua, teléfono	
(48) Impuestos indirectos (especifique en anexo)	
(49) Intereses pagados	
(50) Regalías pagadas	
(51) Comisiones pagadas a terceros	
(52) Otros (anexo)	
(53) TOTAL	

CAPITULO X - VALOR DE LAS INVERSIONES Y ACTIVOS FIJOS EN 1970

(a) CLASE DE ACTIVOS FIJOS	VALOR DE LAS INVERSIONES en 1970		Valor de las ventas de activos fijos en 1970 (Pesos)	Valor en libros de los activos fijos en 31 de diciembre 1970 (Incluye los depósitos en otros países)
	(b) Nuevas (Pesos)	(c) Usados (Pesos)		
(54) Terrenos				
(55) Edificios				
(56) Maquinaria y equipo				
(57) Equipo de oficina				
(58) Equipo de transporte				
(59) Total				

CAPITULO XI - COMPOSICION DEL CAPITAL EN 31 DE DICIEMBRE DE 1970

Clase de Capital	CAPITAL NACIONAL (PESOS)		(62) Capital extranjero (Pesos)	(63) Capital Total (Pesos)
	(60) Público	(61) Privado		
Capital pagado				

CAPITULO XII - CREDITO DURANTE 1970

a) ENTIDADES FINANCIERAS	b) Cantidad solicitada	c) Cantidad autorizada	d) Crédito de particulares	e) Cantidad obtenida	f) Tasa anual de interés
(64) Bancos en el país			(65) Entidades no financieras		
(65) Entidades en el extranjero			(66) Personas naturales		
(66) Corporaciones financieras			(70) TOTAL		
(67) TOTAL					

PLAZO DE AMORTIZACION Cantidad en Pesos (Céntimos)			DISEÑO DEL CREDITO	
(71) A corto plazo Menos de 1 año	(72) A mediano plazo 1-3 años	(73) A largo plazo Más de 3 años	(74) Crédito obtenido a capitalización	(75) Crédito obtenido a tasa fija

**CAPITULO II - ACTIVIDAD ECONOMICA**

17 Actividad a la que se dedica: \_\_\_\_\_  
 (Ejemplo: Droguería, venta de vehículos, mercaderías en general, etc.)

Añote los tres principales artículos de ventas. 1 \_\_\_\_\_  
 2 \_\_\_\_\_  
 3 \_\_\_\_\_

18 Forma de ventas (marque con una X) ..... Al por Menor  Al por Mayor

**CAPITULO III - PERSONAL OCUPADO, SUELDOS Y PRESTACIONES SOCIALES EN 1970**

CATEGORIA DE OCUPACION (a)		Promedio mensual de personas ocupadas en 1970 (b)			Sueldos y salarios en efectivo y especie pagados en 1970 (c)	(d) Prestaciones Sociales en 1970	
		Total	Hombres	Mujeres		Cuotas (e)	Prestas (f)
19	Propietarios y socios sin sueldo	1					
20	Familiares sin remuneración	2					
21	Personal directivo y administrativo	(a) Nacional	3				
		(b) Extranjero	4				
22	Empleados de oficina	5					
23	Personal de servicio	6					
24	Vendedores	7					
25	TOTAL	8					

**CAPITULO IV - INGRESOS DURANTE 1970**

a) CLASE DE INGRESOS	(b) Valor en pesos (unidades censales)
26 Ventas de mercancías	
27 Intereses recibidos	
28 Comisiones recibidas	
29 Otros	
30 TOTAL	

**CAPITULO V - COMPRAS EN 1970**

31 Valor de compras de las mercancías para la venta: (No se incluyen bienes de capital)

\$ \_\_\_\_\_

**CAPITULO VI - DESTINO PRINCIPAL DE LAS VENTAS**

Porcentajes

32	Exportación .....	
33	Al gobierno .....	
34	Directo al consumidor .....	
35	Al sector industrial .....	
36	A otros comerciantes .....	
		100 o/o

**CAPITULO VII - PROCEDENCIA DE LAS MERCANCIAS COMPRADAS**

Porcentajes

37	Producción por cuenta propia .....	
38	Importación .....	
39	Directo del productor .....	
40	A otros comerciantes .....	
41	TOTAL .....	100 o/o

**CAPITULO VIII - EXISTENCIAS**

42 Valor de las existencias en 1o de enero de 1970 .....

43 Valor de las existencias en 31 de diciembre de 1970 .....

44 Método de valoración de las existencias .....

APPENDIX 4

4.- COMPRAS DE MATERIALES O MERCADERIAS DE LA EMPRESA EN EL AÑO 1974

Anote el valor total de las compras de bienes, materias primas, materiales, combustibles y mercaderías adquiridas ya sea por cuenta propia (4.1) o por cuenta de terceros (4.2) durante el período contable. Se incluyen los gastos de instalación, transportes y empaques, cuando dichos servicios sean prestados por los vendedores. En el valor de las compras no debe incluirse el IVA (artículo 234).

4.1 Compras de materiales y mercaderías por cuenta propia.	LC
4.2 Compras de materiales y mercaderías por cuenta de terceros	LC
4.3 Total de compras	LC

5.- GASTOS DE OPERACION EN EL AÑO 1974

5.1 Remuneraciones al personal propio (Se incluye en sueldos y salarios: bonificaciones, gratificaciones, comisiones, participaciones, regalías en efectivo o especies, impuestos y descuentos previsionales pagados por los empleados). No incluye retiros o participaciones a propietarios o socios, ni remuneraciones al personal ejecutivo.

a) Sueldos	LC
b) Salarios	LC
c) Aportes previsionales con cargos al empleador	LC
5.2 Honorarios y comisiones a personas que trabajan por la empresa por cuenta propia (contadores, abogados, agentes vendedores, etc.)	LC
5.3 Arriendos de locales, oficinas y bodegas. Otros tipos de arriendos deben ir en punto 5.8	LC
5.4 Gastos de transportes pagados a terceros	LC
5.5 Intereses y otros gastos bancarios	LC
5.6 Depreciación o castigos de bienes fijos	LC
5.7 Impuestos a la renta, valores e impuestos varios. <u>No debe incluir impuestos de transferencia y a los servicios.</u>	LC
5.8 Otros gastos (incluye seguros, luz, teléfono, representaciones, publicidad y propaganda, deudas incobrables, artículos de escritorio, reparaciones etc.) <u>No debe incluirse retiro de propietario o socios, ni remuneraciones al directorio en caso de liquidación de empresa.</u>	LC
5.9 Total de gastos	LC

6.- VALOR TOTAL DEL INVENTARIO DE MERCADERIAS, AL COSTO EN EL AÑO 1974

Anote el inventario de mercaderías para la venta valorado al costo (no al precio de venta). Se incluyen las mercaderías de propiedad de la empresa dadas en consignación a otras empresas y se excluyen las mercaderías de propiedad de otras que la empresa tiene en consignación.

6.1 INVENTARIO INICIAL DEL PERIODO	LC
6.2 INVENTARIO FINAL DEL PERIODO	LC

7.- COMPRAS DE BIENES FIJOS EN EL AÑO 1974

Anote las compras (inversiones) de bienes pertenecientes al Activo Inmovilizado, hechas durante el período contable y destinadas a tener una vida productiva de más de un año. Se incluyen: a) las compras hechas a terceros y b) los costos de materiales y mano de obra correspondientes a inversiones y trabajos de instalación que efectúa la empresa con su propio personal. Las compras de Bienes Fijos deben dividirse en compras de bienes nuevos sin uso en el país y compras de bienes usados en el país. No debe incluirse revalorizaciones de períodos anteriores.

CLASIFICACION DE LOS BIENES	Compras de Bienes en 1974	
	nuevos	usados
7.1 Terrenos		LC
7.2 Edificios e instalaciones	LC	LC
7.3 Maquinarias y equipo	LC	LC
7.4 Equipo de transporte		LC
7.5 Otros	LC	LC
7.6 Total		LC

Nombre de la persona a quien dirigirse en relación con este informe	Dirección	Nº de teléfono

Certifico que este informe es verídico y completo:

Fecha \_\_\_\_\_ Nombre del representante legal \_\_\_\_\_

ENCUESTA de COMERCIO y SERVICIOS  
 Año 1974.

CONFIDENCIAL

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(Datos en escudos anotar sin centésimos)

Uso Dígita							
Actividad	E	Nº	[St.	Comuna	T	C	

1. INDIVIDUALIZACIÓN DE LA EMPRESA

1.1 Razón Social .....

1.2 Dirección .....  
(calle) (Nº) (ciudad-pueblo) (comuna)

1.3 Tipo de Empresa (Señale con una "X" la casilla correspondiente):  
 1  Propietario individual      3  Sociedad colectiva      5  Otra (especifique)  
 2  Sociedad anónima      4  Sociedad cooperativa

1.4 Período contable anual desde ..... hasta .....

Si el período no coincide con el año calendario infórmese el último ejercicio terminado, que cubra un período superior a 6 meses dentro del año que aquí se solicita (señalado al comienzo de este cuestionario).

1.5 Actividad Comercial (Declare la actividad principal de la Empresa de acuerdo a los tipos de productos que la Empresa vende): .....

1.6 Número de establecimientos (sucursales) de la Empresa. No debe incluir la casa matriz.  
 .....

2. PERSONAL DE LA EMPRESA

En el personal de la Empresa no deben incluirse las personas que trabajaron a honorarios o por cuenta propia.

CATEGORÍAS	Nº de personas que trabajaron en los meses 1974				
	Febrero	Mayo	Agosto	Noviembre	Uso de Dígita
2.1 Propietarios o socios que trabajan en la empresa					
2.2 Familiares que trabajan sin remuneración fija					
2.3 Empleados					
2.4 Obreros					
2.5 Total					

3. VENTAS DE LA EMPRESA EN EL AÑO 1974

Anote el valor total de las ventas de bienes y servicios, hechos por cuenta propia (3.1) o por cuenta de terceros (3.2) durante el período contable. Se incluyen los gastos de instalación, fraccionamiento y empaques, siempre que estos gastos sean hechos por la empresa, también deben considerarse como ventas los bienes retirados por los propietarios para su uso propio. Se deducen del valor de las ventas, los descuentos y las restituciones de ventas.

En punto 3.3 informe el total de comisiones recibidas de las transacciones realizadas por la empresa por cuenta de terceros. Esta cifra no se incluye en ventas (3.1 y 3.2).

Los impuestos de compraventa y a los servicios deben anotarse en el punto 3.4.

3.1 Ventas de mercancías por cuenta propia	
3.2 Ventas hechas por cuenta de terceros a base de comisión o porcentaje	
3.3 Comisiones recibidas	
3.4 Impuesto de compraventa y a los servicios	
3.5 Total (Puntos 3.1, 3.2, 3.3, 3.4)	

4. COMPRAS DE MATERIALES O MERCADERIAS DE LA EMPRESA EN EL AÑO 1974

Anote el valor total de las compras de materiales o mercaderías adquiridas durante el periodo contable destinadas a la venta. Se incluyen los gastos de instalación, transportes y embalajes, cuando dichos servicios sean prestados por los vendedores. En el valor de las compras no debe incluirse el inventario inicial.

4.1 Compras de materiales y mercaderías	₡
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5. GASTOS DE OPERACION EN EL AÑO 1974

5.1 Remuneraciones al personal propio (Se incluye en sueldos y salarios; bonificaciones, gratificaciones, comisiones, participaciones, regalías en efectivo o especies, impuestos y descuentos previsionales; juicios por los empleados). No incluye retiros o participaciones a propietarios o socios, ni remuneraciones al personal ejecutivo.

a) Sueldos	₡
b) Salarios	₡
c) Aportes previsionales con cargos al empleador.	₡
5.2 Honorarios y comisiones a personas que trabajan para la empresa por cuenta propia (contadores, abogados, agentes vendedores etc.)	₡
5.3 Arriendos de locales, oficinas y bodegas. -Otros tipos de arriendo deben ir en el punto 5.8	₡
5.4 Gastos de transportes pagados a terceros	₡
5.5 Intereses y otros gastos bancarios	₡
5.6 Depreciación o castigos de bienes fijos	₡
5.7 Impuestos a la renta, al patrimonio, patentes e impuestos varios. <u>No debe incluir impuestos de consumo y a los servicios</u>	₡
5.8 Otros gastos (incluye seguros, luz, teléfono, representaciones, publicidad y propaganda, deudas incobrables, artículos de escritorio, reparaciones etc.) <u>No debe incluirse retiro de depreciación o socios, ni remuneraciones al directorio en caso de sociedades anónimas.</u>	₡
5.9 Total de gastos	₡

6. VALOR TOTAL DEL INVENTARIO DE MERCADERIAS, AL COSTO EN EL AÑO 1974

Anote el inventario de mercaderías para la venta valorado al costo (o al precio de venta). Se incluyen las mercaderías de propiedad de la empresa dejas en consignación a otras empresas y se excluyen las mercaderías de propiedad de otras que la empresa tiene en consignación.

6.1 INVENTARIO INICIAL DEL PERIODO	₡
6.2 INVENTARIO FINAL DEL PERIODO	₡

7. COMPRAS DE BIENES FIJOS EN EL AÑO 1974

Anote las compras (inversiones) de bienes pertenecientes al Activo Inmovilizado, hechas durante el periodo contable y destinadas a tener una vida productiva de más de un año. Se incluyen: a) las compras hechas a terceros y b) los costos de materiales y mano de obra correspondientes a inversiones y trabajos de instalación que efectúa la Empresa con su propio personal. Las compras de Bienes Fijos deben dividirse en compras de bienes nuevos sin uso en el país y compras de bienes usados en el país. No debe incluirse revalorizaciones de periodos anteriores.

CLASIFICACION DE LOS BIENES	Compras de Bienes en 1974	
	NUEVOS	USADOS
7.1 Terrenos		₡
7.2 Edificios e instalaciones	₡	₡
7.3 Maquinarias y equipo	₡	₡
7.4 Equipo de transporte	₡	₡
7.5 Otros	₡	₡
7.6 Total	₡	₡

Nombre de la persona a quien dirigirse en relación con este informe.	Dirección	Nº de teléfono
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Certifico que este informe es verídico y completo:

Fecha \_\_\_\_\_ Nombre del representante legal \_\_\_\_\_

APPENDIX 5

### Ingreso Asalariado

¿Cuales son los miembros del hogar que han recibido ingresos fuera de la finca o negocio familiar?

Nombre	Clase de Trabajo	Código	Total en el año	Entrada a la familia
a.				
b.				
c.				
d.				
e.				
f.				
g.				
h.				
i.				
j.				
T O T A L				

#### INGRESO NETO PROVENIENTE DE NEGOCIOS FAMILIARES

Negocio 1 - Clase de Producto o Servicio

1. En forma de pagos para servicios de miembros de la familia	
2. Renta, dividiendos, etc.	

Negocio 2 - Clase de Producto o Servicio

1. En forma de pagos para servicios de miembros de la familia	
2. Renta, dividiendos, etc.	

Otras Fuentes de Ingresos

Alquileres	
Intereses Dividiendos	
Regalos	
Ventas de Bienes	
Bonificaciones Jubilados	

APPENDIX 6



GASTOS DEL MES ANTERIOR NO INCLUYENDO ALIMENTOS

	VALOR	ESA MES PASADO		
		Si	Plus	Men.
		1	2	3
Vestuario - Ropa .....		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Calzado.....		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Transporte.....		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Combustibles.....		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gastos de diversión.....		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Educación.....		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alquilar o amortización de casa o apartamento.....		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Medicinas o tratamiento médico.....		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Deudas pendientes.....		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reparación y mantenimiento.....		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Servicios domésticos.....		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Otros Servicios.....		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Seguros.....		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Iglesia.....		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Otro especifique.....		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TOTAL :		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	VALOR
GASTOS DEL AÑO ANTERIOR .....	
Educación .....	
Servicios médicos.....	
Ropa.....	
Equipo y muebles de casa .....	
Iglesia.....	
Bienes duraderos.....	
Otro especifique.....	
.....	
TOTAL .....	



En los últimos 5 años murió alguien del hogar?		<input type="checkbox"/> SI	<input type="checkbox"/> NO
a.	Nombre.....		
b.	Enfermedad o causa principal.....		
c.	Edad.....		
d.	Días incapacitado en el último año de vida.....		
e.	Número de consultas médicas.....		
f.	Número de visitas al hospital en el tratamiento final.....		
g.	Número de días hospitalizados en el tratamiento final.....		
En los últimos 5 años murió alguien otro?		<input type="checkbox"/> SI	<input type="checkbox"/> NO
a.	Nombre.....		
b.	Enfermedad o causa principal.....		
c.	Edad.....		
d.	Días incapacitado en el último año de vida.....		
e.	Número de consultas médicas.....		
f.	Número de visitas al hospital en el tratamiento final.....		
g.	Número de días hospitalizados en el tratamiento final.....		
En los últimos 5 años murió alguien otro?		<input type="checkbox"/> SI	<input type="checkbox"/> NO
a.	Nombre.....		
b.	Enfermedad o causa principal.....		
c.	Edad.....		
d.	Días incapacitado en el último año de vida.....		
e.	Número de consultas médicas.....		
f.	Número de visitas al hospital en el tratamiento final.....		
g.	Número de días hospitalizados en el tratamiento final.....		

Alguno miembro del hogar ha tenido una enfermedad o incapacidad que se obligó a quedar en cama o fuera del trabajo por más de 10 días durante los últimos seis meses?

a.	Nombre.....	
b.	Edad.....	
c.	Número de días incapacitado.....	
d.	Enfermedad o causa principal.....	
e.	Causa secundaria o asociado.....	
f.	Número de consultas de enfermería.....	
g.	Número de visitas al hospital.....	
h.	Número de consultas médicas.....	
i.	Número de días hospitalizado.....	
j.	Costo de medicinas pagado por la familia.....	
k.	Costos pagados por la familia para consultas, hospitalización u otros.....	
l.	Ha tenido esta enfermedad antes.....	<input type="checkbox"/> SI

Alguno miembro del hogar ha tenido una enfermedad o incapacidad que se obligó a quedar en cama o fuera del trabajo por más de 10 días durante los últimos seis meses?

a.	Nombre.....	
b.	Edad.....	
c.	Número de días incapacitado.....	
d.	Enfermedad o causa principal.....	
e.	Causa secundaria o asociado.....	
f.	Número de consultas a enfermería.....	
g.	Número de visitas al hospital.....	
h.	Número de consultas médicas.....	
i.	Número de días hospitalizado.....	
j.	Costo de medicinas pagado por la familia.....	
k.	Costos pagados por la familia para consultas, hospitalización u otros.....	
l.	Ha tenido esta enfermedad antes.....	<input type="checkbox"/> SI

