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Honduras is in the midst of extensive reforms of the policies which guide its agricultural sector. The collection and analysis of relevant data are essential to the development of improved policies for agriculture. The purpose of the study was to make recommendations for the improvement of data collection and analysis, including the identification of relevant training for personnel involved in USAID's Policy Analysis Implementation Project. The responsibility for collecting agricultural data is divided among several different agencies, and most important data collecting agencies such as the Central Bank are not a part of the agricultural sector. The procedures followed in collecting some data however are not always clear and complete. As Honduras strives to shift the management of its economic system away from centralized government control and toward more market-oriented decision making, the government will need improved data quality so that it can monitor markets and see how well the new system is working.

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HONDURAS:

REQUIREMENTS FOR IMPROVING DATA COLLECTION AND ANALYSIS TO SUPPORT AGRICULTURAL POLICY

December, 1990

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Report No. 115

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Prepared For:
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TABLE OF CONTENTS

ABSTRACT i

EXECUTIVE SUMMARY ii

GLOSSARY v

1.0 BACKGROUND AND SCOPE OF WORK 1

2.0 ANALYTIC REQUIREMENTS FOR POLICY REFORM IN HONDURAS 2

3.0 ORGANIZATIONS INVOLVED IN DATA COLLECTION AND ANALYSIS FOR THE AGRICULTURAL SECTOR 5

3.1 The Agricultural Policy Analysis Unit 5
3.2 SECPLAN, General Directorate of Statistics 9
3.3 The Central Bank of Honduras 12
3.4 Autonomous Agricultural Agencies Involved in Data Collection and Analysis 14
3.5 Private Sector Role in Data Collection and Analysis 16
3.6 Role of the Policy Analysis Project 17

4.0 RESUME OF DATA STRENGTHS AND WEAKNESSES 19

4.1 Agricultural Production Data 19
4.2 Price Data 21
4.3 Trade Data 22
4.4 Storage Data 22
4.5 Production Cost Information 22
4.6 Nutrition and Food Security 23
4.7 Data on Resource Use, Availability and Environment 23

5.0 TRAINING NEEDS 26

5.1 Basic Concepts of Data Collection and Analysis 28
5.2 Training in Sampling and Survey Methods 28
5.3 Training in Microcomputer Use 29
5.4 Workshop on Domestic Resource Cost Analysis 30
5.5 Advanced Training in Policy Analysis 30
5.6 Training in Market Management and Market Performance 30
5.7 Technical Support and Training in Development and Management of Farm Budgets 31
5.8 Training for Household Budget Survey 31

APPENDIX A Persons and Organizations Visited 33

APPENDIX B Training Courses Available in Other Countries 34

PROFILE OF THE AUTHOR 35

ABSTRACT

Honduras is in the midst of extensive reforms of the policies which guide its agricultural sector. The collection and analysis of relevant data are essential to the development of improved policies for agriculture. The consultant was asked to make recommendations for the improvement of data collection and analysis, including the identification of relevant training for personnel involved in USAID's Policy Analysis Implementation Project. The responsibility for collecting agricultural data is divided among several different agencies, and most important data collecting agencies such as the Central Bank are not a part of the agricultural sector. The procedures followed in collecting some very important data series are not always clear, data on the production and prices of some commodities is not collected at all, and there is a lack of continuity in collecting some key series. As Honduras strives to shift the management of its economic system away from centralized government control and toward more reliance on decentralized market-oriented decision making, it will be important to have improved data on agricultural production and prices, so that the government can monitor markets and see how well the new system, together with suggestions for a related training program for both public and private sector personnel.

EXECUTIVE SUMMARY

Honduras is in the midst of extensive reforms of the policies which guide its agricultural sector, including policies which affect food security, natural resources and the environment. These reforms are a key part of the economic program which is being promoted by the Callejas government, which took office in early 1990. The objective is to move Honduras away from a system of statist, centralized government control to one which will permit private market decisions to play a more prominent role.

Through the Agricultural Policy Analysis Project, Phase II (APAP II), the consultant was requested by USAID/Honduras to review the current status of data collection and analysis in Honduras, to recommend measures for improving the data base, and to identify related training needs for government and private sector personnel.

In general, Honduras suffers from lack of continuity and uniformity in agricultural data collection. Some important series of data have been collected only sporadically or were collected for a period and then discontinued. The responsibility for collecting some series, such as production and price data, has been divided among different agencies following different procedures with differing degrees of reliability. The agencies involved have not always done a good job of explaining their procedures. Some agencies have been reluctant to disclose data to users from other agencies. Some important data, such as wage rates for hired farm labor, has not been collected on any regular basis.

Timeliness and availability of market data pose a problem not only for policy makers but for farmers and others who engage in marketing agricultural commodities. Improving market information is particularly important now that Honduras intends to place more reliance on market-oriented decision making.

Two of the key agencies, the General Directorate for Statistics and Census (DGEC) and the Central Bank (BCH), collect most of the data on agricultural production. The Bank's data appear after the end of each year but include only 11 major crops. While over 20 crops are included in the DGEC agricultural production series, this organization normally experiences delays of more than two years in publishing its Statistical Annual. Currently, some important new crops such as cucumbers and deciduous fruits are not regularly covered by any agency.

The DGEC collects data on basic grains in its twice-yearly "*pronósitco*" survey. It covers other crops in its Multi-purpose Survey but has only managed to conduct this survey sporadically rather than on an annual basis, as would be required to establish uniform and reliable production series. The Multi-purpose Survey could provide a flexible tool for gathering various data of use to policy makers, as needs in particular policy areas dictate, if the survey were conducted on a regular annual basis.

BCH is the primary agency to collect price information for foods and agricultural products, and it is the only agency to gather and publish a regular series of agricultural prices at the farm level. The Bank has not done a good job of explaining its collection procedures to agricultural sector policy analysts, and thus the reliability of Bank data is often suspect.

The Agricultural Policy Analysis Unit (UPSA), which is the technical secretariat for the Agricultural Development Council (CODA), is a relatively new agency with limited staff and budget. UPSA does not have the capacity or resources to collect a wide variety of agricultural data, but it can play an important role in assembling data collected by other agencies and in developing a stronger analytic capability within CODA.

UPSA does have the responsibility for collecting information on the prices of farm inputs and on the wholesale and retail prices of agricultural commodities. UPSA could make a valuable contribution toward making agricultural markets function more efficiently if it were to announce information on wholesale prices through a weekly radio program -- a practice which was started several years ago but discontinued.

The Agricultural Policy Project for Honduras (APAH), which has been funded by USAID through PAIP, is conducting policy analysis which has been valuable in guiding the 11 joint private and public sector Working Groups which are designing the policy reforms being implemented by new government. For example, APAH has performed domestic resource cost analysis to help pinpoint those crops in which Honduras has the greatest comparative advantage. The same studies have provided coefficients of nominal and effective protection which provide guidelines for changes in exchange rate and tariff policies. APAH has also developed useful indices of production and prices for agricultural commodities.

As the demands made on APAH by the policy reform process begin to diminish, the project will be able to devote more time to training UPSA staff and to transferring its analytic capabilities to UPSA. This will be essential to developing a continuing capacity for policy analysis within the Honduran government.

The responsibility for agricultural data collection and analysis is shared by a number of agencies, several of which are not in the agricultural sector. Thus, it is envisioned that the training program to be developed by PAIP will be one in which all of these agencies are encouraged to participate.

Training at several different levels is recommended in the report. Where possible, this training should be organized within the country so as to provide opportunities for a larger number of people to participate. The primary recommendations for training are as follows:

- A course in Basic Concepts of Data Collection and Analysis to be organized for about 25 technical and clerical staff from the various agencies. APAH would be a logical organization to conduct this course.

- Specialized training in Sampling and Survey Methods to be provided for 3 or 4 statistics specialists from DGEC and perhaps from the BCH or UPSA. This training would be through courses which are regularly given by the U.S. Bureau of the Census or by the U.S. Department of Agriculture.

- A course in Microcomputer Use to be given to about 30 technical, clerical and senior staff. This course could be given by a computer training company in Honduras.

- A Workshop on Domestic Resource Cost Analysis, for about 10 technical and professional level staff from selected agencies (especially UPSA), should be organized by APAH or contracted to an outside training agency.

- Training in market management and analysis of market performance should be provided to 3 or 4 public sector staff, particularly to UPSA personnel who will work in the new department for regulating the grain trade, and to personnel from the private sector grain trading companies which will be organized under the government's new program for privatizing the grain trade. Several different types of training related to markets should probably be organized by an outside contractor.

More detailed and specific recommendations for improving Honduras' system of agricultural data collection and analysis are contained in the report.

GLOSSARY

APAH	Agricultural Policy Analysis Project, Honduras
BANADESA	National Agricultural Development Bank
BCH	Central Bank of Honduras
CADESCA	Food Security Program, Central American Region, EEC
CODA	Agricultural Development Council
COHDEFOR	Honduran Forestry Corporation
CONPPA	National Producers' Committee for Ag. Policy
DGEC	Gen. Directorate for Statistics and Census (SECPLAN)
GOH	Government of Honduras
MOE	Ministry of Economy
IHCAFE	Honduran Coffee Institute
IHMA	Honduran Agricultural Marketing Institute
INA	National Agrarian Institute
PAIP	Policy Analysis and Implementation Proj. (USAID-H)
SECPLAN	Ministry of Planning
SRN	Ministry of Natural Resources
UPSA	Agricultural Policy Analysis Unit (CODA)
URPLA	Regional Agricultural Planning Unit (SRN)
UPI	Institutional Planning Unit (SRN)
USAID	U.S. Agency for International Development
USDA	U.S. Department of Agriculture

1.0 BACKGROUND AND SCOPE OF WORK

Honduras is in the midst of extensive reforms of the policies which guide its agricultural sector, including those which guide food security, natural resources and environment. USAID-Honduras Policy Analysis and Implementation Project (PAIP) (No. 522-0325) is providing technical assistance and training to the Government of Honduras (GOH), to strengthen its capacity to formulate and implement required policy changes and administrative reforms.

Honduras is transforming the system by which its economy is managed from what can best be described as a statist, centralized form of government control to a system where decentralized private market decisions will be permitted to play a dominant role. Thus, GOH is currently introducing a wide-ranging set of policy and organizational reforms to bring about economic liberalization.

While it is generally accepted that economic liberalization is the tonic which will be required to increase efficiency and to spur economic growth, it is recognized that disadvantaged groups, such as the rural landless and the urban poor, are likely to suffer from the reforms in the short run. Furthermore, the transformation is occurring at a time when there are mounting concerns for environmental degradation and fears that the country's natural resource base is being depleted.

Data collection and analysis are essential to developing sound agricultural and natural resource policies as well as for continued monitoring of sectoral performance. Through PAIP the consultant was requested to review the current status of data collection and analysis in Honduras, to recommend measures for improving the data base, and to identify training needs for government and private sector personnel who are involved in data collection and analysis.

The consultant visited Honduras from November 19 until December 11, 1990. Personnel in key GOH and private organizations were contacted, as well as USAID and related project staff (see appendix A). A review as was made of available data, of data collection and analysis procedures, and of the organization and capabilities of related agencies. The following report presents the consultant's findings and recommendations.

2.0 ANALYTIC REQUIREMENTS FOR POLICY REFORM IN HONDURAS

Economic analysis is required in designing sound policies to guide agriculture and related areas such as nutritional sufficiency, as well to mitigate impacts on the environment and natural resource base. The need for such analysis becomes all the more important when government's basic system for guiding the economy is being changed, as is currently happening in Honduras. Continued analysis and careful monitoring of data are required to evaluate agricultural performance and to make periodic policy adjustments.

Basic economic principles are helpful in designing data collection and analysis systems. The value of data and analysis varies according to the value of the information which is contained therein, whereas the cost of collecting data and the cost of performing analysis varies with the time and effort which it requires. It follows that not all data is worth what it costs to collect it, nor is all analysis worth the effort which it requires.

The most useful types of analyses may often be accomplished by the carefully designed use of simple indicators such as indices of prices, production, productivity, and so forth. Often, it is the timely availability and careful explanation of such information, more than sophisticated analytic procedures, which help policy makers to understand what is happening and what changes are needed.

The type of economic analysis required to design improved agricultural policies depends, of course, on the particular type of policy which is being considered. The stated intentions of the current administration in Honduras are to make rather broad policy changes which would have far reaching effects on the sector. At the top of the list, however, are policies which would serve to liberalize markets and reduce or eliminate government restrictions on trade in an effort to stimulate domestic production.

With greater reliance on markets to direct decision-making, it will become essential for markets to function properly. This means that it will be necessary for producers and handlers to have access to accurate and timely information about prices and product movement. In addition to this, continual monitoring of market performance will be required to assure policy makers, producers, and related agricultural businesses that markets are indeed operating well. Several different types of analysis, including studies of marketing margins, marketing costs, and market structure may be useful for these purposes.

An important part of the current government's planned reforms is the privatization of the grain marketing facilities which have been held by IHMA, the parastatal grain marketing organization. Rather than participating directly in the grain trade, as was done in the past, the government now intends to regulate the market through maintaining a system of price bands for the basic grains, through the use of a variable levy system. This means that government agencies must develop competent procedures for managing such a system, not only by determination of the price bands based on analysis of historical international price movements, but also by establishing variable levies in a timely manner that is understandable and predictable to traders.

The private sector, which in recent years has been prevented from taking much of the domestic grain trade and from all international trading in grains, will have to re-learn much about grain trading. Private companies will have to learn how to analyze data and time their marketing decisions, as well as how to finance their domestic and international operations.

The type of analysis which policy analysts can perform depends not only on the quality and variety of data which are available but also on the technical capabilities of the professionals available to do the work. The organizational capabilities of the relevant government and private agencies are also an important factor in policy analysis as well as in determining the type of data which is available for analysis. Obviously, the time available and budgetary resources to support data collection and analysis are also important.

Given time and availability of sufficient personnel with sound technical training, a country might ultimately hope to develop and maintain quite sophisticated economic models, not only to clarify the structure and performance of its agricultural sector, but also to model the behavior of the overall national economy. Depending on the circumstances involved, such models might be large multi-equation econometric models, modified multisector models[1], input-output models, or perhaps one of a variety of the so-called programming (linear, non-linear) models. Such models are not always used in developing countries, not only because of personnel and budgetary limitations, but also because these models are extremely demanding in terms of the data they require and in terms of the continued effort which it takes to keep them up to date.

While econometric and programming models have at times been developed for limited segments of the Honduran economy, the country currently has limited capacity for developing and maintaining the large models that would be required for sector-wide analysis.

During the past year, as a part of the Honduran Agricultural Policy Analysis Project (APAH) which is being supported trough PAIP, an extensive series of partial budgeting studies has been conducted, comparing the costs and returns for many different agricultural products, including imports, exports and domestic food crops. This is described in a paper by Garcia and Norton.[2]

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[1]For example, see Braverman, Avishay, Jeffrey S. Hammer and Jonathan J. Morduch, "Wheat and Maize Price Policies in Hungary: Tradeoffs between Foreign Exchange and Government Revenue," Agricultural Economics, Vol. 1, pp. 273-290, 1987; also see Quezada, Norberto A., "Honduras Grain Trade Scenarios: A Multimarket Analysis," Sigma One Corporation, November 1990.

[2]García, Magdalena and Roger Norton, Tasas de Protección Efectiva y Costo de los Recursos Domésticos, USAID contrato número 522-9103-0-00-9345-0, preparado por Ateneo de la Agroindustria (ADAI), Tegucigalpa, Mayo de 1990 (borador).

While somewhat different in format, the Garcia-Norton analysis is equivalent to the Policy Analysis Matrix (PAM) system of evaluation which is outlined by Monke and Pearson in their recent book,[3] and in other contexts the approach has been generally referred to as Domestic Resource Cost Analysis. It is an approach which is practical in the sense that it can be implemented in less time and with more limited personnel and resources than the more elaborate modelling approaches.

Domestic Resource Cost Analysis provides the basis for determining where a country's comparative advantage lies, even in the face of artificial exchange rates, tariffs, government controls, and other factors which may serve to distort domestic markets. Costs and returns for alternative products and different levels of technology are first constructed from budgets which reflect actual market conditions faced by private producers. These are then modified to reflect social costs and returns -- those which would prevail if trade in international markets were to be permitted. With this information, it is then possible to estimate rates of nominal and effective protection. It is also possible to estimate domestic resource cost coefficients (DRC's), which are an indicator of a country's comparative advantage (or disadvantage) in producing each commodity.

With the indications of protection and comparative advantage provided by Domestic Resource Cost Analysis, it is possible to estimate the degree of distortion which is brought about by prevailing policies and to predict the types of changes that are likely to be brought about by improved policies and reduced distortions, It is possible to predict the likely directions of change -- which products will experience increases and which will experience reductions in output -- but it is not possible to estimate the magnitudes of change, as could be done with a well formulated econometric or programming model.

While some of the most important impacts of the policy currently being implemented in Honduras have to do with markets, pricing, and international trade, the package of reforms currently being discussed has numerous dimensions, and the formulation and monitoring of these will require many different kinds of information and analysis. Other important areas include labor and wage policies, food security, nutrition, agricultural finance, land tenency policy, forest use policy, and promotion of agricultural exports and industrialization.

The techniques required for the analysis and monitoring of policies in many of the areas outlined above often need to be terribly sophisticated. It may often entail little more than trend analysis or developing indexes to measure the rates of change in such things as wage rate or the cost of a minimally nutritious diet. Nevertheless, appropriate data must be available even for simple analyses, some organization must take responsibility for analyzing and interpreting the data which is available, and the results must be conveyed to decision makers in a form that is understandable, with clear interpretation and recommendations.

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[3]Monke, Eric A. and Scott R. Pearson, The Policy Analysis Matrix for Agricultural Development, Ithaca, N.Y.: Cornell University Press, 1989.

3.0 ORGANIZATIONS INVOLVED IN DATA COLLECTION AND ANALYSIS FOR THE AGRICULTURAL SECTOR

The Ministry of Natural Resources (SRN) has a broad responsibility for agriculture and natural resources, but many different agencies are involved in activities related to agriculture, especially when it comes to data collection and analysis. These include the Honduran Coffee Institute (IHCAFE), the Honduran Agricultural Marketing Institute (IHMA), the Honduran Forestry Corporation (COHDEFOR), and the Agricultural Development Bank (BANADESA), which are all autonomous agencies falling under the coordination of SNA. However, SRN does not have authority to coordinate activities of the National Agrarian Institute (INA), although activities of INA in the agrarian reform sector have broad impacts on agriculture and related land resources.

In 1988, the Agricultural Development Council (CODA), with membership of all of the above agencies and with the Minister of Natural Resources as its President, was established to coordinate activities related to the development of the entire sector. CODA's technical secretariat, the Agricultural Policy Analysis Unit (UPSA), has important responsibilities in the area of policy analysis and related data collection.

Both the Central Bank of Honduras (BCH) and the Ministry of Planning (SECPLAN) also have major responsibilities in the area of data collection and analysis. The Ministry of Economy (MOE) has been responsible for establishing price controls which have affected agricultural products. However, MOE's role in agricultural policy should now diminish as price controls are phased out.

SECPLAN is a member of CODA whereas BCH and MOE are not. Nevertheless, the Minister of Natural Resources is a member of the governing board of BCH, which does provide some opportunity for coordination of data collection and policy issues with that organization.

3.1 The Agricultural Policy Analysis Unit

When it comes to data collection and analysis related to agricultural policy, UPSA would appear to have a major role to play although for the time being UPSA is still relatively young as an organization (having come into being with CODA only in 1988) and has a staff which is small and generally not fully trained.

Perhaps because it is still new, UPSA is still somewhat unstable as an organization: it has suffered from staff turnover and may face budget cuts in the near future. Its department heads, who are capable people, have been employed on a contract basis, which makes it possible to pay them higher rates; however, this means that they are employed on a year to year basis, which is not conducive to long term stability in the organization. Junior staff salaries are limited to regular government civil service rates, which are often inadequate to attract and retain skilled professionals.

One of the uncertainties which UPSA faces is the nature of its future relationship to Ministry of Natural Resources and to the Institutional Planning Unit (UPI) of the ministry. In principle, the UPI should carry out many of the same activities for the ministry that UPSA conducts for the broader agricultural sector as a whole, through CODA. In practice, it is often difficult to draw a dividing line between the activities of the two units, and they have many common administrative needs. Guidelines for division of responsibilities and meeting the common administrative needs of the two units have yet to be clearly established.

The Technical Director of UPSA, Luís Zelaya, has good training and experience as an agricultural economist, but as the director he is often busy with administrative matters and meetings and does not have sufficient time to conduct or direct all of the analysis that CODA might otherwise desire from UPSA.

UPSA has a Department of Information with eight people. Gilberto Galvez, the head of this department, has an MS in statistics and is the only person in UPSA with a statistics degree. Two of the other staff in this department have degrees in economics but are not versed in policy analysis per se. The remaining staff have little if any formal training in agriculture, statistics, economics, policy analysis, micro-computer operations or other key areas, other than the training the have received on the job. Galvez is a trained, skilled statistician who has the capability to carry out additional on-the-job training of UPSA staff, and he will undoubtedly continue to do so if given the opportunity.

Although much of the agricultural and policy related data in Honduras comes from other sources, UPSA's Department of Information does engage in some important data collection activities. It collects and publishes annual data on the wholesale costs of basic agricultural inputs[4] It also collects monthly wholesale and retail prices on basic agricultural commodities.

Prior to formation of UPSA, some of the Department of Information personnel were engaged in SRN field research projects such as the farming systems research sponsored by CADESCA (food security program for Central American region, sponsored by the European Economic Community). These efforts, which involved extensive farm survey work, resulted in information about farming systems for basic grain production and also helped to produce updated farm budgets[5] which were used extensively in the recent domestic resource cost analysis described earlier. Many of the field personnel for this survey work were borrowed from the SRN's Regional Agricultural Planning Units (URPLA's) which are located in 11 different regions throughout the country.

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[4]For example, see Secretaría de Recursos Naturales, Unidad de Planificación del Sector Agrícola, Departamento de Información Agrícola, Boletín Anual: Precios de Insumos y Maquinaria Agrícola, 1990, Tegucigalpa, 1990.

[5]See Secretaría de Recursos Naturales, Dirección de Planificación Sectoral, CADESCA, Analysis de la Encuesta del Costos e Ingresos de los Productores de Granos Basicos, Tegucigalpa, April, 1989.

While the Department of Information does not have enough staff to conduct extensive surveys for field data collection, if small field surveys are to be conducted in the future it might be possible to borrow the regional staff from the URPLA's for this purpose. If this is to be done, however, the URPLA's should be included training programs for data collection.

In general, the Department of Information is not large enough to be expected to collect a major part of the data required for agricultural policy analysis. Therefore, much of the required data will probably have to continue to come from other agencies such as BCH and SECPLAN, as well as from specialized agricultural sector agencies such as INA, IHMA, IHCAFE, and COHDEFOR. However, the Department of Information can play a major role in assembling data collected by other agencies and making it available within UPSA and to other organizations with an interest in monitoring the performance of the agricultural sector and devising improved agricultural policies.

The Department of Information has recently published a Compendium of Agricultural Statistics from various sources[6], including agencies outside the Ministry. In the past, similar compendiums had been published by SRN. Such documents can be very valuable to agricultural policy makers and others. Without such documents, it is often necessary for researchers and others with needs for agricultural data to search far and wide in order to assemble data from diverse sources. This slows down policy analysis and policy decisions. If published annually, the Compendium can be quite valuable.

The Department of Agricultural Policy of UPSA has, in principle, the responsibility to prepare policy analyses, but it does not have much capability for doing so. Its staff of four persons all have university training in economics, but their studies were not related to the area of policy, per se. Hernando Palma, the director of this department, is trained in economic planning and has excellent administrative experience. Others in his staff have training or experience in such areas as food security, economic planning and farming systems research. However, Palma and all of his staff could benefit from additional training which is directly related to the needs of policy analysis.

While it is still young and lacks sufficient experience and capacity to play the lead role, UPSA has been an important part of the agricultural policy reform process which is currently taking place in Honduras. In many cases, UPSA has been called upon to provide the basic data on which reform plans are being based. UPSA staff have been members of several of the 11 working groups that have been analyzing sectoral problems and preparing proposals for structural reforms. This represents an important learning process for UPSA.

Future benefits from the working group learning process will be assured if UPSA staff develop the capability to continue or repeat the analytic procedures which have been carried out by the working groups. Specific examples would be the domestic resource cost analysis and the price and production indices which

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[6]See Secretaría de Recursos Naturales, Unidad de Planificación del Sector Agrícola, Departamento de Información Agrícola, Compéndio Estadístico Agropecuário 1990, Tegucigalpa 1990.

have been developed for the working groups by Norton and Garcia[7].

One of plans which is evolving from the current reform process is to allow private sector companies to engage in basic grain trade, which in recent years has been conducted by a parastatal organization, IHMA. The plan calls for regulating the grain trade through a system of price bands, and for establishing a government-owned buffer stock equal to one month's national consumption. To manage this system, the plan calls for establishing a Technical Unit for Policy on Prices and Marketing of Basic Grains[8] in UPSA.

While the plan for changing the basic grain marketing system is still on the drawing boards, if it should be implemented UPSA will inherit a large responsibility for which its current staff is not well prepared. In the event that it does occur, it will be necessary to assign additional personnel to UPSA to help form the Technical Unit and perhaps to get them special training in the grain marketing, in the operation of price band systems, and in managing buffer stocks. Some of the professional staff who were in IHMA and who worked with IHMA's data collection system for basic grains could be very useful in the new unit.

Recommendations:

- UPSA should be strengthened in order to give it the capacity to become the primary coordinating agency for data collection and analysis for agriculture.

- the UPSA's Department of Information should develop the capability to publish its Compendium of Agricultural Data on an annual basis. Before proceeding with this, however, the Department should check with users and potential users to determine which data is the most valuable, and to determine the most useful format for presenting in the Compendium.

- most of the data in the Compendium can come from other data collecting agencies (e.g. DGEC, BCH, IHMA) and need not require primary data collection efforts on the part of UPSA.

- the Compendium should include indices of agricultural prices, agricultural production, and agricultural productivity, among others, which can be developed from data already produced by DGEC and BCH, following procedures already established within APAH.

- training should be organized through PAIP to ensure that UPSA staff have the capability to conduct domestic resource cost analysis. Based on this, UPSA should publish a regular series of nominal protection, effective protection and domestic resource cost coefficients in its annual Compendium.

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[7] Op cit.

[8] Unidad Técnica de Precios y Comercialización de Granos Basicos.

3.2 SECPLAN, General Directorate of Statistics and Census

The General Directorate of Statistics and Census (DGEC), which resides with SECPLAN, collects several types of data which relate to agriculture and which are valuable in agricultural policy analysis. DGEC is the primary agency to collect and summarize data on international trade, production of basic grains, and livestock slaughter. DGEC has periodically conducted "multi-purpose" agricultural surveys which cover a broader range of crop and livestock production, in addition to other characteristics of farms.

As an organization, DGEC has received substantial support from PL-480 local currency. This has undoubtedly been an important part of the agency's budget. Nevertheless, DGEC continues to suffer from budgetary problems as well as organizational and administrative weaknesses. For example, there are problems in arranging for timely payments to contract staff to facilitate field work. While the agency has substantial computer equipment resources, including both mini- and micro-computers, this equipment is all concentrated in a centralized computer center which often does not meet user expectations. As a result, the tabulation and publication of data is at times delayed, which serves to greatly reduce its value.

A recent evaluation by personnel from the U.S. Bureau of the Census[9] outlines problems with the operation of DGEC. These include high levels of personnel turnover; insufficient professional and on-the-job training; deficiencies in error checking of data both at the field collecting and computer input levels; limited budgets and delays in payments; shortage of vehicles for field work; and extremely slow publication of data. Most of the problems cited in the Bureau of Census report still exist, and it is not clear that many of the corrective actions which the report recommended have been taken.

DGEC's Agricultural Surveys Section performs regular twice-yearly "*pronóstico*" surveys of basic grain farmers[10], to estimate the area planted and expected production for the crop which is just being planted while at the same time obtaining a "validation" of production for the crop just harvested. Since there are two crops a year in Honduras, the *primera* and the *postrera*, a survey is conducted for each season, and they normally include about 7,000 farmers, randomly selected from a stratified area frame sample. In addition to area and production data, the "pronósticos" obtain information on crop disposition and use, including the amount which is home consumed, the amount used for cattle feed, and the amount which is marketed in each of several different marketing channels.

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[9]Rowland, Sandra, Glenn Ferri and Graciela F. B. Valdez, "Evaluación de al Organización y Actividades Estadísticas de la Dirección General de Estadísticas y Censos de Honduras," report prepared for USAID under PASA 36-22-83-77097-00-211, Mayo 1989.

[10]For example, see Republica de Honduras, Dirección General de Estadísticas y Censos, Encuesta Pronóstico de Cosecha de Granos Básicos, Tegucigalpa, August 1990.

Periodically, the Agricultural Surveys Section has also conducted a Multi-Purpose Agricultural Survey. One of these was first conducted in 1984 and another was carried out in 1989[11]. In 1989 it was combined with the "pronóstico" survey for the first production season and included about 12,000 farmers.

The Multi-purpose Survey was more detailed than the pronóstico and covered information about crops other than the basic grains as well as some special questions which were of interest at the time the survey was taken. For example, a question on the slope of the area farmed was included.

The intentions of DGEC and SRN are to make the Multi-purpose Survey an annual event, although this was not accomplished in 1990. Having an annual Multi-purpose survey would provide a regular means of estimating the area and production of many crops other than the basic grains, and it should also offer a more flexible format for collecting data on special topics.

The Agricultural Surveys Section has a regular staff of about 40 persons, including three economists and an agricultural economist at the professional level. During the time of the actual surveys, another 50-60 contracted persons are added to the staff. The work of the section is centrally organized, requiring that personnel from the Tegucigalpa office go out to each region to supervise the field work. While the agency has recently been able to rent cars, limitations on transportation continue to pose problems. It might be more cost effective to organize on a regional basis, and this possibility should be analyzed.

DGEC's Household Surveys Section conducts regular annual household surveys for the entire country, including rural and agricultural households. Form the reports on these surveys it is possible to obtain information about income distribution, employment, education and many other factors which are important to agriculture as well as to other sectors. If properly analyzed, for example, the income distribution data can provide a basis for estimating food consumption for different population groups and in different regions. Analysis of changes in employment from year to year in rural areas should also help in following the impacts of the current agricultural reform program.

DGEC collects regular annual information on the quantity and value of exports, and it publishes these by commodity group. While the official DGEC reports on this data take about three or four years to be finalized, preliminary reports are issued within about six months of the end of the calendar year. It is evidently these preliminary reports on which BCH bases its trade information. BCH trade data are based on individual commodities rather than commodity groups, but its figures are not always consistent with those of DGEC. The reasons for these discrepancies are not entirely clear, but they may have to do with corrections in the data which occur between DGEC's preliminary and final report.

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[11]See Republica de Honduras, Secretaría de Planificación, Coordinación y Presupuestos, Dirección General de Estadísticas y Censos, Encuesta Agrícola Nacional de Propósitos Múltiples, (3 Tomos), Tegucigalpa, 1989.

DGEC also collects and publishes data on cattle slaughter, based on records provided by slaughter houses. This is the only livestock data which DGEC collects on a regular basis, however, and it is published by itself, without reference to overall livestock herd populations or livestock farm characteristics. It appears that the livestock slaughter series would represent only a part of national livestock production and would not include minor animals or on-farm slaughter. The relationship between DGEC's livestock slaughter data and data on total national livestock production which is reported by BCH is not entirely clear.

DGEC is the agency which is officially charged with taking the periodic Agricultural Census. Since not census has been taken since 1974, a new one is now badly needed. It had been planned to start with a pilot version in 1991, to be followed by a full scale census in 1992. However, it now appears that the pilot may not get off the ground in 1991, which casts doubt on the ability to get the entire effort accomplished by 1992. If annual Multi-purpose surveys had been carried out regularly, it might not be so urgent to do a new census. As things stand, however, the census is badly needed to settle such issues as current land distribution patterns and land use, especially as it pertains to new crops and minor crops.

In the past, DGEC professional staff have been given opportunities for special training in statistics and related data collection procedures. Some additional training is probably justified.

Apart from DGEC, SECPLAN has its own Department of Agricultural Planning, which is reported to have about six professional level staff. In the past the Department had responsibility for certain kinds of policy analysis. For example, some members of this agency have taken part in the working groups which are currently working out the new government's package of agricultural reforms. Currently the future of the Department of Agricultural Planning is uncertain. It could have some potential for continued work that would complement that of UPSA, and consideration should be given to including the Department in training activities of PAIP.

Recommendations:

- DGEC and USAID should reconsider the recommendations made in the 1989 report[12] by U.S. Bureau of the Census. These recommendations should be carried out where possible, in order to improve the overall performance of DGEC.

- every effort should be made to have the Agricultural Surveys Section of DGEC conduct the Multi-purpose Survey annually.

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[12] Op cit.

- recognizing that survey data collection and tabulation are costly, an ongoing dialogue should be established between DGEC and user agencies such as UPSA and BCH, to determine and update the areas to be covered in the survey, and to ensure that individual survey components are not repeated more often than necessary.

- careful consideration should be given as to which crops need to be covered regularly in full detail (area, yield, production) in the multi-purpose survey, and which prices should be collected. Similar consideration should be given to periodically including questions on the availability and use of credit, the availability of modern technical inputs such as chemicals and improved seeds, and so forth.

- DGEC should consider decentralization of field survey staff and establishing small regional offices, rather than relying totally on the Tegucigalpa central office to conduct all field data collection. The analysis of this decision should take both economic and administrative benefits and costs of decentralization into account.

- Consideration should also be given to decentralizing some of DGEC's computer facilities within the Tegucigalpa headquarters, and to regional offices, if they are established. This would provide user departments with more flexibility in tabulating the data which they collect and would help to speed up the tabulation and publication of results. If the DGEC computation center does not have sufficient microcomputer equipment to share with other departments, USAID should consider providing such equipment either through PL-480 or PAIP.

- DGEC personnel should be included in the appropriate parts of the training which is organized under PAIP. Training in micro-computer use could be particularly useful, especially if computer equipment is decentralized within DGEC, as suggested above.

- DGEC personnel should also be included in seminars and workshops which are organized to facilitate communication between data collection agencies and user groups such as UPSA, APAH and CONPPA.

3.3 The Central Bank of Honduras

The BCH plays a very important role in collecting agricultural data, and inevitably its work has an important bearing on policy analysis and in monitoring the performance of the agricultural sector.

The primary section of the Bank to gather agricultural data is the Department of Economic Studies, which publishes consumer and wholesale price indices, as well as agricultural production and national accounts (gross domestic product) data.

Most of the retail and wholesale price information collected by the bank is based on weekly market surveys, which appear to be well designed. This is published by bank in its informal monthly papers, mostly in the form of indices.

While the bank does report its findings on retail prices for 31 separate food items, it refuses to make available any of the wholesale prices which it collects on individual commodities. The bank is the only agency to regularly collect wholesale data on such a wide variety of agricultural commodities, and the failure to disclose it constitutes a serious deficiency in data that would otherwise be useful in policy analysis.

BCH is the *only* agency to regularly collect data on agricultural production and area for many crops such as bananas, tobacco and sugarcane and to publish this data soon after the completion of the crop year[13]. BCH is the only source of farm price information for most crops. Similarly, the Bank is the only source of production and farm price information for most livestock products. Despite the fact that BCH plays such a pivotal role in farm production and price data, the procedures used in collecting this data are not always clear to users.

According to Bank personnel, they obtain most of their data by contacting large processing and exporting companies and large farmers. They estimate the amount of production which falls outside these channels, but the estimating procedures are not readily understood by users. Bank personnel say that they rely on DGEC estimates of basic grain production, but that they have to adjust these in order to be consistent with data on imports and exports and their estimates of consumption. Nevertheless, it is difficult to reconcile the Bank's production figures with those estimated by DGEC field surveys.

One thing that is fairly certain about the bank's farm production and price data is that they are not based on scientifically designed surveys. To be sure, surveys are not the only way to obtain competent information. In some instances surveys simply will not work (e.g. when production is controlled by a few large producers who will not cooperate with the data collectors). In other cases, it may just be more efficient to use non-survey methods.

BCH also reports quantity and value data for most of the main agricultural imports. This data is potentially quite valuable since it is reported on an individual commodity basis whereas the DGEC reports its trade data by commodity group. This is another instance where it would be useful to have the Bank's procedures clarified.

Recommendations:

- the BCH should make its individual wholesale prices available to other users, including farmers, on a regular monthly basis.

- the Bank should do a better job of informing users from other agencies about its data collection procedures.

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[13]BCH regularly reports on 11 major commodities, including bananas, plantains, coffee, corn, sorghum, beans and rice. Whereas DGEC reports on 22 commodities, its reports take several years to appear.

- in view of the pivotal role which BCH data plays in Honduran statistics on agricultural production and farm prices, USAID should request that the Bank agree to receive an outside consultant to review their system for collecting this data. Someone from USDA's Agricultural Statistics Service would be appropriate for this job.

- the consultant could assist the Bank by commenting on their data collection procedures and at the same time he or she could assist outside users by preparing a report which clarifies the procedures which BCH follows on a commodity by commodity basis.

- an outside consultant could also contribute to the training program outlined in section 5 below.

3.4 Autonomous Agricultural Agencies Involved In Data Collection and Analysis

Several autonomous agencies are involved in collecting and/or analyzing data that is important to the current process of policy reform. The marketing institute, IHMA, has previously been heavily involved in the grain trade and has thus collected much data on both domestic marketing and international trade in grain. The data collected included both wholesale and retail prices of basic grains. IHMA may have been the only agency which has had information on the status of grain in storage, although such information was apparently kept secret to prevent speculative activities on the part of traders.

If IHMA is restructured and downsized, as is envisioned in current plans, the agency may well lose its data collection capacity. If so, some facets of this data collection will have to be transferred to an agency such as UPSA[14] or information which is essential to efficient market-oriented grain trading may not be available to the private and public decision makers responsible for making the new system work.

The coffee institute, IHCAFE, collects much useful information (production, area, prices received, costs of production, and social characteristics) on coffee from its annual surveys of coffee growers. The organization's economics unit analyzes prices and production costs and has a basic understanding of the operation of coffee markets and international trade in the product. Both of these units have received extensive technical assistance from USAID. Currently, Clarence Dunkerley, a USDA/PASA statistician is working with the data collection unit to bolster survey methods and analysis. Dunkerley also provides technical assistance to the Agricultural Surveys Section of DGEC.

It is not clear that BCH and other organizations take full advantage of the IHCAFE data collection and analysis system or that there is any effort to reconcile the data reported by other agencies such as the Bank with that of IHCAFE. In several ways, the system which has been developed in IHCAFE could serve as a useful model for other organizations.

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[14]See discussion on UPSA's Department of Information and of the proposed Technical Unit for Basic Grains in section 3.1 above.

Current plans call for the Agricultural Development Bank, BANADESA, to be downsized under the agricultural restructuring program. It will be reorganized to serve only very small farmers. Formerly, BANADESA regional agencies collected information on the costs of production (farm budgets and input costs) of many different crops, and these budgets have been used extensively in policy analysis such as that recently conducted by Garcia and Norton. BANADESA's capacity to collect and maintain production cost information will probably be reduced under the reorganization, and this may leave a gap in data needed for policy analysis. UPSA may have to consider developing additional capacity of its own in this area.

The commercial activities of the Forest Development Corporation, COHDEFOR, will be passed to the private sector under the new organization, and COHDEFOR will be reorganized to become strictly a regulatory agency. As it has operated in the past, COHDEFOR has be Honduras' main source of data on the forests. It has regularly collected data on production by species and on milling and related forest industries, as well as on exportation of lumber and other forest products. COHDEFOR has reported most of this data in its annual statistics booklet.[15]

In its new capacity, COHDEFOR will be required to collect data and monitor issues to which it has paid little attention in the past, in addition to continuing with its monitoring of forest production and trade data. As it is envisioned, COHDEFOR will now devote attention such issues as reforestation, reducing the exploitation of forests to obtain firewood, and administering a new system in which stumpage fees will go to the municipalities in order to encourage them to take more interest in maintaining the country's forest resource.

The National Agrarian Institute, which carries out land distribution under the country's agrarian reform law, is a primary source of information on land distribution, land titling, and the status of production among small farmers, and the activities of farmer cooperatives. In the past, INA has not always been able to follow the status and use of lands that have been redistributed. INA currently receives technical assistance from USAID in the area of data management and computation, under the guidance of Ibrahim Medina.

Various SRN technical departments and institutes such as the Directorate of Hydraulic Resources are involved in areas which are critical to Honduras' natural environment. The consultant was unable to learn much about the nature of the data which these agencies may collect in such areas as soil erosion, soil management, runoff and streamflow patterns, water availability, water quality, and so on. It is known that Honduras' soils map has not been updated since 1955, and current geographic information on soils problems is therefore limited.

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[15]For example, see Corporación Hondureña de Desarrollo Forestal, Estadísticas Forestales 1989, Boletín Estadístico No. 6, Proyecto Hon/88/003 FAO-PNUD, Honduras Junio 1990.

Recommendations:

- that IHMA's system for collecting data on basic grains be examined in the light of what will happen as the agency is changed. As appropriate, ensure that the responsibility for collecting essential data formerly available from this system is transferred to another agency such as UPSA.

- that personnel from INA, COHDEFOR and the various departments of SRN which collect data relating to natural resources be included, where appropriate, in the training on data collection and analysis to be provided through PAIP.

- that UPSA include key indicators from these agencies in its annual Compendium of Statistics, to reflect status and trends in the areas of land reform, land titling, environment and natural resources.

- UPSA should examine the issue of what will happen to the availability of information on farm production costs when BANADESA is reorganized. UPSA may need to expand its own capacity to develop farm budgets either from surveys or from panels of knowledgeable farmers.

3.5 Private Sector Role in Data Collection and Analysis

The private sector's participation in the policy dialogue and in policy analysis is essential since the private sector often has access to information which is not readily available to the government and since having a clear articulation of the private sector's needs and ideas is necessary in developing sound agricultural policy.

The private sector has played an important role in promoting the current debate on agricultural policy reform and in related proposals for reorganizing government activities relating to agriculture. In 1989 a new organization, the National Producers' Committee for Agricultural Policy (CONPPA), was formed within the private sector.

CONPPA was the organization which served to initiate the current policy reform dialogue and related efforts which have culminated in the 11 policy working groups which have been meeting during the past year to work out recommendations for agricultural policy reform.

Through CONPPA, a large number of private businessmen contributed their time to work with government officials and with personnel from the USAID funded Honduran Agricultural Policy Analysis (APAH) project in developing the framework and recommendations for the reform.

CONPPA's intention is to become a permanent organization which will be available for articulating private sector concerns in agricultural policy and, where needed, to present the private sector's own analysis of the issues. CONPPA plans to organize a small, permanent technical unit which can either analyze policy issues itself or be available to coordinate such analysis by an outside contractor. The technical unit will also serve to communicate the status of current policy issues to its membership.

In the process of contributing to current policy reform proposals through the working groups, CONPPA has developed its own agricultural data base, which it intends to have the technical unit maintain for future policy analysis and monitoring.

Recommendations:

- that USAID continue to encourage the development of CONPPA through the PAIP project and with the continued support of APAH.

- CONPPA personnel should be included, where appropriate, in the data collection and policy analysis training to be organized through PAIP.

- CONPPA should be encouraged to share data with UPSA and other agencies engaged in policy analysis.

3.6 Role of the Policy Analysis Project

APAH is funded by the PAIP project. Directed by Roger Norton of the United States, APAH has a small staff of locally contracted economists, convenient offices spaces, a competent clerical staff, and a good set of micro-computer equipment for data analysis and word processing.

Norton and the APAH staff have been instrumental in organizing and contributing to the working groups which are engaged in proposing policy reforms to the government through CODA, and in cooperation with CONPPA. These working groups have included about 100 different public officials and private businessmen. The process has now been in progress for over a year, it has been well received by the Callejas government which took office in March 1990, some of the recommendations to come from the process have already been implemented, and it is expected to result in having final legislation ready to submit to the Honduran Congress in early 1992.

The current process is extraordinary in its magnitude and in the speed with which it has moved, considering its wide scope and complexity. In "ordinary" circumstances, UPSA might have been expected to play the role which has instead been played by APAH with UPSA assistance. But UPSA is still quite young as an organization, and it lacks the capacity in personnel as well as the experience and the stature that would be required to provide the full support that CODA needs in preparing and orchestrating significant agricultural policy changes within the government.

Recommendations:

- while UPSA and its personnel have obviously gained a lot of valuable experience in working with APAH, efforts should be continued to transfer the capabilities that have been developed by APAH and its staff to the UPSA staff. Such efforts should include the procedures used in conducting domestic resource cost analysis, as well as guidance in developing a more basic set of data indicators such as price and production indices.

- APAH has developed its own computerized data base, maintained in the form of spreadsheets, for use in analysis. This should be transferred to UPSA for future maintenance, so that the key indicators can be included in UPSA's compendium of agricultural statistics and so that their continued availability to agricultural policy makers will be assured.

- APAH must play an important role is designing the training activities which are to be organized under PAIP. In some cases APAH personnel should be asked to assist in developing curriculum and in presenting training workshops. Where appropriate, APAH staff should also participate in this training.

4.0 RESUME OF DATA STRENGTHS AND WEAKNESSES

In the preceding discussion there have been repeated references to the data which is collected by various agencies and to the strengths and weaknesses in this data. Here much of that information is summarized according the type of data, and further observations are added, to help clarify the strengths and weaknesses which exist and to help clarify the needed remedies. To begin the discussion, Table 1 summarizes each of the different categories of data according to the agency or agencies which collect it.

4.1 Agricultural Production Data

Several different agencies are involved in the collection of basic agricultural production. IHCAFE does surveys to generate like information on coffee growers, and the large cotton growers cooperative (Cooperativa Algodonera del Sur) publishes estimates of cotton production, area and yields.

BCH is currently the only agency to regularly publish data on most major crops.[16] Thus, the bank is a key figure in agricultural production data, but as was noted above, the methods it uses in making its estimates are not well explained by the agency. BCH's production estimates for the basic grains are often different from the estimates which DGEC obtains from its annual field surveys. This leaves the user in doubt as to the quality of the BCH data.

Government officials within the agricultural sector often question BCH's estimates of agriculture's contribution to Gross Domestic Product (GDP) and think that the growth in agricultural production which is derived from the series for agricultural GDP is too low. If there is substance to these complaints, the problem may merely derive from the fact that the Bank does not include information about all crops and does not take the production of newer crops into account.

In its *Anuario Estadístico*, DGEC publishes estimates for the production of several of the important crops which are not covered by BCH. These include such crops as melons, sesame, cardomon, and others. DGEC generates data on the area, production and yields of basic grains (corn, rice, beans and sorghum) from its "pronostico" surveys, but the methods used in making estimates for other crops are not very clear. Furthermore, DGEC normally takes two to three years to get the *Anuario* published.

Even more problematic than the uncertainties about how BCH and DGEC make their production and area estimates, or whether these estimates are consistent with each other, is the fact that there are many crops that are apparently not covered by any agency. This is especially true of some of the newer

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[16]The production series for 11 major crops is contained, for example, in Banco Central de Honduras, Departamento de Estudios Económicos, Indicadores Económicos de Honduras 1980-1989, Tegucigalpa, Enero de 1990. However, it seems that the yield data appear only in the Bank's monthly papers.

horticultural crops such as cucumbers, and for the deciduous fruits. Some of the other crops are included in DGEC's Multi-purpose agricultural survey, but this survey has not been conducted regularly.

Exhibit 1. Agricultural Data Needs and Availability, According to the Responsible Collecting Agency

Type of Data	Responsible Agency
Production Data (Area, Yield, & Production)	DGEC, Agricultural Survey Department DGEC, Statistical Annual BCH, Dept. of Economic Studies (DoES)
Crop Storage Data	IHMA (Not Disclosed)
Prices	
Retail	BCH, DoES IHMA, Basic Grains UPSA
Wholesale	BCH, DoES (Indiv. commods not disclosed) IHMA, Basic Grains UPSA
Farm	BCH, DoES
International Trade (Imports, Exports; Quantity, Value)	DGEC BCH, DoES
Human Nutrition	Consumer Budget Survey (1978) National Nutrition Survey (1987)
Land Use and Distrib.	Agricultural Census (1978) INA (Reform Sector)
Resources and Environment	COHDEFOR SRN, Dir. of Water Resources Soils Map (1955)

4.2 Price Data

BCH is the main source of data on agricultural prices. It collects and reports prices at retail and wholesale by region. The market survey procedures followed in collecting this information appear to be sound. However, at the wholesale level BCH reports its findings only in index form and refuses to disclose prices of individual commodities.

The BCH is apparently the only agency which currently reports farm level prices. Evidently, these are determined from reports of prices paid by exporters and processors, and to some extent they may be based on reports of prices received by large farmers. In any case, the coverage is only for major crops.

BANADESA has frequently collected information about farm level prices for key commodities in each of the regions where it operates, but this data has not been collected consistently each year or made available in the form of a regular series of prices.

UPSA collects regional price information on a list of key agricultural commodities at both the wholesale and retail levels. While this data is made available each month to the regional offices of SRN and other government agencies, it is not readily available to farmers.

In addition to being useful for policy analysis, it would be extremely valuable for farmers to have access to current information on the wholesale prices of individual commodities. This would help to insure that they are not put at a disadvantage in the market place due to lack of information about prices. About three years ago the SRN (through its Sectoral Planning Department (DPS), which has since been disbanded), collected information on a long list of wholesale prices for farm products in Tegucigalpa and San Pedro Sula. These were reported on a regular weekly radio program. This resulted in political pressure, presumably from merchants, and the program was discontinued.

UPSA also conducts an annual survey of farm input prices at wholesale, which it publishes in an annual report. However, there is no regular collection of information on the cost of hired farm labor or of machine or animal traction costs at the farm level. Having reliable information on wage rates for paid agricultural labor would be quite valuable to policy makers, and such information should probably be collected on a monthly basis.

Timely price information is absolutely essential if producers and other businesses are to have the information they need to make sound decisions in the marketplace. The lack of timely wholesale and retail prices in Honduras is a serious weakness in the agricultural data system, and it is particularly critical now at a time when the government is trying to eliminate government controls and to rely more on markets to guide decision making.

4.3 Trade Data

As noted above, trade data is also collected and published by BCH. The main problem with trade data is that there are often delays in availability. Reportedly, even preliminary annual summaries take six months or more to be released by DGEC. The procedures used by BCH in publishing the trade data -- which the Bank presumably receives from DGEC -- are not clearly understood by analysts in the agricultural sector. Specifically, there are questions about how the Bank develops its export prices and suspicions that the prices may reflect under-reporting on the part of exporters, to avoid taxes.

4.4 Storage Data

In general, there is little if any storage data available on Honduras' major commodities. Such data could be quite useful to policy analysts and merchants involved in the basic grains and other storable commodities such as coffee and refined sugar. In some instances, merchants who own stocks will not want to cooperate in reporting information about their status. However, they should normally be required by law to do so since such information will tend to make markets function more efficiently and will help policy makers to make better decisions. Where compliance is mandatory, merchants are normally given assurances of confidentiality (anonymity) so that the circumstances of their individual businesses are not disclosed.

IHMA formerly maintained storage information for basic grains (and may continue to do so), but this was kept secret. Since plans call for the ownership of IHMA's grain storage facilities to be privatized, with silos in each region to be acquired by local marketing companies, the grain trade will now be conducted on a very different basis, and storage information will take on new importance. It will perhaps be even more important in the future than in the past to have accurate information available on grain stocks.

4.5 Production Cost Information

Production cost information has come from a variety of sources in Honduras. During the past three years, SRN obtained information on the costs of production (farm budgets) for basic grains from surveys which were funded by CADESCA. These budgets will need to be kept up to date by revision to reflect current prices, and for this reason alone it is important that UPSA or some other agency develop a better system for the regular annual determination of the prices of farm inputs such as labor and hired machine services.

BANADESA has been one of the principal agencies to collect and maintain production cost information for other crops, and other agencies (INA, IHCAFE) have also collected cost information for certain commodities. The formats in which farm budgets have been collected have varied considerably, and the detail in which this information has been collected or reported has often not been convenient for use in policy analysis procedures such as domestic resource costing. Budgets for livestock and milk production are reported to suffer from conceptual weaknesses. Now, with the reorganization of BANADESA, one of the main sources of budget information will be either lost or seriously reduced.

4.6 Nutrition and Food Security

While some analysts have tried to define food security in terms of national self-sufficiency in production, most economists have tended to define food security in terms of the country's and the individual's capability to acquire the food necessary to provide a minimally nutritional diet -- although there are often debates on what constitutes such a diet. In general, if the country or the individual has sufficient income to acquire the minimum diet, food security is deemed to be adequate.

Data to indicate the status of nutrition and food security is derived from various sources. Honduras' most recent National Nutrition Survey was conducted in 1987 and thus is relatively recent. This survey indicated that some 32 percent of Hondurans suffer from chronic malnutrition.

Consumer budget surveys are normally required to determine actual food consumption and spending patterns by income strata, and to better predict the likely impacts on consumption of changes in the national economy or of proposed changes in economic policies. Up-to-date consumer budget survey information is also important for use in estimating overall national consumption of foods and other commodities as the national economy grows and changes from year to year. Among other purposes, such information is used to develop accurate country food balance sheets.

The last consumer budget study in Honduras was conducted in 1987 and is now out of date. This makes it difficult for BCH and other agencies to make accurate estimates of national food consumption and to formulate policies that will result in improved nutritional status. A new consumer budget survey is now badly needed. The Household Survey Section of DGEC is the agency which is best prepared to conduct such a survey, although special training would nevertheless be required.

4.7 Data on Resource Use, Availability and Environment

Resource use and the environment are increasingly recognized as danger areas in Honduras, as elsewhere, and they must be carefully considered in formulating agricultural policy because of the strong interrelationships these areas have with agriculture. The status of data collection on resources and the environment is often still not very advanced, and agricultural analysts and policy makers still must work to develop the skills required to acquire and analyze data in these areas.

In Honduras, data on resources and environment is collected by several agencies, especially COHDEFOR and various technical departments of SRN, as was discussed in section 3.4 above. The consultant was not able to learn much about the personnel or data collection capabilities of these agencies. In general, however, it is know that there is a need to develop additional measures of resource and environmental status, and it is known that agricultural policy makers will require guidance in learning how to more effectively incorporate environmental and natural resource dimensions into their decision making process.

Recommendations:

- that a workshop or series of workshops be organized through APAH, to discuss the current status and problems of data collection and related agricultural policy analysis.

- the proposed workshop should include personnel from all of the key agencies referred to in this report, including DGEC, BCH Department of Economic Studies, SECPLAN Department of Agricultural Planning, IHCAFE, INA, SRN technical departments, COHDEFOR, Ministry of Economy.

- the workshop, which should probably be several days in duration, should be organized to require active participation from all in attendance, in which each agency would:

  -- describe in detail the methods which it uses in collecting agricultural and related data.

  -- describe the types of analyses and uses which it normally makes of its own data and that from other agencies.

  --ask questions about and outline problems which it has with data from other agencies.

  --make suggestions on how the system for collecting agricultural data could be improved.

- UPSA or SRN should devise a means to insure that more complete information is collected about crops which are not currently covered in the production statistics collected by BCH, including new crops and minor crops as feasible. This could be accomplished by a variety of means, depending on the crop. In some cases it could entail developing its own system for surveying merchants and handlers, mounting its own occasional field surveys, or working with DGEC to make sure a crop is adequately covered by the Multi-purpose Survey.

- every effort be made to convince BCH to publish its information on wholesale prices of individual agricultural products in a timely manner.

- SRN or UPSA should consider reestablishing the system of collecting and reporting of wholesale prices in a weekly radio program.

- SRN or UPSA should study the issue of crop storage data to see what can be done to make information on stocks available to merchants and policy analysts; this will be particularly important in the new system for marketing basic grains.

- SRN or UPSA should study changing availability and needs for production cost (farm budget) data and ensure that provisions are made to keep budgets available and updated for use in domestic resource costing and other types of policy analysis.

- USAID should consider providing a short term consultant in the area of farm budgets, to assist SRN and UPSA in studying their needs, to recommend efficient data collection procedures for different crops, to suggest how more uniformity my be obtained so that budgets are more useful in policy analysis, and to outline techniques appropriate for developing livestock budgets.

- A new household budget survey is needed in Honduras, and USAID should support the idea of conducting such a survey as soon as possible, perhaps with funding from PL-480 commodity sales. The Household Survey Section of DGEC is probably the best agency to implement such a survey.

5.0 TRAINING NEEDS

Considering the various needs for improved data collection and analysis described above, several different types of training should be provided through the PAIP project. A summary of the recommended training activities is shown in Table 2. The list is by no means exhaustive, however, and other items could easily be added to the list as the PAIP evolves and as changing needs dictate.

Needs outlined in Table 2 include training in basic data collection concepts and in the use of micro-computers for data tabulation, which should be provided to a relatively large number of personnel, to training in more sophisticated concepts and procedures, which should be limited to a smaller number of professional staff.

Since data collection and analysis activities in Honduras are carried out by a number of different government and private agencies, training should in principle be open to all of these. As resource limitations may dictate, however, training activities should be focused on the smaller number of agencies -- UPSA, DGEC, APAH, CONPPA, and BCH -- which have primary responsibilities for agricultural data and policy analysis. Given the key role which UPSA is destined to play in the area of policy analysis and agricultural data collection in the future, training should be viewed as an important means of strengthening that agency's capabilities.

Two important questions need to be answered in organizing the training program: where should the training be held and who should organize and present the various components of the program? In principle, it is preferable to hold the training in Honduras because this is likely to be less expensive, and it would afford a greater number of people the opportunity to attend. In practice, it will be difficult to organize some of the more sophisticated parts of the program in Honduras because of limitations in professional teaching staff, and due to limitations in the time which project administrators have for developing curriculum and making logistic arrangements.

Exhibit 2. Areas of Major Training Need under PAIP

Subject Area	Number of Participants Training Organization/ Duration
1. Basic Concepts of Data Collection and Analysis Overview of survey methods Use of Indices, etc.	25+ persons APAH 2-3 weeks
2. Sampling and Survey Methods	3-4 persons ESAYTEC or USDA 2-7 months
3. Microcomputer Use General Concepts Word Processing Spreadsheet & Data Base Graphics	30+ persons Honduran Contractor 1-2 weeks each
4. Domestic Resource Cost Analysis Nominal and Effective Protection Related Policy Concepts	10+ persons APAH, IICA or FRI 2-3 weeks
5. Advanced Policy Analysis Concepts and Techniques	2-3 persons FRI or HIID 4-5 weeks
6. Marketing Concepts Measurement of Performance Management techniques	3-4 public sector persons 6+ private sector persons Outside contractor
7. Production Costs Farm Budgets Alternative procedures Organization & maintenance	6-8 persons Outside Contractor

Training which is available abroad (See Appendix B) may present difficulties in language, timing, and in addressing specific needs for Honduras. Regional training, given by or arranged in cooperation with other organizations in Central America, may help to overcome most of these barriers, but it may also present administrative challenges.

There would be some obvious advantages in having the APAH staff organize and present much of the training which is envisioned here. Nevertheless, it must be recognized that APAH is heavily engaged in the ongoing policy dialogue and is likely to be occupied in this way for quite some time to come. Therefore, it is suggested that care be taken not to commit APAH to so much training that it cannot keep its other commitments.

5.1 Basic Concepts of Data Collection and Analysis

This type of training should obviously be held in Honduras because it should be provided to a fairly large number of personnel. It would be particularly appropriate for agency technical and perhaps even for upper level clerical staff who are engaged in day to day data collection activities, but who have never had the benefit of any formal training in statistics or economics.

There are a substantial number of professionals in Honduras, many of whom have been active in the policy working group process, and several of whom already work under contract to APAH. It is probably appropriate to have APAH be the organizing force behind this type of training, and a primary need in this regard would be in the careful development of a detailed curriculum. A recent paper by Norton provides a useful starting place for topics to be covered by such a curriculum.[17]

Topics to be covered should entail an overview of alternative data collection procedures (censuses, farm surveys, market surveys, business interviews, and estimation from secondary sources), as well as basic concepts of data tabulation, expansion and summarization. Thorough attention should also be paid to the development and use of price and production indices. Basic principles in the development, use and updating of farm budgets should also be included.

While the time that would be required for this course will depend upon the full development of the curriculum, it is anticipated that from two to four weeks would be sufficient.

5.2 Training in Sampling and Survey Methods

There is a continued need for a few professionals in key statistical agencies to receive advanced training in sampling and survey methods, and perhaps also in advanced electronic data processing. Several DGEC staff members have previously participated in such courses, held in the United States and in Chile, as have one or two key staff members from UPSA and IHCAFE. Consideration should be given to providing this type of training to several additional persons through PAIP, but more investigation is required to determine exactly which agencies and persons could benefit from such training.

Courses of this nature are presented regularly in Spanish by the U.S. Bureau of the Census through its ESAYTEC program, in cooperation with Mexico. The ESAYTEC courses take seven months, although it is also possible to take sub-modules of shorter duration. USDA's Office of International Cooperation and Development presents sampling and survey courses which are less intensive and of shorter duration, and with special arrangements these can often be presented in Spanish in the country where the training is needed. Thus, if it is determined

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[17]Norton, Roger, "Policy Analysis for Food and Agricultural Development: Basic Data Series and their Uses," report prepared for the Office of International Cooperation and Development, USDA, May 1988.

that the need is to train a larger number of people at a somewhat less intensive level, USDA could be a viable option.

5.3 Training in Microcomputer Use

Use of microcomputers has brought about many significant improvements in data collection and analysis. Microcomputer use is spreading quickly within the organizations visited by the consultant for this study, and more microcomputer equipment is due to be provided to some of these agencies by the PAIP project. Additional training of agency staff is essential in order to get the full benefit of this technology. Microcomputer training should involve most of the same people who would receive basic training in data collection and analysis concepts (see section 5.1 above) but should also be provided to senior level staff who have not yet had the opportunity to learn how to use the equipment and perhaps even to a broader audience of technical and clerical staff than would participate in the basic data course.

Computer training should be divided into several areas, including computer operation and file handling techniques, word processing, spreadsheets, and data base management programs. The course should be organized so that the components could be taken selectively, as the needs of the person dictate. For example, only a relatively few people would need training in the use of specialized data base programs such as dBase III or Paradox, but training in word processing would apply to most participants.

Reportedly, there are companies available in Tegucigalpa which have the capability to provide basic micro computer training. Nevertheless, it is important that the company to give the training be chosen carefully and that the training be organized so as to provide students with "hands-on" access to computers. This is likely to require special facilities. Furthermore, it is essential that the curriculum which is presented be tailored to some of the specific needs of agricultural data collection and analysis. Thus, PAIP and/or APAH should provide considerable guidance to the contractor in designing the curriculum, which should include specific examples relating to the regular work of the participant (e.g. use of price indices, organization of agricultural data tables, summarization of costs in a farm budget).

5.4 Workshop on Domestic Resource Cost Analysis

As was noted earlier, domestic resource cost calculations and related estimation of nominal and effective protection coefficients, are some of the simpler but more useful types of agricultural policy analysis that can be utilized for a small open economy such as that of Honduras. While a system for making these calculations already exists within the APAH project, the capacity needs to be institutionalized within UPSA and perhaps in other government agencies, and there is a need for broader understanding of how the resulting information should be interpreted and used by policy makers.

Training in this topic should be received by selected technical and professional staff in UPSA (Departments of Information and Policy Analysis) and

other key agencies (BCH, SRN, and CONPPA, among others). It is expected that as many as 10 persons might benefit from this training, which should be micro-computer based.

APAH clearly has the capability to organized this training, if their time permits. However, this training workshop could also be organized on a regional basis, to include people from agricultural policy agencies in other Central American countries, in which case it might be given by a regional center such as IICA. Another alternative would be to have the Food Research Institute (FRI) of Stanford University organize and present this curriculum in Spanish, in Honduras, since this type of analysis already forms a major part of the curriculum for the Summer Course in Agricultural Policy Analysis which is given by FRI each year.

5.5 Advanced Training in Policy Analysis

Normally, training in the more advanced concepts and techniques utilized by policy analysts requires university graduate study, which is apparently not available through the PAIP project. However, there are two summer courses which could provide some help in this regard. These are Stanford FRI's course, already referred to above, and a course offered by Harvard Institute for International Development, "Macro Economic Adjustment and Food/Agricultural Policy". FRI's course, normally given in August, takes four weeks, and the HIID course, in July/August, takes five weeks. Both courses require English language capability. Depending on the availability of persons with English ability, it is recommended that one of two senior staff persons be sent to each of these courses next summer. However, a better alternative might be to make arrangements to have one of these courses taught in Honduras or in Central America.

There is also a policy course given by INCAE in Costa Rica, apparently each summer, which covers general concepts in policy analysis and design, but this course is more macro-policy oriented and does not appear to address agricultural sector issues to any great extent. Further investigation might disclose that the course is of more use to agricultural policy analysts than the brochure indicates.

5.6 Training in Market Management and Market Performance

Markets are an area that will require careful attention under the new approach to agricultural policy and sectoral organization which is being pursued by the government. The private sector companies which will now take over the trade in basic grains will need to learn related management skills; this will be especially true of the small regional companies that are envisioned in the government's plan. Personnel in the Technical Unit for grain market regulation, proposed for UPSA, will also need to acquire specific skills. And in general, policy makers will need to be able to follow how agricultural markets are performing.

Taken altogether, this represents a relatively diverse set of training requirements that will take time to organize and which would be difficult to entirely satisfy from within Honduras. One alternative would be to have an

outside contractor, perhaps USAID's central Agricultural Policy Analysis Project II, manage and organize the development of a curriculum of market-related training. The curriculum should include training on basic theoretical concepts about markets, as well as in practical means of measuring market performance and identifying market imperfections. A special part of the curriculum should relate to the needs of managers of grain trading companies, especially small regional companies. This part of the curriculum might have to be presented separately, since it may be some time before the private grain trade has been effectively organized or before personnel requiring such training can be identified.

It should also be noted that the University of Illinois offers two courses which provide useful training for senior government analysts and for management personnel of private grain trading companies who plan to engage in international trade. Offered consecutively in the summer of 1991, these courses are scheduled to take about three weeks each. The require English capability.

5.7 Technical Support and Training in Development and Management of Farm Budgets

Several years ago the University of Oklahoma did provide training and technical support to BANADESA and other Honduran agencies in the area of collecting data to estimate production costs. Periodically, BANADESA and SRN have continued to collect farm budget data, but there is a continued need for technical support and training in this area.

Consideration needs to be given as to how budgets can effectively be assembled on a regular basis for a wider variety of crops. Honduras probably cannot afford to use survey techniques for all crops, and alternative means need to be considered. There needs to be more uniformity in the way in which budget information is organized and presented. Procedures on how to update budgets as time passes need to be more clearly defined.

Technical support and training in this area could initially be provided by an outside consultant who is experienced in budget work. The consultant would probably need to spend two to three weeks in Honduras, visiting the agencies involved, in understanding the problems which both data collectors and data users face, and in developing materials for a series of two or three half day seminars designed to address needs and concerns which are identified. A total time of four to five weeks should be sufficient, including the time required to write up a final report and recommendations for further action.

5.8 Training for Household Budget Survey

If a new household budget survey is conducted, as recommended in Section 4.6 above, then special training will be required for this purpose. It will probably be necessary to have an outside agency conduct such training, and a logical agency would be the U. S. Bureau of the Census, which includes household budget surveys among its specialties. If sufficient PAIP funds are available, training for the budget survey would be a well justified expenditure.

Recommendations:

- that the basic training program suggested in Table 2 be considered and discussed in detail by USAID/PAIP and APAH staff, and that the outline be expanded to include more details on subject matter, better definition of training agency, and likely dates.

- that the resulting curriculum outline then be circulated to administrators in the agencies identified in this report, for additional comment and for indications of interest in participation.

APPENDIX A

Persons and Organizations Visited

November 19 - December 10, 1990

Roberto Villeda Toledo, Advisor to Minister of Natural Resources and Acting Executive Director of CODA.

Luis Zelaya, Technical Director of UPSA.

Roger Norton, Director, Honduran Agricultural Analysis Project, APAH.

Magdalena Garcia Ugarte, Senior Statistician, APAH Staff.

Daniel Meza Palma, Managing Director of SERFICE Consultants, and APAh Staff Economist.

Gilberto Galvez, Director, Department of Information, UPSA.

Herdando Palma, Director, Department of Agricultural Policies, UPSA.

Francisco Funes, former INA Official.

Orlando Ysaguirre, Director, Department of Economic Studies, BCH.

Rene Soler, Staff Economist, APAH.

Ricardo Arias, Senior Economist, APAH.

Roberto Guevarra, Statistics Consultant to APAH and UPSA, former Director of Agricultural Survey Department, DGEC.

Roger Martin, President, COFINANSA Investment Company and member of Executive Board, CONPPA.

Robert Wilson, Project Manager, Rural Development Office, USAID.

Guillermo Alvarado, USAID Project Liaison Officer, APAIP.

Ruben Nuñez, Economist, Abt Associates Inc., formerly with IHCAFE.

Peter Hearne, USAID Project Liaison Officer, Land Use and Productivity Enhancement Project.

Clarence Dunkerley, USDA Statistician, Consultant to IHCAFE and DGEC.

APPENDIX B

Training Courses Available in Other Countries

ESAYTEC/US Bureau of Census (in Spanish):

1)	Estadísticas Económicas	6 May-13 Dec. '91
2)	Sistemas de Procesamiento Electrónico de Datos,	6 May-13 Dec. '91

(each course starts in Washington, finishes in Mexico; each given in 3 segments of shorter duration)

Stanford University, Food Research Institute:

Agricultural Policy Analysis	August 1991

Harvard University, Harvard Inst. for International Development:

Macro Economic Adjustment and Food/ Agriculture Policy	July-August 1991

USDA, Office of International Cooperation and Development:

1)	Basic Agr ,ultural Survey Statistics and Methods (Washington USDA/ASS) (USDA TC 140-33)	9 Sept-18 Oct. 91
2)	Micro-Computer Applications in Development (Oklahoma State Univ.) (USDA TC 140-35)	24 July- 2 Aug.'91
3)	Establishing Data Bases and Systems for Ag Decision Making (USDA TC 140-26) (New Mexico State University)	27 May-19 July '91
4)	Agricultural Policy Seminar (USDA TC 140-1) (USDA/ERS Wash. DC)	9 Sept- 4 Oct.'91

Univ. of Illinois - Dept. of Agricultural Economics, International Business Programs:

1)	Current Policy and Trade Issues in Agricultural Commodities	19 May - 7 June '91
2)	Market Management and Strategic Planning for Agribusiness	9 June-18 June '91

American University (Washington DC) - Center for Financial Engineering in Development

Privitización: Organización Estructura y Ejecución	26 Nov.- 7 Dec. '91

INCAE - Centro de Políticas, (Alahuela, Costa Rica):

Programa de Entrenamiento Económico	8 July-28 July'91

PROFILE OF THE AUTHOR

James Fitch is an agricultural economist with more than 20 year's experience in teaching, research , and business management consulting. Formerly, as a member of the faculty of Oregon State Univesity, he taught both graduate and undergraduate students while conducting research on agriculture and rural development. Subsequently, he was employed by the Ford Foundation as a project specialist with responsibilities for directing research on agricultural production and agricultural policy in Egypt. Since 1980, Dr. Fitch has been actively engaged in the management of a firm of agricultural consultants and in providing consulting services to farmers, agricultural businesses, and government agencies in the state of Washington. He continues to do regular international consulting for government agencies in Latin America, the Middle East and Africa, with emphasis on agricultural policy, as well as on farm and agricultural business management.