

PN-AAJ-999

HEALTH MANAGEMENT APPRAISAL METHODS PROGRAM

ECUADOR CASE STUDY

September 1981

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This report was prepared with the generous support
of the Office of Rural Development and Development Administration,
Bureau for Development Support, of the Agency for International Development,
Washington, DC, USA, under the Health Management Appraisal Methods Project,
Contract AID/ta-c-1480.

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PREFACE

In 1977 officials of the Agency for International Development (AID) approached the Association of University Programs in Health Administration (AUPHA) because AUPHA's mission to promote education in health administration throughout the world seemed appropriate to AID's need for specialized expertise.

A recurring problem was confronting AID in its funding of health, population, and nutrition programs: how could managers of both relatively new and established programs in host country organizations determine areas of managerial weakness, and how could these individuals subsequently improve managerial processes or structures? Members of the AID Office of Rural Development and Development Administration and the AID Office of Health envisioned a project to study, develop, and test methods appropriate for management assessments conducted in developing country health programs, adaptable to the unique circumstances of individual countries.

This project, the Health Management Appraisal Methods Project, was designed to make available to developing country and international donor agency managers a methodology for self-assessment of the management of health services. The assessment tools which grew out of these efforts are the Management Problem-Solving (MAPS) modules.

The MAPS modules were developed through the worldwide consortium of health management specialists affiliated with AUPHA. Field consultations in developing countries in Africa, Asia, Latin America, and the Near East over a two-year period were carried out to meet three interrelated project purposes: identification of methodology strengths and weaknesses, identification of management problems and solutions, and training of participants in the appraisal processes.

The heart of the Health Management Appraisal Methods Project was in the work carried out in the field where consultants worked elbow-to-elbow with host country counterparts in coping with real management problems and their resolution. It is in this environment that the management assessment materials were tried, and from these field applications AUPHA strengthened its methodology. It is the purpose of this case study to describe the work carried out in the field and to state outcomes and generalities to other situations. It is very difficult to document a complete picture but we hope in sharing some of our experiences to provide insight into the needs and uses of health management assessment and some observations on the nature of providing technical assistance to AID-recipient host countries.

The management assessment project documents were prepared as a result of a four-year team effort by the following participants:

The AUPHA International Office Advisory Committee, chaired by Professor Gordon Brown, Ph.D.:

Gordon Brown, Ph.D.

Gary L. Filerman, Ph.D.

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Peter Sammond

AUPHA International Office project staff:

Robert Emrey, Project Director

Margaret Dodd Britton, Associate Director (1980 to 1981)

Diane Wilson-Scott, Associate Director (1978 to 1980)

Project work was coordinated at the Agency for International Development by project monitors on the staff of the Office of Rural Development and Development Administration: Jeanne F. North (1980-1981), Monteze Snyder (1979-1980), Dr. Kenneth Kornher (1979), and Dr. Charles Briggs (1978). Their support and encouragement were essential to whatever success we had in these efforts.

Other individuals, including many AID and host country health officials, contributed countless hours of work and support on behalf of the project. The collaboration of all these people enriched every aspect of the work and was greatly appreciated by the project staff.

The Ecuador consultancy was facilitated especially by the following people--Republic of Ecuador Health Ministry officials: Directors General Dr. Fausto Andrade and Luis Serrano; Oswaldo Egas, M.D., of the National Development Council; and Eduardo Navas, M.D., our Health Ministry Project Counterpart. USAID Mission staff members in Quito: John Sanbrailo, Mission Director; Paul Fritz, Deputy Mission Director; Dr. Kenneth Farr, Health Officer; and Jay Anderson, Deputy Health Officer. AID Bureau for Latin America and the Caribbean officials: Barbara Sandoval, Elena Brineman, and Norma Parker. Pan American Health Organization officials in Quito: Dr. Carlos Pettigiani, Country Representative; and Dr. Eduardo Aquino, Health Planning Officer.

AUPHA purposely wanted to keep the number of consultants small in order to maintain continuity and understanding of the project goals. The consultants who (often in the face of difficult logistics and strict time constraints) carried out the Ecuador field work are listed below:

Willy DeGeyndt, Ph.D.,
Robert Emrey,
and Harry Feirman

Preparation of the final case studies was directed by Margaret Dodd Britton with the assistance of the following team of people: editing for clarity and content by Judith Kelly and for style by Louis F. Stancari; word processor operations and proofreading were done by: Geraldine Hobdey, Gary Logan, and Janie McNeil.

AUPHA HEALTH MANAGEMENT APPRAISAL METHODS PROGRAM

ECUADOR CASE STUDY

I. ENTRY POINT AND PRECIPITATING CIRCUMSTANCES

The Association of University Programs in Health Administration (AUPHA) consultancy in Ecuador assisted the United States Agency for International Development (USAID) mission and the Government of Ecuador (GOE) with the design of a project to develop a low-cost, rural health delivery system for integrated rural development areas (Project 518-0015).

To address the health management assessment approach AUPHA employed in Ecuador and to assess its applicability to other developing countries, we need to focus on the context of the consultancy, i.e., the proposed Integrated Rural Development (IRD) project that is to be undertaken by the GOE. The IRD project establishes a political and organizational framework within which the planning and development of the Integrated Rural Health Delivery System (IRHDS) can be realized. Next, we shall elaborate on the proposed IRHDS project. Specifically, the discussion focuses on rural health problems, the constraints in addressing those problems that precipitated the development of an IRHDS strategy, and the proposed scope of the IRHDS project itself. Finally, we shall proceed to a discussion of the specific purpose (i.e., "Scope of Work") of the consultancy.

A. INTEGRATED RURAL DEVELOPMENT PROJECT

Among the principal development initiatives undertaken by the Roldos government was the preparation of a five-year, national development plan covering the period 1980-1984. The plan assigned a high priority to a program aimed at integrated rural development. Through a series of interrelated IRD projects, the GOE proposes to concentrate national and international resources on the multisector problems of the rural poor.

GOE and USAID assessments of past rural development projects in Ecuador reveal that the majority of these projects entailed single-faceted interventions undertaken independently of one another in different areas of the republic. The assessments further suggest that the fragmented and dispersed development efforts, while they had:

significant impacts on addressing problems confronting rural poor target groups, each project left gaps and seemed to overlook significant complementary areas that later reduced the overall effectiveness of the project(s). In retrospect, project impacts might have been greater if individual project interventions had been interrelated and concentrated in the same geographic areas (USAID Ecuador Project Paper/Integrated Rural Development 518-0012, 1980:iv).

The GOE and other donor agencies, specifically USAID, became convinced that in order to move the rural poor into the mainstream of Ecuadorian society, it would be necessary to proceed beyond the traditional single-faceted intervention programs that characterized previous development efforts. To be effective, development initiatives must provide a "critical mass" of complementary resources and services that can be delivered in both an integrated manner and on an area-specific basis.

In designing the proposed IRD program, the GOE and USAID tried to address the deficiencies identified in previous IRD projects, specifically:

- The extremely high cost per beneficiary;
- The lack of awareness of the need to develop low-cost IRD models and delivery systems that would allow widespread replication within the target country;

- The tendency for donor agencies to implement their IRD projects through different and often competing institutional structures;
- The absence of institutional capacity-building activities that would provide the managerial infrastructure necessary to maintain IRD projects after donor agency assistance was withdrawn; and
- The absence of target group participation in the planning and implementation process.

The IRD model, described below, emerged during a period of serious political, social and economic problems as the people of Ecuador came out from under dictatorial rule. Vice President Hurtado characterized the change as a "prolonged, tortuous and surprise-filled electoral process," and major divisions exist between the executive and legislative branches of government. This signals serious difficulties for the implementation of the IRD program. Significant budget deficits, declining oil revenues, stagnating agricultural production, continuing drought conditions, increasing rural to urban migration, rising inflationary pressures, as well as what USAID project documents describe as "growing social tensions," all further confound the situation.

The proposed IRD model, funded through joint GOE/USAID efforts (USAID Project Number 518-0012), addresses the issue of rural development in four distinct but interrelated levels. At the highest level is the Rural Development Secretariat (RDS), characterized in USAID documents as a supra-cabinet level institution that shall operate out of either the presidency or as part of the National Development Council (CONADE). GOE and USAID officials who have participated in the design of the IRD project feel strongly that successful coordination among participating institutions can only be achieved through an organization that lies outside any single, functional ministry. In pursuing its ascribed mandate as the overall planning and coordinating mechanism for integrated rural development, the Rural Development Secretariat is expected to: (1) mobilize political support for integrated rural development, (2) plan

specific integrated rural development initiatives, (3) coordinate and monitor IRD project implementation, (4) obtain and provide financing for IRD projects, (5) evaluate national IRD programs, and (6) assure that evaluations of individual IRD projects are undertaken.

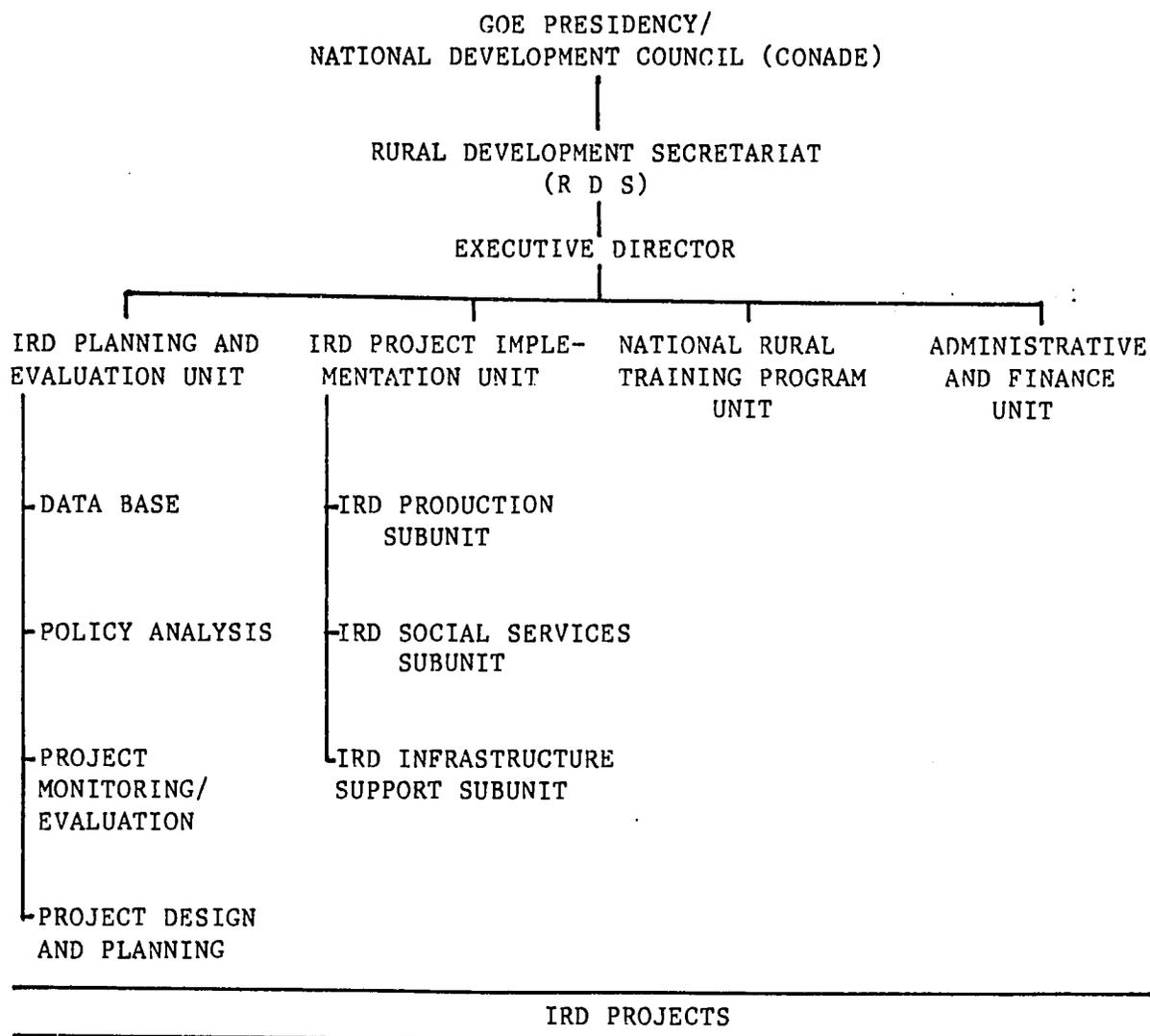
As outlined in USAID project documents, the Rural Secretariat will be headed by an executive secretary holding ministerial rank, who shall maintain overall responsibility for RDS operations and represent IRD policy interests within the Cabinet. An executive director shall be appointed to manage the day-to-day operations of the Secretariat. However, IRD project directors will be appointed by the executive secretary. These project directors will maintain complete responsibility for the planning, programming, organization and implementation of IRD projects at the field level.

In terms of structure, the Secretariat shall be organized along functional lines with separate units established for (1) planning and evaluation, (2) project implementation and monitoring of individual IRD project activities, (3) training, i.e., the establishment of a national rural training system that shall provide both training for all IRD projects as well as other rural training needs, and (4) administration and finance. The scope of activities undertaken by the first two units are to be concerned exclusively with IRD projects, while the latter two units will focus on the more general aspects of rural integrated development. An organizational chart of the Rural Development Secretariat noting the specific functions of each of the units is provided in Figure 1.

FIGURE 1

INTEGRATED RURAL DEVELOPMENT

AT THE NATIONAL LEVEL



Source: USAID Project Paper, Integrated Rural Development

The second level of the IRD model is composed of what IRD project documents refer to as implementing institutions; that is, those institutions designated to carry out specific IRD projects. The intention is not to create a further set of autonomous institutions but rather to employ the knowledge and expertise of existing agencies in meeting the country's rural development needs. The specific nature and scope of the activities to be undertaken by the implementing institutions shall be specified through the development of formalized agreements between the implementing institutions and the Secretariat. While the specific project activities are to be carried out by the implementing institutions, the responsibility for project administration shall fall to the IRD project director. To assist in project administration, the IRD project director will be provided a staff of specialists from the various implementing institutions, who shall be assigned to the local IRD project office.

USAID documents suggest that the following GOE agencies shall participate as implementing institutions in IRD projects. (Note: acronyms are Spanish equivalents except for MOH.)

1. Ministry of Agriculture and Livestock (MAG). Since agriculture has been selected as the lead intervention within the overall IRD strategy, MAG will often function as the lead agency in local IRD projects. The majority of extension agents and local-level technical personnel necessary for project implementation shall be provided by the MAG.

2. Ecuadorian Water Resources Institute (INERHI). Technical personnel will construct and/or supervise the required irrigation facilities for each IRD project area.

3. National Development Bank (BNF). It shall provide for the agriculture credit requirement within the IRD project areas.

4. Ecuadorian Institute for Agriculture and Livestock Research (INIAP). Technicians will provide assistance to IRD project areas for demonstration and dissemination of new product technologies as well as the development of specific technological packages as required for specific IRD project areas.

5. Ecuadorian Land Reform and Colonization Agency (IERAC). Technicians will assess land tenure patterns, land titling and peasant legal assistance in IRD project areas.

6. GOE marketing enterprises. The MAG and the National Marketing and Storage Agency (ENAC) shall provide technical assistance for developing marketing enterprises within the IRD project areas.

7. Ministry of Health (MOH), Ecuadorian Sanitary Works Institute (IEOS), the National Nutrition Institute (INN), and Social Security Institute (IESS). The role of these and other related institutions shall be addressed in the discussion of the "Integrated Health Delivery System Module" of the IRD program.

Regional development authorities shall be employed to assure local coordination of IRD efforts. Several of these are already in place and comprise the third level of the proposed IRD model. Through a series of formalized agreements between the Secretariat and the regional development authorities, the regional development authorities will assume major responsibility for (1) the identification and planning of IRD projects within their designed geographic areas and (2) coordination and monitoring of area IRD activities.

The emphasis on the creation of a series of local coordinating bodies arises from the conviction, as noted in USAID project documents, that

effective integrated rural development depends heavily on a consensus among all local interests and on having an organization with a vested stake in the area, i.e., on having an organization which both feels that the local people are its constituency and has sufficient structure, prestige and political importance to deal with problems and delays when they arise. (USAID Project Paper, Integrated Rural Development, Project Number 518 -0012, 1980:17).

The last level of the IRD model reaches the local level with three components. Small farmer organizations shall be used as the first mechanism by which IRD project inputs may be directed towards the target population. In the high plain (or sierra) region, the mechanism shall be the comuna (popular association at the village level). On the coast, the organized community or cooperatives will fulfill this function. When and

where appropriate, a second-level organization, e.g., an association or federation, shall be the mechanism for targeting project input to IRD area populations.

The second component at the local level is what USAID project documents refer to as contract agents. These individuals are lower-level, semi- or paraprofessionals, drawn from the local community and assigned to work in specific geographic locations within the IRD project areas. The contract agent, perceived as the liaison between the more highly trained professionals and the target community, shall work on all sectorial aspects of IRD projects within the assigned communities, e.g., irrigation, road construction, or health services. From the available documentation, it is not clear whether the contract agents shall come from the implementing institutions or be employees of the Rural Development Secretariat.

A formal feedback mechanism, directed at assuring organized input from the target population, comprises the third project component at the local level. The feedback mechanism, designed to permit local participation in what USAID project documents describe as "major decisions affecting them," shall take the form of a committee composed of the representatives of both local small farmer organizations and implementing institutions. Though not an actual member of the local committee, the IRD project director is expected to attend the local committee meetings.

However, based on a review of available USAID project documents, the specific role that the committee is expected to fulfill is unclear. The concept of participation covers a broad spectrum of activity. At one extreme, an individual or group may simply receive an explanation as to why an action has or will be taken. At the other extreme, that same individual or group may possess full authority over the specific decision-making area. Without greater detail, it is difficult to determine where along that continuum the local committees are intended to function. Furthermore, given the composition of the committee and the absence of any suggestion of training for the small farmers' representatives for carrying out their intended role, the ability of the local committee to function as a formal feedback mechanism becomes problematic, at best.

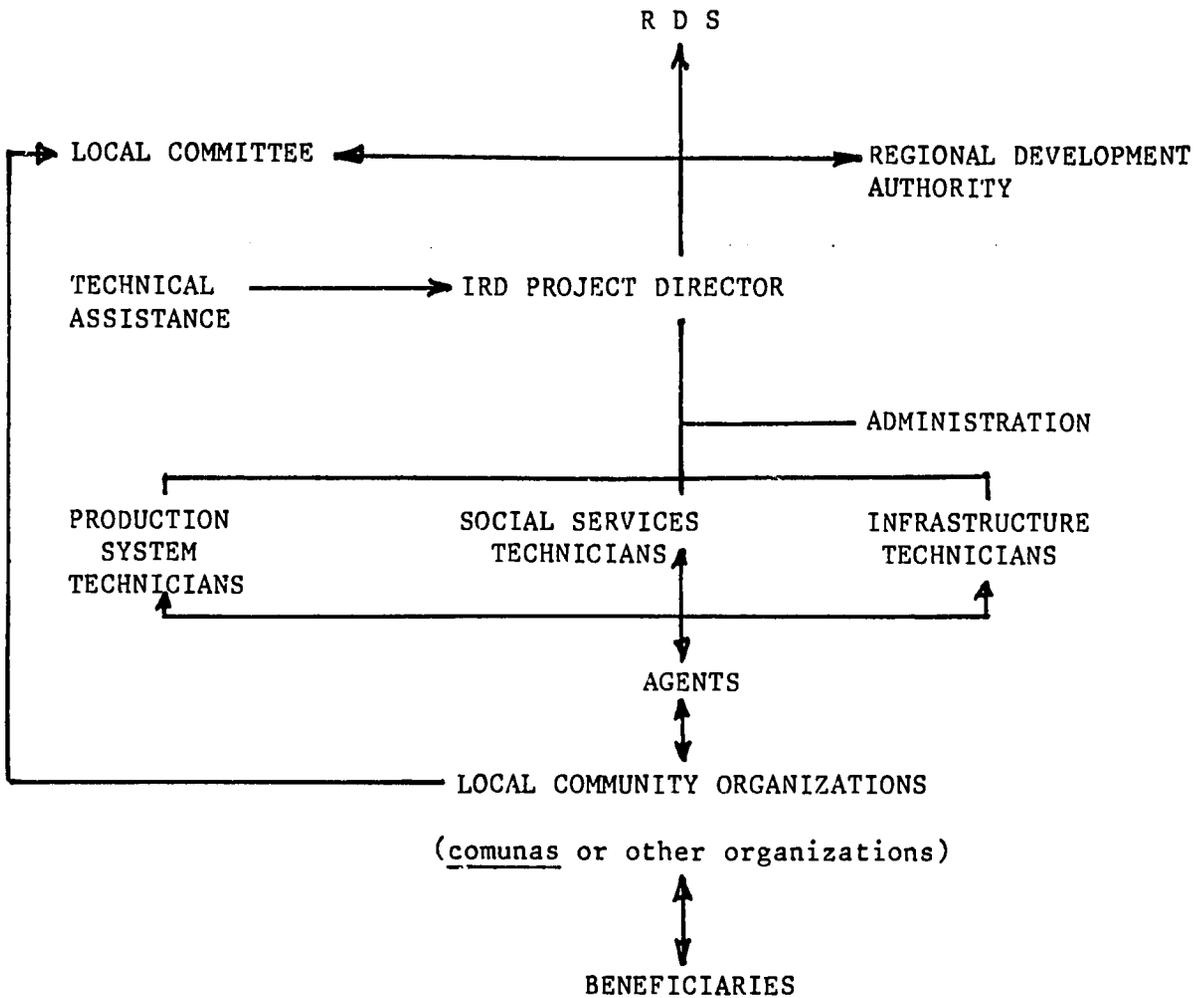
Complementing the local committees shall be a "formal evaluation system" within each comuna or community, directed at assessing the performance of implementing institutions and/or their individual technicians. As presently conceived, the evaluation system shall entail a monthly evaluation and rating of individual technicians and implementing institutions. The rating is to be posted at a central location within the community, to be reviewed by the IRD project director in the course of his/her periodic inspection trips to project sites. The relationship among the various IRD project components at the project level is depicted in Figure 2.

The integrated rural development project can be perceived as the general framework within which the development of an Integrated Rural Health Delivery System (IRHDS) is to be undertaken.

FIGURE 2

INTEGRATED RURAL DEVELOPMENT

AT THE PROJECT LEVEL



Source: USAID Project Paper
Integrated Rural Development

B. INTEGRATED RURAL HEALTH DELIVERY SYSTEM (IRHDS)

As conceptualized by GOE and USAID officials, the Integrated Rural Health Delivery System is intended to function as a specific module within the larger integrated rural development (IRD) framework. Within this context, "health" is thus an inseparable part of the socio-economic development strategy, with health-related interventions viewed as essential to the eventual success of the overall IRD program. Specifically, the IRHDS project will assist health sector agencies to develop institutional capacity, trained human resources, management and logistical systems, and low-cost technical approaches that will be geared to meet the health needs of Ecuador's rural poor.

Rural Health Problems

The Government of Ecuador's national development plan and USAID IRHDS project documents state that approximately 50 percent of all mortality in Ecuador occurs from birth to age five. The severity of the situation becomes more evident when it is noted that the 0-5 age group constitutes only 16 percent of country's population.

Ecuador's infant mortality rate stands at approximately 60 per 1000 live births. Data provided by the GOE National Division of Statistics for three IRHDS target provinces (Cotopaxi, Chimborazo and Manabi) reveal 94.4, 102.7 and 36.4 infant deaths per 1000 live births respectively.

The principal causes of infant mortality are enteritis and other diarrheal diseases, bronchial infections, tetanus, whooping cough and measles. These diseases are preventable through either vaccination or improvements in environmental health. However, only approximately 13 percent of the rural population has access to potable water, and only approximately 2 percent have sanitary (human waste) facilities.

Malnutrition contributes to the reported infant mortality rate. Approximately 40% of school-age children suffer some degree of protein and caloric deficiencies. In the tropical zones, it is estimated that 45% of the population suffer from anemia. Other significant nutritional problems that have been identified include endemic goiter as well as vitamin and mineral deficiencies.

The USAID IRHDS project documents state that the Ecuadorian Ministry of Health has the responsibility for the health care of possibly 85 percent of the population. However, data available for 1977 indicate that only 18.6 percent of the population received any type of service from the Ministry of Health. Further indications of lack of access or low utilization of services include the following:

- 20 percent of pregnant women received prenatal care in 1978;
- 17 percent of births occurring in 1978 were attended by health professionals;
- 4.2 percent of children in the 1-5 age group received medical attention in 1978;
- less than 5 percent of infants were innoculated against tetanus, whooping cough or measles in 1978; and
- less than 0.4 outpatient medical consultations per capita were recorded in Ministry of Health facilities in 1979.

The last statistic contrasts with the ten-year health plan for the Americas, adopted by the Pan American Health Organization (PAHO) in 1972, that established a goal of 2 outpatient medical consultations per capita to be realized by 1980. (Note: With the exception of data relating to outpatient medical consultations, taken from USAID IRHDS project documents, the above figures were drawn from the National Development Plan, 1980-1984.)

In the design and development of the IRHDS project, GOE and USAID officials have recognized a series of organizational, financial and socio-political constraints that have limited the ability of the GOE to address the country's health care needs. Included among these are the following:

The Lack of Institutional Capacity

As noted in the 1979 Inter-American Development Bank (IDB) country study, the GOE tends to deal with new or recurring problems by establishing additional departments or autonomous agencies rather than relying on existing institutional structures. An example is the National Division of Maintenance, created to provide for the maintenance of Ministry of Health (MOH) facilities, buildings and equipment. However, it was placed within the Ecuadorian Institute of Sanitary Works (IEOS), an autonomous agency over which the Ministry of Health has little influence. The lack of coordination among agencies within the same sector and the creation of dysfunctional institutional rivalries is a serious constraint.

The institutional capacity of the Ministry of Health to effectively provide for the health care needs of the population is also limited by their tendency to structure the MOH's programs and management systems along strict vertical lines as well as their tendency to adopt an urban and curative orientation for health sector programs. In terms of structure, USAID project documents suggested (and were later confirmed in the course of the AUPHA management assessment), that the planning, supervision, logistics, information and personnel systems are vertically organized and highly centralized, with little coordination of activities occurring below the central office level. The urban and curative orientation that colors the design and development of health sector programs tends to downplay the need to expand the MOH human resource base or use preventative health measures.

GOE and USAID officials involved in the development of the proposed IRHDS project perceive the MOH human resource base as short of adequately trained managerial and administrative personnel, particularly acute at the provincial and local levels. At the same time, they note an overabundance of inappropriately-trained rural physicians.

The capacity of the MOH to design and implement effective programs is contingent upon the availability of adequately trained managerial and administrative personnel. As defined by the AUPHA Health Management Appraisal Methods Project (HMAMP), management training:

is not to be confused with training for the acquisition of technical skills in specific functional areas, such as accounting, medical records, inventory control, etc. Rather it refers to the knowledge, skills and attitudes to acquire, use and dispose of human, material and financial resources in an effective and efficient manner. It involves the ability to plan, to organize, to staff, to coordinate, to control and to evaluate. Management is a subject area in itself separate and distinct from finance, medicine, marketing, nursing, etc. (DeGeyndt, National Level Policy and Supervision Capacity Building, AUPHA HMAMP 1981:1).

In Ecuador there are currently twenty-three public sector ministries, agencies and autonomous institutions that provide training for public sector employees, while some public sector employees receive training from institutions within the private sector. In 1978, approximately 9,430 public sector employees received training from private and public sector sources. The training, usually one week in length, tended to focus on technical skills related to the specific operational needs of the employees' agency or institutions. The provision of such courses cannot, however, be considered management training, as defined above. Within the health sector, training appears to be limited to a recently initiated two-year postgraduate program in health administration offered by the faculty of medicine of the Central University, Quito. During this first year of operation the program has an enrollment of twenty-two students.

In reference to the second point, the overabundance of inappropriately trained rural physicians, we noted that these physicians are usually from the six national medical schools. New graduates are required to spend a year of service in underserved areas. These physicians appear to be inadequately prepared to fulfill their rural functions, lack motivation, exhibit a reluctance to provide services outside of their specifically designated geographic areas and, as the AUPHA consultancy suggests, essentially "wait out their tour of duty." Furthermore, whatever experience these physicians gain is lost to the

system since they tend to return to urban areas upon completion of their service. USAID officials involved in the proposed IRHDS state that "the GOE policies regarding the education and employment of physicians are among the most important constraints to improving rural health care."

Application of Inappropriate Technologies

The use of inappropriate technologies, including treatment technologies and overqualified personnel, when simpler and lower cost alternatives are available, is particularly evident in rural areas. For example, GOE and USAID officials note the widespread use of intravenous fluids to treat diarrheal diseases even though oral rehydration methods would be more appropriate. Physicians perform services that could adequately be provided by paramedical personnel and, according to USAID, discourage the use of more cost-effective, semi-professional personnel. The application of inappropriate technologies extends to the construction of health facilities. As USAID officials point out, MOH rural health post and subcenters tend to cost twice as much as similar facilities in Guatemala.

Economic Constraints

Closely intertwined to the two previously mentioned constraints are the financial implications of implementing health sector programs. A quick analysis of proposed health sector projects in 1981 suggests that the MOH's \$12 annual per capita expenditure on health care in 1980 will dramatically increase. The projected increases in health care spending will occur against an economic backdrop of reduced petroleum revenues, stagnating agricultural production and rising inflationary pressures. Further financial constraints come from health sector activities of other donor agencies that are not necessarily undertaken within the general IRD framework. For example, the Inter-American Development Bank has approved a \$9.5 million loan/grant to construct and equip 300 rural health posts and 70 rural health subcenters. Given this relatively large expansion in

the rural health infrastructure, the MOH will be required to devote a greater proportion of its limited financial resources to cover the operating expenses of new facilities. The additional staffing and administrative support requirements will place a further strain on the human resource base in health services.

Socio-Cultural Constraints

As previously suggested, MOH programs have tended to adopt an urban orientation that adversely affects its ability to meet the health care needs of the rural population. This situation is further exacerbated with the country's large indigenous population. Though accurate data are unavailable, it has been estimated that the indigenous population comprises approximately 30 percent of the nation's total population. At the site of two of the three proposed IRHDS projects, estimates of the indigenous population range from 60 to 70 percent of the rural population. As noted by GOE and USAID project officials, GOE health facilities are widely perceived by the indigenous population as an "alien institution" embodying a different and, at times, incomprehensible value and belief system. Linguistic barriers as well as the attitude and behavior of many rural physicians toward indigenous patients further contributes to making services less acceptable to potential users.

The significant social and cultural gap between provider and user is not restricted to the indigenous population; socio-cultural differences similarly plague the relationship between MOH personnel and the non-indigenous rural population. The consequences of these socio-cultural differences are that MOH officials do not "reach out to the community" to identify health needs, establish priorities or assure the provision of services. Similarly, the rural population does not make a determined effort to utilize services that can be provided.

The proposed Integrated Rural Health Delivery System model -- local-level outreach supported by strengthened regional and national services -- is designed to overcome the institutional, financial and socio-cultural constraints noted above. It shall focus on two sets of activities: institution building and health impact activities.

IRHDS Activities

The institutional capacity building activities projected in the project shall be carried out at three levels -- the local area or microregional level, the provincial level and the national levels. At the microregional level, an area administrative system shall be created. Presently, the lowest level within the MOH structure at which administrative authority resides is at the provincial office level. (Note: While project documents suggest that the microregion corresponds to the canton, a political unit within a province, this has not proved to be the case in all proposed IRD project sites. In Manabi province, the microregion is larger than the canton. The lack of congruency between the microregions that are geographic divisions and others that are political divisions becomes significant when considering replication of the IRHDS design throughout Ecuador.)

As outlined in USAID project papers, the essential features of the proposed local area or microregional level administrative system include:

- An area chief who shall be given management authority over health activities within his/her designated geographic area;
- A prevention and public education orientation, as opposed to the curative orientation that has traditionally characterized health sector programs;
- An emphasis on the use of semi- and paraprofessional health personnel, e.g., auxiliary nurses, health promoters, or trained midwives to provide health care services; and
- A greater reliance upon the community for contributions in problem identification and planning processes, as well as the delivery of services.

To develop the institutional capacity of the local area or microregional level administration, the proposed IRHDS project will provide health management training, technical assistance and resources for offices, warehousing, logistics and supervision.

At the provincial level, where a staff and an administrative structure is already in place with the Ministry of Health, capacity building activities shall focus on staff training in such areas as information systems development, technical supervision, evaluation logistics and health education. Thus this staff will be able to undertake impact evaluations, bolster and support local area health outreach programs, and facilitate the flow of information among local area chiefs.

At the national level, institutional capacity building will focus on three areas, the first being broad policy and planning activities through technical support for health sector policy studies, e.g., the functional coordination between the MOH and the Social Security Institute (IESS) in rural health activities. A second area of institutional capacity building shall involve the provision of rural water and sanitation services; specifically, the development of appropriate water and sanitation technologies; the design, construction and maintenance of rural water and sanitation projects in IRD project areas, and their establishment within the Ecuadorian Institute of Sanitary Works (IGOS), or a rural water and sanitation unit. The third aspect of institutional capacity building to be undertaken at the national level will focus on integrating nutrition programs within the health care delivery system. These initiatives are significant because national level institutions provide overall leadership and direction in rural health planning, policy formation and interministerial coordination as well as exercise administrative authority over lower levels (provincial and microregional) within the system.

Health impact activities such as primary care, water supply and sanitation, and nutrition interventions are the second set of activities to be undertaken within the IRHDS project framework. Within the area of primary care, the proposed IRHDS project will focus on (a) the provision of health service providers, especially semi- and paraprofessional personnel, (b) health prevention and promotion services and family planning programs, (c) the construction of a limited number of primary care facilities in IRD project areas and (d) the integration of community members into the delivery system.

For water supply and sanitation, the focus shall be on extending water supply and sanitation coverage in IRD project areas from approximately 10 to at least 30 percent of the population. To meet this goal, projects will involve the community in the planning process, with training in sanitary practices as well as the operation and maintenance of the systems.

Finally, with respect to nutrition interventions at the national level, health impact activities shall include (a) oral rehydration programs, (b) nutrition education, (c) supplementary feeding programs, (d) goiter control and prevention, and (e) nutritional surveys and impact evaluations.

As suggested in IRHDS project documents, it is anticipated that the following GOE agencies shall participate in either or both aspects of the IRHDS project (i.e., institutional capacity building and health impact activities).

- The National Development Council (CONADE).
GOE and USAID officials expect CONADE will be the lead organization to promote a rational allocation of resources within the health sector and to implement national health policy studies.
- Integrated Rural Development Secretariat (RDS).
The major function of the RDS in terms of the IRHDS project will be to assure the effective integration of health sector programs and activities within the integrated rural development framework.
- Ministry of Health (MOH).
The principal task of the MOH shall be the development and continued operation of the local area or microregional level administrative structure. The MOH shall also be involved in planning and resource allocation at the national level as well as interagency coordination (including the coordination of activities by international donor agencies) at the provincial level.

- Ecuadorian Institute of Sanitary Works (IESOS).
The specific focus of IEOS activities shall be in the areas of water supply and sanitation.
- National Nutrition Institute/Social-Medical Research Institute (INN/IMS).
The role of INN/IMS in terms of the IRHDS project shall involve assistance in nutrition education, nutritional surveys and impact studies.
- Ministry of Agriculture (MAG) Vital Products Corporation (Emprovit, - the GOE's marketing corporation for food staples), Ministry of Education (MOE), and the Military Technical School.

These nonhealth sector institutions in the IRHDS project will participate in nutrition intervention activities. Specifically, the MAG and the Military Technical School shall participate in a series of studies directed at the development and marketing of enriched flours. Emprovit, the MOE and the MAG will participate in a school supplementary nutrition program. Figure 3 shows the IRHDS model components.

FIGURE 3A

OUTLINE OF ELEMENTS FOR INTEGRATED RURAL HEALTH DELIVERY MODEL

Health Services Delivery Program Areas

Primary Care
Water and Sanitation
Nutrition

Project-related Functions

Building the Delivery System Institutions
Integrated Rural Development Impact Activities
Host Government Entities
Related Donor Activities

(Table 3B, on following page, shows specific program area activities using this framework.)

FIGURE 1.

FRAMEWORK FOR USAID INPUTS TO RURAL HEALTH DELIVERY MODEL

	A	B	C
	Primary Care	Water and Sanitation	Nutrition
I. Building the Delivery System Institutions	<p>Area Directorates Model</p> <ul style="list-style-type: none"> - Decision Limits Decentral. - Problem-solving capacity <p>Provincial Directorate <u>3/</u></p> <ul style="list-style-type: none"> - Supervision - Information Management - Logistics/Supply <p>National Level Capacity</p> <ul style="list-style-type: none"> - Primary Care Policy and Planning Capacity - Logistics /Supply 	<p>1) Rural Water and Sanitation Division - IEOS</p> <ul style="list-style-type: none"> - Technology Assessment - Training of Staff - Logistical Support <p>2) Rural Studies Fund</p> <p>3) Technology Assessment and Transfer.</p>	<p>Supplementary Feeding Program <u>2/</u></p> <ul style="list-style-type: none"> - Distribution Capacity - Evaluation of effect <p>Institutional Coordination <u>1/</u></p> <ul style="list-style-type: none"> - Protein Production Policy - Composite Flour Project <u>3/</u> - Strengthening Nutrition Institute - studies.
II. IRD Impact Activities	<p>Community Pharmacies & Drugs</p> <p>Immunization <u>5/</u></p> <p>Education</p> <p>Family Planning <u>2/</u></p> <ul style="list-style-type: none"> - Midwives <p>Service delivery using auxiliaries, paramedical and community members</p> <p>Health Post Construction <u>1/</u> <u>4/</u></p> <ul style="list-style-type: none"> - Communication Systems. 	<p>Community Water Supply</p> <p>Construction & Design <u>1&2/</u></p> <p>Design & Construction of Excreta Disposal Systems.</p> <p>Education</p>	<p>Diarrheal Diseases</p> <ul style="list-style-type: none"> - Oral Rehydration <u>4/</u> <p>Water Supply and sanitation</p> <p>Goiter control & prevention</p> <ul style="list-style-type: none"> - Iodine/Immunization <p>Education</p> <p>School feeding</p> <ul style="list-style-type: none"> - Nutrition surveys - <u>Leche Avena</u>
GOE Entities	MOH - CONADE	MOH - IEOS	MOH- Nutrition Institute - MAG and Military Technical School
Related Donor Activities	<p><u>1/</u> IDB Loan-Facilities</p> <p><u>2/</u> UNFPA Project</p> <p><u>3/</u> PAHO - IDB Grant</p> <p><u>4/</u> FODERUMA - Central Bank</p> <p><u>5/</u> PAHO: EPI Program</p>	<p><u>1/</u> IDB Water Loan</p> <p><u>2/</u> W. Germany Loan</p>	<p><u>1/</u> Title 12/AID</p> <p><u>2/</u> World Food Program</p> <p><u>3/</u> FAO-MAG-Military Technical School Project</p> <p><u>4/</u> UNICEF</p>

C. PURPOSE OF THE AUPHA CONSULTANCY

The AUPHA consultancy provided technical assistance to USAID/Ecuador in its intensive review and design of the primary care component of the Integrated Rural Health Delivery System (Project 518-0015). Specifically, USAID requested that the consultant team assist in the identification and design of institutional capacity building activities at the microregional, provincial and national levels to ensure the effectiveness of health sector institutions in the IRHDS approach.

When AUPHA became involved, GOE and USAID officials had already selected the four potential IRHDS development sites: Salcedo and Quimiag-Penipe, in the central highlands; and Jipijapa and Puerto Ila-Chone, on the coast. They had also begun to identify and develop the specific project components for inclusion in the IRHDS project paper, since this was a requirement of the USAID loan/grant process. However, a number of critical issues remained unresolved and were incorporated in the AUPHA consultants' scope of work.

For institutional capacity building activities at the microregional level, the consultants addressed the following issues: (a) training needs, (b) decision limits, (c) planning for management problem-solving capacity, (d) selection criteria for management personnel, (e) coordination among area health, integrated rural development and related agencies, (f) planning for logistical support, financial management, and supervision of service delivery personnel.

At the provincial level, the consultants focused on: (a) institutional relationships and coordination among participating agencies in health services delivery, and (b) consideration of how to establish effective supervision, information management and logistics/supply support to the area-level administrative system.

Finally, for institutional capacity building activities at the national level, the consultants addressed: (a) implementation aspects of GOE decentralization strategy involving the IRHDS project, (b) the relationship between primary care policy and the planning capacity in health services at the national level, and (c) the verification of the existing logistics and supply capacity for support of the project in the proposed IRHDS project sites.

When the AUPHA consultancy visited Ecuador from February 1-14, 1981, two of the seven AUPHA Management Problem-Solving (MAPS) modules could be field tested. These MAPS modules included:

(a) The Organizational-Environmental Effectiveness Module, which assesses the extent to which the health delivery system (or a particular institution within the system) is meeting the needs of its target community.

(b) The Financial Management Assessment Module, which focuses on how financial information is obtained and used, including an assessment of budgeting practices.

The remaining MAPS modules for information systems, organizational design, patients and client services, facilities and materials, and personnel were not ready for field testing. However, the consultant team used parts of the MAPS modules to identify some of the sensitive management problems within the scope of work.

II. METHODOLOGY

The scope of work of the AUPHA consultancy involved an intensive review of the proposed institutional capacity building activities and did provide an opportunity to employ some of the concepts of the health management assessment modules. However, the consultancy was neither requested nor undertaken for the explicit purpose of validating the specific modules or the general self-assessment methodology. Consequently, the consultants selected only those concepts that proved relevant and facilitated their work.

In addition, a distinction should be drawn between the general assessment methodology common to all the MAPS modules and the functional component that is specific to each of the functional management areas, e.g., finance or information systems. While all the MAPS modules will require the user to proceed through similar stages of problem identification, problem reduction, objective setting, identification of implementation constraints and development of implementation strategy, the content focus within each stage will be tailored to the specific functional management area. Thus, in this report the reference to the use of ideas and concepts embodied in the modules refers to the functional component and not the general assessment methodology.

The actual methodology employed by the AUPHA consultancy in Ecuador developed from the requirements of the scope of work; specifically, the consultants needed to assess the MOH structure as it related to the IRHDS framework as well as the structure of the proposed elements included in the IRHDS design (e.g., area chiefs, area level administration system).

The consultant team expected that the MOH structure assessment would produce a series of summary management assessments identifying which institutional weaknesses needed to be addressed for effective IRHDS operation. The team's assessment of the proposed IRHDS design elements would provide the basis for a series of options on developing, integrating and coordinating these elements.

To achieve their goals, the AUPHA team focused on the organizational flows within and across functional management areas (e.g., finance, materials and supplies, information systems, statistics) and identified the structural and operational elements that might inhibit those flows. The conceptual basis underlying this approach, adopted and incorporated into the functional components of the MAPS modules, is that for each functional area there is a specific sequence of managerial functions to be performed and a series of key managerial issues to be addressed. For example, the sequence of materials and facilities management functions as outlined in the draft MAPS module is as follows: planning and budgeting for acquisition of materials and supplies, including make or buy decisions; the procurement or purchase function; receiving and inspecting; storage and warehousing; inventory control; requisitioning by users; distribution to users internal to the facility; distribution to users outside the facility, including transportation over long distances; and return of unusable, damaged or expired goods (See Appendix A for a more thorough illustration of core functions).

Among the key issues to be addressed in terms of materials and facilities are: centralized versus decentralized purchasing and repairs; the organization and management of a national supply system to store, transport, and distribute supplies and small equipment; maintenance and repair of medical equipment; and training of technical staff to maintain and repair equipment and facilities.

To establish an assessment framework, one can focus on the core functions within each of the relevant functional management areas in their proper sequential order while remaining cognizant of the key issues involved. This can provide a comprehensive and systematic way of assessing both the general status and some of the sensitive management problems plaguing the system.

To illustrate, one may focus on the supply of basic drugs. In assessing the MOH's supply system for basic drugs, the critical importance of the provincial warehousing function only becomes truly evident after tracing the sequence of supply activities within the system. The consultant then is alerted to the need for assessing the drug purchasing aspects of the provincial warehouse despite the centralized nature of the drug supply system and its requisitioning and distribution duties.

The AUPHA consultancy made specific use of the sequence of managerial functions outlined in several of the draft modules in their assessment of the management of provincial offices in the health ministry as well as other functional areas.

MAPS modules specifically directed at the proposed health management elements in the IRHDS project design were not developed. However, a combination of the management functions outlined in the existing modules and the technique of tracing the manner in which core functions are carried out were applied in the assessment of elements in the IRHDS project.

III. PROCESS

The AUPHA consultant team implemented the methodology through (1) analysis of available documents and statistical data, (2) interviews with key personnel at the national, provincial and microregional levels and (3) site visits to proposed IRHDS project sites.

The analysis of available documents and statistical data began prior to the consultant team's actual arrival in country. The USAID/Ecuador health officer and the International Office of AUPHA provided the following documents to the consultants:

a. Unclassified U.S. State Department cables that described the GOE's integrated rural development activities, specifically efforts directed at the improvement of health sector management.

b. USAID Project Paper (PP) for the Integrated Rural Development (IRD) Project in Ecuador, which establishes the framework for IRHDS activities.

c. USAID Project Identification Document (PID) for the Integrated Rural Health Delivery System Project in Ecuador, which discusses the background and scope of IRHDS project activities.

d. The health program sections of the National Development Plan (1980-1984), which discusses the GOE's strategy for addressing the health care needs of its population, including the administrative and organizational aspects of a proposed national health system as the institutional structure for the IRHDS.

During the early stages of the AUPHA consultancy in country, the team reviewed additional documentation relating to current Ministry of Health structure and operations, as well as the proposed structure and operations of the IRHDS. The types of documentation reviewed before interviewing key personnel or visiting project sites included:

a. Ministry of Health (MOH) organizational charts; regulations governing the operation of various MOH programs and activities (e.g., the basic medicines program); administrative assessments of overall MOH operations, such as that undertaken by the ministry in cooperation with the Pan American Health Organization ("Administrative Assessment of Health Services of the Ecuadorian Ministry of Public Health").

b. Statistical data prepared by the National Division of Statistics relating to health systems utilization, morbidity and mortality rates, population estimates, and other relevant areas.

c. Working documents developed under the direction of the National Development Council (CONADE) with the participation of MOH, USAID, MAG, provincial health office officials and others, relating to the operation of the proposed IRHDS project in Salcedo, one of the four proposed project sites. Similar types of documentation were identified and reviewed for the proposed Jipijapa IRHDS project site.

d. Documents prepared by other donor agencies outlining their proposed participation in the overall IRHDS project, e.g., Inter-American Development Bank's loan proposal for technical cooperation in the extension of health service coverage.

The AUPHA consultancy analyzed a wide range of available documents and statistical data in order to gain the necessary background and baseline data, in terms of organizational structure, for the function and performance of the various health sector components. A review of the available data can also reveal information that refutes conventional wisdom and identifies gaps in the systems structure. For example, MOH documents revealed no official position with respect to the area chief concept, a concept critical to the IRHDS design and prominently discussed in IRHDS project documents. The team also identified the key personnel

to be interviewed on the national, provincial and microregional levels, either by name or by position. Finally, the team could also identify relevant functional areas in which to pursue in-depth analysis during interviews and site visits.

The second phase of the assessment process entailed a series of interviews with key personnel at the national, provincial and microregional levels. Many of these key informants were identified through a review of the available documentation. In addition, the consultant team met with the USAID/Ecuador Health Officer and the USAID/Ministry of Health liaison for the IRHDS project. The relevant GOE, donor groups and other agency personnel involved in or influenced by the integrated rural development program were identified and tentative interviews were scheduled. Persons interviewed ranged from the Acting Director General of the MOH, to an auxiliary nurse at a health post in the outlying rural community of Anchilliu in the central highlands (Note: A comprehensive listing of persons interviewed is found in Appendix B).

The interviews provided background on the purpose and intent of various elements within the proposed IRHDS structure, but perhaps more importantly, the interviews gave those expected to implement the IRHDS project the opportunity to express what would be required in logistical support, supervision, training, and other areas in order for them to operate an integrated rural delivery system on an ongoing and sustained basis.

In addition, the interviews allowed the AUPHA team to identify those problems that inhibit the system from effectively fulfilling its function. These problems are not always identified, (or accurately portrayed) in the formal reporting mechanism, but they are recognized by personnel within the system. Their operational experience allows them to identify weaknesses in the proposed IRHDS structure and suggest potential problem areas not addressed in the IRHDS project design. (Note: For an indication of the subject areas covered in the course of the interviews, see Appendix C.)

The final stage of the AUPHA assessment process involved site visits to proposed IRHDS project sites in Cotopaxi and Manabi provinces. At the Salcedo site in the central highlands, the AUPHA team visited the provincial health office in the capital of Latacunga; the hospital-health center in Salcedo; the subhealth center in Paphurco; and the health post in Anchilliui. At the Jipijapa site on the coast, the consultants visited the provincial health office and hospital in Porto Viejo as well as the hospital-health center in Jipijapa.

Visits to these sites presented a good picture of the nature of Ecuador. As the population is either concentrated along the coast or within a narrow band in the highlands (or sierra), the design of a rural health delivery system that could be replicated on a nationwide basis has to consider both. In addition, both locations were active integrated rural development sites and target areas for a number of other donor agencies. This provided the AUPHA team another opportunity to assess the inter-institutional coordination aspects of the IRHDS design. The specific visits to the provincial health offices and hospitals, the hospital-health center, subhealth center and health post provided for contact with the operational units at each level in the IRHDS design.

Site visits were especially useful for validating the data obtained through the key informant interviews. In some instances, the level of awareness and accuracy of perceptions remain problematic. The team was able to identify and interview additional key informants not previously identified through available documentation or prior interviews. Visiting the actual sites of the proposed IRHDS projects, the AUPHA team could glean additional information on factors such as geographic conditions and socio-cultural constraints that did not surface in written documentation or the interview process.

Though this assessment process has been portrayed as an orderly, phased process, (i.e., an analysis of available documents and statistical data, followed by interviews with key personnel at various levels within the system, followed by a series of site visits); the actual process as implemented was more disjointed. Due to time constraints, the normal

difficulties involved in scheduling interviews and in-country travel, as well as the general nature of the "discovery process," the consultant approach was not carried out in the linear fashion suggested. However, the assessment process did not terminate upon the completion of site visits. Rather, the information gleaned from those visits led to the identification and analysis of additional documents that led to a further series of interviews. For example, the visit to the hospital-health center at Jipijapa uncovered a series of documents regarding the acquisition of medicine through the MOH's basic medicines program. The consultants then arranged meetings with the director of the MOH basic medicines program and the MOH central office chief of medical supplies.

During the assessment process, a number of factors influenced the outcome:

Political factors. The basic decision for developing and implementing an integrated rural health delivery system had been taken prior to the AUPHA's consultant team's arrival in country. This decision enjoyed strong support among officials within the Roldos administration; as an essential element of the integrated rural development strategy, the IRHDS project received the status of a high priority activity. GOE officials in a position to inhibit the project either provided strong backing or had previous experience with similarly designed programs and did not feel overly threatened by either the project's implementation or the potential for its replication on a country-wide basis. For example, the National Development Council (CONADE) official responsible for health sector activities within the national development plan and who had developed the IRHDS concept, saw himself as a champion of the IRHDS "cause." The acting Director General of the Ministry of Public Health, who exercises administrative authority over all MOH activities except those of the Ecuadorian Institute of Sanitary Works (IEOS), had formerly presided over an area chief structure similar to that in the IRHDS project design.

This strong backing within the Roldos administration and MOH greatly aided the AUPHA consultant team with access to officials at all levels as well as documents and statistical data.

However, just at the time of the AUPHA team's arrival in country, border hostilities erupted between Ecuador and Peru. The GOE declared a state of national emergency, which in effect curtailed travel within the country, limited the movement of GOE functionaries to their assigned sites, and directed a large segment of the MOH facilities and personnel to focus on civil defense activities (i.e., stockpiling drugs and other medical supplies at various hospitals and checking disaster plans). Though the restrictions were gradually lifted in the course of the consultants' two-week visit, this did adversely affect the scheduling of interviews with key informants and subsequent site visits. The effect of the crisis atmosphere on personal interactions, particularly during the first few days of the emergency when numerous rumors filled the capital, is difficult to evaluate. MOH officials were concerned with larger issues than those raised by the consultant team.

The nonthreatening nature of the consultancy. In contrast to management assessments that seek to evaluate on-going operations in order to initiate change, the AUPHA management appraisal activities were only to review, clarify and supplement a series of proposed changes that were already underway. This is a subtle though significant distinction. As the nature of the AUPHA consultancy became more evident to the Ecuadorian health sector personnel, they felt more comfortable. They viewed the consultants as a potential channel for input or simply a sympathetic sounding board for expressing concern on current and persistent problems.

Regional differences were also noted. Officials in Cotopaxi province were at first hostile or defensive, but eventually cooperated. In Manabi province, that initial distrust did not occur but that is likely attributable to the area's relative independence based on its administrative and geographic distance from Quito. MOH officials in Manabi are operationally more independent in terms of the central office level MOH than their counterparts in Cotopaxi. Some officials in Manabi expected a long waiting period before real change would filter down to them, and that much could happen to alter or curtail the original focus of the proposed project.

Personal factors. The effectiveness of the site visits and interview processes is largely dependent on establishing a sense of trust, confidence, familiarity and camaraderie (confianza). For the AUPHA health appraisal activities in Ecuador, the consultants were significantly aided by the USAID/Ecuador health officer and the USAID/MOH IRHDS liaison officer's intimate knowledge of the workings and key personnel within the MOH. The USAID/MOH liaison officer, an ex-MOH official, accompanied the consultant team on its site visits and participated in a number of the key informant interviews; this gave further credibility to the consultancy.

One member of the AUPHA consultant team had taught and worked with a large number of MOH officials during his long professional career in Latin America. His personal and professional relationships with health sector personnel involved in the IRHDS project greatly enhanced the work of the consultancy. His confianza with MOH officials won over initially hostile or reticent health sector personnel.

IV. OUTCOMES

Two sets of recognizable outcomes emerged from AUPHA's health management appraisal activities in Ecuador: a series of summary management assessments that address priority areas within the health sector and a series of proposals to strengthen and supplement elements in the proposed IRHDS project design.

A. SUMMARY ASSESSMENTS

Within the overall IRD program and IRHDS project design, the AUPHA team identified a number of priority areas for summary management assessments. These areas included rural health promoters; supply of basic drugs and other medical materials; the flow and use of statistical data; management of provincial health offices; and resources for training health sector manpower. The following brief discussions of these summary management assessments are not meant to provide a detailed assessment of the priority areas. The discussions do present the AUPHA consultancy's analysis as developed through use of the MAPS modules.

Within the overall IRD program and IRHDS project design, the AUPHA team identified a number of priority areas for summary management assessments. These areas included rural health promoters; supply of basic drugs and other medical materials; the flow and use of statistical data; management of provincial health offices; and resources for training health sector manpower. The following brief discussions of these summary management assessments are not meant to provide a detailed assessment of the priority areas. The discussions do present the AUPHA consultancy's analysis as developed through use of the MAPS modules.

Rural Health Promoters

Rural health promoters are a low-cost alternative for extending health care coverage to underserved rural populations. Given the socio-cultural divisions within Ecuador that act to constrain health care providers from outreach activities or inhibit rural utilization of government health services, the rural health promoter serves as a bridge between the "alien hispanic culture" of the MOH health personnel and the indigenous population.

In assessing the proposed health promoter program, the AUPHA team identified a number of issues that go beyond the specific health promoter role contemplated in the IRHDS project to the larger IRHDS design. For example, while the duties of health promoters include health prevention, promotion and treatment functions, the proper role of the health promoter vis-a-vis the physician is still debatable. One health promoter program operated by the Voz Andes Hospital permits their people to do immunizations as well as other community medical care projects. However, medical school deans at a recent meeting of the Andean Pact Health Ministers passed a resolution that no medical services (presumably including immunization) be permitted in the work of health promoters.

In discussions with GOE and private agency officials involved in the design and implementation of health promoter programs, AUPHA consultants learned that decisions regarding the functional assignments of health promoters are not always based on criteria that relate to their relative level of skill and training. Decisions can be affected by the health status of the population (i.e., what types of services are required), the level of training provided to the next higher health worker in the system and the relative influence that physicians and other health workers have over policies. Decisions are, therefore, not based on an irrational set of criteria, but recognize the need to develop a health promoter program which can be effectively implemented and maintained.

Other issues identified include:

- Language capability. To fulfill the "linkage role" between the hispanic and indigenous cultures effectively, the health promoter should be part of the indigenous population and must have the ability to speak Spanish. Many private promoter programs utilize indigenous persons who lack this capacity. Education, sex, and family responsibilities also have a bearing on effectiveness.
- Selection process. What sectors of the community participate? Does the community in fact have a role in the selection process?
- Salaries and benefits.
- Supervision. Will nurse auxiliaries provide supervision, as envisioned, or will physicians? What type of training would be necessary for the supervisor? While the critical need for supervision of health promoters is recognized, there still is no well established procedure for it.
- Financing health promoter programs on an ongoing and sustained basis.

Supply of Basic Drugs

The AUPHA consultants assessed the supply system for basic drugs by using the draft version of the Materials and Facilities Management module. (Note: The Ecuadorian system uses the Andean Pact's list of basic medicines, Cuadro Basico de Medicamentos. In addition to what are normally viewed as drugs, the Cuadro Basico contains diagnostic agents such as barium sulfate; anesthetics, intravenous solutions, vitamins and mineral supplements.)

The AUPHA team identified several issues in the areas of planning and budgeting, purchasing, and the requisition/distribution of basic drugs that require attention in the proposed IRHDS design. The consultants noted the key steps in the planning and budgeting process as they were identified by the assessment.

- Using the guidelines to be established, the operating units in each province (hospitals, health centers, and health posts) will forward a list of their yearly requirement for drugs (including quantities) to the provincial office.
- The provincial office is responsible for assuring that shortages of basic drugs do not occur in their jurisdiction. It reviews and consolidates these estimates to reflect provincial needs for the year. The annual estimate is then forwarded to the central level Division of Pharmaceuticals.
- The Division of Pharmaceuticals reviews the provincial estimates and establishes the quantity of basic drugs required nation-wide. The Division of Pharmaceuticals forwards the estimates to the Chief of Medical Supplies who checks their accuracy. The estimates are then reviewed by the Director of Sanitary Control.
- Final authorization comes from an administrative commission of MOH officials. Members include the Subsecretary of Public Health, the Director General of Health, a delegate from a special commission on revising the basic formulary, the National Director for Medical Care, the National Director for

Sanitary Control, and the National Director for Finance. The commission revises the annual request and determines the specific quantities of drugs to be supplied by each pharmaceutical house, which either manufactures or imports the drugs. It then assigns each pharmaceutical house at least two specific drugs that it must supply under penalty of loss of license. The manufacture and distribution of the medicines supplied by the pharmaceutical houses is subject to the control of the commission in regards to quality, labeling, packaging and price.

The critical issues uncovered in the AUPHA analysis that require attention in terms of the IRHDS project design include:

- The process and resources required to develop the guidelines for determining drug type and quality;
- The process required to implement the guidelines once they are developed and provisions for the training, supervision and support of those using the guidelines, especially physicians and auxiliary nurses in rural area(s);
- The need for continuity from year to year;
- The role of the auxiliary nurses in preparing estimates of the type and quantity of drugs for rural health posts;
- The extent to which the provincial offices actually solicit drug estimates from operating units;
- The extent to which the central office considers proposed extensions of medical services in preparing annual requests for the basic medicine contracts;
- The process (if any) for revising annual requests during the year at the provincial and national levels; and
- The need for periodic revision of drug guidelines.

The AUPHA consultancy identified two key issues in provincial health office purchases of drugs directly from the pharmaceutical houses. This arrangement is under an open contract negotiated by the MOH with payment from the provincial office's basic drug budget.

- There is no control over the basic drug budget. For example, there is no mechanism to help assure that only necessary drugs are purchased in appropriate quantities.
- There is no feedback mechanism to assure that the pharmaceutical houses supply designated drugs on time.

In the third critical area in the supply system for basic drugs, the newly-implemented requisition/distribution system, the consultants noted the following process.

- Health centers and health posts forward weekly requisitions to the hospital/health center. Health promoters pass their requests to their respective posts or centers.
- The chief of the hospital/health center reviews and forwards requests to the supply chief in the unit for distribution. Thus, the hospital/health center performs the warehousing function for the microregion. The cost of supplies is charged to the account of each operating unit at the time of distribution.
- The chief of the hospital/health center then forwards a request to provincial Chief of Medical Services for drugs needed to replenish stocks. The schedule for requests from the hospital/health center to the provincial office is not clear. It appears that the costs of the medicines is charged to the account of the hospital/health center.
- The Chief of Medical Services reviews all requests and transmits the requisitions to the provincial Chief of Supplies. The Administrative Director and the Provincial Purchasing Committee would then request the Division of Pharmaceuticals to supply items not on hand in the province.

- The Chief of Supplies receives medicines from either the pharmaceutical houses or the MOH's central warehouse. Distribution from the provincial office to the hospital/health centers is twice a week with weekly distribution to the smaller units. Smaller units are supplied by a vehicle assigned to the hospital/health center. (This contrasts with the existing arrangement where personnel from the smaller units travel to the hospital/health center or to the provincial office for drugs.)

The critical issues concerning the requisition/distribution function that require attention in the proposed IRHDS project include:

- The distribution of items included in the list of basic drugs to the health promoters.
- The role of the provincial hospital, the training and supervision of warehouse personnel and inventory control.

Supply of Medical Materials Other than Basic Drugs

The "supply system for medical materials other than basic drugs," provides for consumable items (e.g., bandages, sutures), and movable or fixed equipment (e.g., clamps, scalpels, operating tables). Excluded from the consumables category are those diagnostic agents contained in the list of basic medicines. The AUPHA team used the MAPS module as they had for the basic drugs assessment, and identified parallel systems. But this resulted from tracing the procedures for implementing the core supply functions.

The AUPHA consultants identified the key stages in the requisition/distribution process.

- Health centers and health posts forward weekly requisitions to the hospital/health center. Health promoters would have passed their requests to their respective posts or centers.

- The chief of the hospital/health center reviews and forwards requests to the provincial supply chief for distribution. Thus the hospital/health center performs the warehousing function for the area. The costs of supplies are charged to the account of each operating unit at the time of distribution.
- The chief of the hospital/health center then forwards requests to the provincial Chief of Medical Services for material needed to replenish stocks. The schedule for requests from the hospital/health center to the provincial office is not clear. It appears that the cost of the materials is charged to the account of the hospital/health center.
- The Chief of Medical Services reviews all requests and transmits them to the provincial Chief of Supplies. The Administrative Director and the Provincial Purchasing Committee would then request the Division of Pharmaceuticals to supply items not on hand in the province.
- Distribution from the provincial office to the hospital/health center is twice a week with weekly distribution to the smaller units. The smaller units, when the system is fully operational would receive a vehicle assigned to the hospital/health center. (This contrasts with the existing arrangement where personnel from the smaller units travel to the hospital/health center or to the provincial office for supplies.)

The requisition/distribution function of medical materials other than basic drugs require attention in the proposed IRHDS project as follows:

- Standardized written procedures for inventory control, receiving, inspecting and storing medical materials since such procedures apparently do not exist at the provincial and local level;
- A method of distribution of medical materials other than basic medicines to health promoters; and
- The role of the provincial hospital in the training and supervision of warehouse personnel, including inventory control.

The Flow and Use of Statistics in the Ministry of Health

The AUPHA team assessed health services data (i.e., data services at hospitals, health centers and health posts) through use of the draft MAPS Informations Systems module.

The team identified these key elements in the acquisition process:

- Health posts. Staffed by auxiliary nurses who collect data (e.g., name, age, sex, symptoms) for each patient daily. The nurses submit a consolidated monthly report to the Provincial Statistical Office, ideally within the first four days of the month. However, delays are common at all operating levels. The health posts do not keep copies of the monthly summaries. A similar situation exists at the health center and hospital level regarding monthly institutional reporting forms.
- Health centers. Staffed by physicians and auxiliary nurses who both collect data. However, the overall responsibility rests with the physician. The same daily/monthly data collection procedures employed in health posts apply to health centers. The quantity and complexity of the data collected, however, is greater. A physician-reporting form that notes a specific diagnosis is filled out for each consultation made by the physician.
- Hospitals. The quantity and complexity of the data collected increases as one progresses to higher levels in the system. At the hospital level, each physician, auxiliary nurse and graduate nurse complete a set of daily and monthly reporting forms. In addition, graduate and auxiliary nurses collect information during home visits. The data are compiled in the individual monthly reporting forms and summarized on a monthly hospital activity form. Additional data on hospital discharges, vaccinations, social work, sanitary education, laboratory and clinic services, food service, etc., are recorded on this form that is forwarded (ideally) to the provincial office within four days of the close of every month.

Delays of a few weeks to a few months are not uncommon. Hospitals are not required to keep copies of the monthly activity forms.

Every hospital also completes a monthly discharge abstract that is sent to the National Institute of Statistics and Census.

- Office of Statistics, Provincial Health Office. Receives the monthly reports from each operating unit in the province. The provincial office is responsible for the validity of data received, but an effective mechanism for control does not exist because:
- The volume of records to be processed is very high. The provincial office also processes other data including vital statistics information required by the National Institute of Statistics and Census as well as tuberculosis data required for the epidemiology registry.
- The data contained in the monthly reports are summarized and forwarded to the National Division of Statistics within the first week of the new month. However, delays of six weeks are common. The provincial office does not retain copies of the reports forwarded to the Division of Statistics.
- National Division of Statistics. The provincial level data are abstracted, forming the basis for the annual statistical reports that are prepared by an outside contractor. Mechanisms to assure the quality of the data are nonexistent, as similar factors inhibit provincial control at the national level.

The AUPHA consultants analyzed several critical issues that inhibit the effective acquisition and use of health service data. Most of these deal with training.

At the local level, physicians are trained to complete the various reporting forms during the one-week orientation to positions. Auxiliary nurses are trained during the course of their nursing education. There are no provisions for "on the job" refresher courses, despite frequent revisions in the reporting forms. Basic deficiencies in arithmetic are also evident.

At the provincial level, formal orientation/training for new personnel in the statistical offices is nonexistent. Although a manual explaining the reporting forms is available in each office, it is seldom used to instruct new employees. Poor arithmetic is still a problem.

Reporting forms are shipped to the provincial office once a year in quantities that are calculated to meet annual needs. The AUPHA team did not determine how the specific quantities are allocated to each province, but a sufficient margin does not exist to cover routine losses. In addition, the provincial office distributes forms to the operating units in quantities and on schedules that vary. The lack of forms often results in no data collection.

Although reporting forms are frequently revised, old forms are not taken out of circulation. Thus not all provinces are collecting the same data at the same time. Furthermore, since one form usually provides the data required for the next level, the process begins to unravel as differences between the old and new forms cause problems.

The AUPHA team did not find indications that data are used for any purpose at any operating level, with the possible exception of the provincial hospitals where specific data uses are still unclear.

At the provincial offices, the situation is somewhat different. While not used for routine decision making, data are occasionally used in special studies undertaken by outside programs.

The national level appears to be the only focus of genuine analytical capacity. However, data usage apart from the preparation of the Annual Statistical Reports is still unclear.

The apparent nonuse of the health service data for routine decision making can be attributed to the following:

- Delays in collecting data at each level of the system;
- Delays resulting from manual data processing;
- Absence of personnel at the provincial level with sufficient analytical skills to use data in problem identification and problem solving; and
- Insufficient effort to validate the data collected.

Management of Provincial Offices in the Health Ministry

The AUPHA consultant team assessed the provincial health office, an operational unit fulfilling a number of management functions, through the use of core function outlines included in several of the MAPS modules. It provided an illustration of the technique's potential application to assess whole operational units.

The team identified several issues that related to finance and budget, information systems, maintenance of facilities and equipment, personnel (including training) and technical assistance.

As noted by the AUPHA team, the finance and budgeting process has several key steps:

- A budget ceiling, established at the national level, is set for each provincial office and the hospitals within the province. Health centers and health posts do not maintain formal budgets of their own and funds for their operation are drawn from the appropriate accounts in the provincial budget.
- The provincial office and hospital budget committees develop the projected budgets with technical assistance from the national office. The provincial office reviews and approves the proposed budgets of their hospitals before forwarding them to the national office.
- Projected budgets are reviewed and approved at the central office level with funds disbursed monthly equal to one-twelfth of the approved annual budget total.
- Alterations in the adopted budgets must be submitted to the national office for approval. Changes in the hospital budgets must first be approved by the provincial health chief before being submitted to the national office.

The AUPHA team uncovered several critical issues that limit the effectiveness of the budgetary system and need to be considered in the IRHDS project design:

- The budget development and review are based on historical experience and not linked to program planning activities. No criteria or guidelines for projecting costs based on projected service levels exist.

- Once the hospital budget is approved, the provincial office does not exercise budgetary control over hospitals except for later budget revisions; or when expenditures exceed \$/ 50,000; or for basic drug purchases, though this last procedure is being revised.
- The provincial office level lacks adequately trained personnel to fulfill budgetary and financial management responsibilities, nor are there training programs aimed at the development of these necessary skills.

The information function operates primarily for the benefit of the national office with little management or operational data directed to the local needs of provincial officials. Each operating unit (i.e., health post, health center, and hospital) collects and compiles data on its own activities that are then forwarded to the provincial office of statistics. The data are consolidated at the provincial office and then transmitted to the National Division of Statistics. Though responsible for the validity of the data that it transmits to the national office, the provincial level lacks effective control mechanisms with so few trained personnel. The volume of records to be processed is excessive and limited accessibility to health posts and centers hampers the much needed supervision of field units.

The AUPHA team identified several critical issues regarding the effectiveness of the information function:

- Lack of supervision. The provincial head of health statistics does not generally make site visits to the operating units at the service delivery level (hospitals, health centers, and health posts).
- Lack of training. Formal orientation and training programs for personnel in the statistics office are not provided. Though manuals exist explaining the use of the reporting forms in the provincial offices, it does not appear that they are used in employee orientation processes. Only limited training is provided to the professionals and para-professionals who are required to complete the various reporting forms distributed by the provincial office.

- Supply and distribution of reporting forms. The quantity of reporting forms allocated to each province does not allow for potential storage damage or waste. As a result, the supply is not always sufficient to meet provincial needs. The reporting forms are distributed by the provincial office to the operating units at the service delivery level. The quantity of forms and frequency of their distribution varies from location to location. Thus, operating units frequently do not have the necessary data reporting forms and cease data collection.
- Lack of consistency in the reporting forms used and data collected. Reporting forms are frequently revised, but the old forms stay in circulation. Operating units within a province then do not necessarily collect the same data. The data collection process begins to unravel as differences between the old and revised reporting forms inhibit the flow of information.
- Limited use of the collected data for routine decision making at the provincial level. Since the national office designs the forms, the provincial office has no input on the data collection process. The operating units are often late with their data and more delays occur in the manual processing of the data. The key appears to be the lack of trained personnel at the provincial level. With analytical skills, they could use the data for problem identification and problem solving.

The maintenance of facilities and equipment lies with the National Division of Maintenance, Ecuadorian Institute of Sanitary Works (IEOS). IEOS is a semi-autonomous unit within the MOH structure. It maintains its own budget and functions as an independent agency. The AUPHA team identified these issues in the organization and control of the maintenance function:

- Lack of control over maintenance services. The provincial chief of health has no authority over his provincial counterpart in the IEOS structure; thus the provincial chief cannot direct the activities of the maintenance crews. This only comes through requests to IEOS officials. The extent of the cooperation depends on personal relationships since the official relationship is still not defined. The significance of the IEOS-provincial office relationship cannot be understated in terms of what it might portend for interagency coordination within the IRD/IRHDS framework.
- Lack of a national system of maintenance. Though considered by the IEOS, it has not been implemented. A structure with adequate resources to carry out repairs and maintenance tasks does not yet exist even in rudimentary form for all provinces.

The AUPHA team identified the provincial office role in the personnel function:

- The provincial chief of health recruits and selects personnel (excluding rural physicians) and forwards nominations to the national office for formal hiring.
- The provincial office interprets MOH personnel policies, and provides technical support and supervision to service delivery personnel.

The AUPHA consultancy found several personnel issues to consider for the IRHDS project:

- The provincial offices lack control over the selection and appointment of rural physicians. Rural physicians are usually medical students who need to fulfill a year of required government service. These physicians are appointed and assigned by the national office.
- Lack of adequate training for rural physicians. Rural physicians receive only a one-week work orientation.
- Limited control over the number and types of personnel positions. Changes in the number and type of personnel slots are made at the national level.

- A shortage of adequately trained personnel to fulfill personnel management functions at the provincial level in several parts of the country. Very few have had administrative training. National and international training opportunities for such individuals also appear to be absent or extremely limited. In instances where such individuals were selected for national or international training programs, they often were not reassigned to their former provincial posts afterwards.

B. PROJECT PROPOSAL ASSESSMENTS

The AUPHA used the knowledge gained through its summary management assessments to focus on needed elements in the proposed IRHDS project design. Though the assessments essentially occurred simultaneously, the second assessment assumed a dual focus. First, it attempted to assess whether the proposed IRHDS design would provide for an efficiently operating delivery system. Secondly, it attempted to determine the extent to which the design effectively addressed those aspects of the current system identified as problematic. The AUPHA consultancy developed a series of proposals to address the issue of management in the microregions for extended coverage; provincial management capacity building; national level policy and supervision capacity building; and inter-institutional coordination and capacity building. These are briefly described below.

Developing Management of Health Ministry Microregions for Extended Coverage.

The basic operational unit in the restructured rural health delivery system is the microregion, a geographically-defined health service area. Management emphasis must ensure the effective acquisition and use of human, material and financial resources to provide health services to the target population. Towards that end, the AUPHA team identified three principal elements with some suggested implementation options.

The first element and set of implementation options focuses on the recruitment, selection and development of the local area chief (microregional chief) role. From the AUPHA team's analysis of the available documentation, key informant interviews and site-visits, the area chief position remains unclear, not uniformly applied in those areas where similar structures had been instituted (El Oro and Manabi provinces) and without legal status. To resolve these issues, the following additions or alterations are suggested for the proposed IRHDS project design:

1. The position of area chief must be created by the MOH.
2. The area chief needs a background in public health, rural service delivery and diverse management activities.
3. The geographic size of the microregion and its population density must be considered. In some areas, the director of the area hospital-health center could be the area chief, other areas will require a full time area chief, and in some instances the microregion can include two or more cantons with one full-time area chief.
4. The area chief must report to the provincial level that outlines the work authority. As with the regionalization policy of the GOE, there must be a budget to manage the IRHDS. The budget will be reviewed by the provincial level and approved by the national level.
5. Functionally, the area chief will be responsible directly or by delegation for the following:
 - Promotive/preventive community services and nutrition education, through the promoters;
 - Selection, training and supervision of promoters;
 - Environmental hygiene as provided by promoters and sanitary inspectors;
 - Promotive/preventive health post services, nutrition education, medical care and family planning services as provided by auxiliary nurses;
 - Continuing education and supervision of auxiliary nurses;
 - Promotive/preventive health center services, nutrition education, medical care and family planning services as provided by physicians and auxiliary nurses;
 - Continuing education and supervision of physicians and auxiliary nurses assigned to health centers;
 - Supervision of the area hospital/health center and integration of its activities with the lower levels of the system;
 - Supervision of the referral mechanism within the microregion.

6. Administratively, the area chief will be directly responsible for the following:

- Budget preparation that ensures a cost-effective rural health system;
- Construction, supply and maintenance of all health facilities in the microregion;
- Supplies and materials to and within the microregion (including purchasing, warehousing, distribution, inventory control and reordering);
- Acquisition, control and maintenance of vehicles;
- Collection and reporting of vital statistics, utilization data, productivity figures and evaluation data;
- Management of accounting services and budgetary control;
- Efficient information/communication systems; and
- Long-range planning for the IRHDS.

7. The salary and fringe benefits of the area chief must be fixed by the MOH to conform with national standards.

8. A major responsibility of the area chief is the coordination of health activities with the other integrated rural development activities in the microregion. Health objectives will not be fully achieved without this coordination. The area chief will need to work closely with the IRD Project Officer and must be a full member of the IRD Executive Committee.

In the second area of concern, increasing the productivity of health service providers, the AUPHA team focused on alternatives for increasing the productivity of rural physicians and auxiliary nurses through training and supervision. They also looked at how to expand the current system's capacity to provide services through the training, placement and supervision of rural health promoters.

For increasing rural physician productivity, the consultancy developed six options:

1. Eliminate the social service requirement for medical school graduates.
2. Require multi-year service in rural areas.

3. Create rural positions and offer them on the open market.
4. Create or expand rural medicine departments and produce more rural physicians.
5. Retain the social service requirement and expand training to one month.
6. Combine some of the above alternatives.

Options 1-3 would require changes in the current legislation on social service requirements for rural physicians. The AUPHA team found that many provincial and microregional officials believe that rural services should be voluntary, so as to facilitate the placement of motivated individuals to rural posts. Based on an assessment of the relevant factors, the consultancy concluded that more rural physicians (option 4) was the optimal long-term solution despite the long period required (5-10 years) before the effects would be felt at the microregional level.

For auxiliary nurses, the AUPHA team linked reduced productivity to (a) lowering entrance requirements with shorter auxiliary nurse training courses and (b) the inadequate supervision auxiliary nurses receive in field. Auxiliary nurses in health posts are supervised by the physician from the nearest health center or by the graduate nurse from the hospital/health center. Supervision is generally weak and geared to legal requirements for maintaining log books or balancing inventories. Effective supervision should include continuing education; auxiliary nurses need this support to increase their productivity. The AUPHA team believes that the creation of a specific position for auxiliary nurse supervision could address this issue.

For rural health promoters, the consultancy found that the promoter's duties must be well-defined and must emphasize promotive and preventive services, nutrition education and environmental and personal hygiene. The latter two functions, especially, can best be carried out by an indigenous promoter. Medical care should be restricted to first aid, with the prescription of medication other than analgesics prohibited.

Promoters should be selected by the community, and then trained at the health center to minimize costly travel. Content and length of training courses should be determined at the provincial level, given the vast geographic and socio-economic differences among provinces.

The AUPHA consultancy views the selection, training and supervision of promoters as crucial to the success of the IRHDS.

Counterpart experts constitute the third element for developing management of health microregions. The ongoing and sustained operation of the IRHDS depends on effective management systems with training personnel. The AUPHA team suggests that a counterpart expert be employed to assist the area chief.

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Provincial Management Capacity Building in the Three Project Provinces.

For management capacity building at the provincial level, the AUPHA team identified two options. The first focuses on coordinating and supplementing technical assistance efforts undertaken by the GOE with IDB/PAHO loan money; the second deals with USAID sponsored training and technical assistance. Both options developed out of the team's use of the core function outlines in the core HMAMP draft modules.

The IDB/PAHO technical assistance efforts may overlap with the GOE/USAID IRHDS project design in substance but the actual implementation sites differ. The AUPHA consultancy suggests that PAHO and USAID coordinate activities through information sharing on operational, technical and administrative norms for management at the provincial level; required changes in the laws and regulations governing the provincial level; administrative organization of the provincial level; requirements for commissioning new health facilities for functional activities; training, induction and integration of personnel; budgeting, dry run and operation of new equipment; handbooks on personnel management; financial management to fulfill the legal requirements and to provide information for programming, supervision, control and evaluation; logistics for supplies including a formulary for basic drugs; health

information systems; community participation and health education; nursing services and training of nurses; and maintenance systems for buildings and equipment.

The AUPHA consultancy also suggests that the IDB and PAHO supplement their technical assistance budgets to provide materials for use in health education and community participation; to provide teaching materials for training nurses; to provide travel funds for joint meetings; to select, recruit, train and supervise rural health promoters; to provide vehicles to them, if necessary; to supply basic drugs and other medical materials, if appropriate; and to provide faculty and didactic resources to train key persons at the provincial level in management.

For the second option, i.e., training and technical assistance directed to key functions in the provincial health offices, the AUPHA team found the HMAP draft modules to be critically important. After they identified and assessed the manner in which the provincial office discharged its key functions of medical supplies management, information systems, and management training, the consultants turned to the core function outlines contained in the draft MAPS modules to determine the potential participants and content of the proposed training courses.

The core functions listed below for materials and supply management should be covered in a training course:

- planning and budgeting for basic drug and medical supplies, including but not limited to materials usage forecasting, information on the list of basic drugs, and requisition and distribution schedules;
- purchasing to determine quality and product selection policies as well as procedures regarding purchasing units responsibilities, delegated authority coordination, and control mechanisms in place;
- receiving and inspecting of policies and procedures of receiving units and inspection procedures for damage and spoilage as well as procedures for developing and transmitting receiving reports;
- storage and warehousing with procedures to control spoilage, damage and pilferage;

- inventory control with procedures for maintaining mini-max, internal allocation, perpetual inventory, frequency physical count, policies on inventory discrepancies, and evaluation of inventory turnover rates;
- requisitioning of materials with control procedures to determine reasonableness of request, and historical data/comparable user units; and
- distribution of materials, both internal and external.

For informations systems management, the AUPHA consultants identified potential training participants as those with responsibilities for statistics. They also found the core functions to be addressed in training to be the acquisition of information, identifying that necessary for routine/programmed decision making and the procedures for editing and validating information; information storage and handling; interpretation and analysis of data; and distribution.

For the management function itself, the AUPHA team developed an option that related to problem definition and resolution in the health services. Potential participants would be all persons in planning with decision making roles.

The core functions of problem definition/resolution would be problem identification, assessment of necessary information; definition of health service objectives; identification and analysis of constraining factors that impede organizational performance; and development of intervention strategies.

Management training would include persons in coordinative /supervisory positions and cover the core functions of management training, including job design, determining duties and responsibilities of positions, methods of performance, degree of authority, and job incentives; organizational unit design, with responsibilities of unit, positions within unit, decision making authority of supervisor, and performance norms and incentives.

The AUPHA consultancy emphasizes that for each of the proposed training courses, technical assistance would be required.

Improving Health Services Management and National Policy Making.

For management capacity building on a national level and national policy making, the AUPHA consultancy identified three areas of concern: extended management training capacity, policy studies, and maintenance management of facilities and equipment.

Though the consultancy realizes that the GOE is severely limited in its capacity to train health services managers, they developed a series of options to assist in this vital area.

1. Traditional approach for building management capacity, i.e., full-time university-based programs, such as a graduate program in health services administration within an existing school of public administration or business. Locating the program in a school of public health would require the simultaneous creation of such an institution. The AUPHA team did not consider a school of medicine as the site for such a program because it would be necessary for a medical school to develop cooperative agreements with a school of business or public administration to train managers. Furthermore, it would be more difficult to inject a management component into a medical program, than to inject a health component into a management program.

2. Nontraditional approach, i.e., in-service training programs.

- Evening courses of one to two years with curriculum content that of a full-time graduate program.
- Short intensive courses of two weeks to three months. Both MOH and IESS have offered such courses in the past. The MOH, PAHO and the Central University are presently considering a three-month intensive course in health services administration for MOH staff. IESS has also expressed interest in this format.
- Participation in the training for development program. The USAID "Training for Development" project has focused on a national training system for public sector employees. MOH participation in this program or the use of its methodology should be strongly considered.

- Modular Approach. Based on the development of discrete instructional units (modules) with limited, concisely formulated lessons or topics, they can be offered for one week at four- to six-week intervals allowing relatively less disruption of normal work schedules. Modular programs have been implemented in Nicaragua and Colombia; they are highly adaptable to local circumstances.
- Training the trainers. All programs require qualified faculty. Scholarships for promising candidates to study abroad for at least a year would develop faculty and lay the basis of a long-term program.

For the short term, the AUPHA team believes that one of the nontraditional approaches be adopted, preferably a modular one that could be the basis for a more formal curriculum in the future. In the long term, optimal results would be obtained through the traditional, on-campus approach. This should be started as soon as possible and preferably in more than one university.

The second aspect of national level policy and management capacity building relates to policy studies, specifically the types of studies required. The AUPHA consultants emphasize that the major concern is that policy studies be conducted by a prestigious institution that has access to the relevant key decision makers. Among the types of health policy studies recommended are:

Manpower studies to analyze supply and demand for all categories of health care providers; to identify the need for new categories of providers, e.g., rural health technicians, village health workers; to assess the acceptability of health care providers by the indigenous population; and to analyze the functional relationships among health care workers at the local level.

Utilization studies to identify socio-cultural factors inhibiting the utilization of health services by indigenous populations, and the differences between the highland and coastal regions.

Health services delivery studies to identify the functional relationships between health and nonhealth activities in integrated rural development projects; and to identify interrelationships between the IESS campesino program and the MOH's rural health activities.

Impact studies to complete the baseline studies already started in some areas; and to evaluate service delivery programs.

The third and final area of concern for national capacity building is the improvement of maintenance capacity. The AUPHA team notes that the National Division of Maintenance (part of IEOS) is supposed to design and execute a National System of Maintenance. So far, neither has been accomplished, and there are no standards or procedures for equipment operation, repair or preventive maintenance. There is no national, provincial or local structure with adequate resources to carry out these tasks or to train personnel in the operation and maintenance of equipment. The consultancy did not develop specific options but feels that the National Division of Maintenance will require considerable technical assistance to operate effectively.

Inter-Institutional Coordination Between the Health Ministry and the Rural Development Secretariat (RDS)

One of the more crucial elements affecting the success of the IRHDS project is the extent of coordination with the Secretariat. As suggested, coordination is necessary to:

- ensure that community resources are available to carry-out local self-help elements in health and sanitation sectors;
- ensure that work elements developed by the IRD project director are constructed at the time and place agreed and according to specifications;
- provide information to agencies participating at a given time in the IRD local projects and their central offices; and
- ensure accountability for funds assigned to diverse agencies.

In order to achieve the degree of coordination necessary to obtain the above, the AUPHA team developed three sets of options. The first deals with the channeling of funds. There are three ways to move funds from the Secretariat to the local agencies and in Figure 4, the consultants point out the positive and negative factors of each alternative.

FIGURE 4
OPTIONS FOR RURAL DEVELOPMENT SECRETARIAT FLOW OF FUNDS

<u>Flow of Funds Options</u>	<u>Positive Features</u>	<u>Negative Features</u>
1. IRD National Office to Project Director in IRD Area to MOH National Office to Provincial and Area Health Offices	<ul style="list-style-type: none">● Strong local IRD control in implementation● Information to participating agencies	<ul style="list-style-type: none">● Lacks direct accountability for implementation actions because flow is diffused over many units.● Potentially slow in movement of funds.
2. IRD National Office to MOH National Office to Provincial and Area Health Offices.	<ul style="list-style-type: none">● Gives Health Ministry full responsibility for execution.	<ul style="list-style-type: none">● May make local coordination more difficult at project sites.
3. IRD National Office to Provincial and Area Health Offices	<ul style="list-style-type: none">● Avoids possible bottlenecks in execution that could be caused by MOH National Office	<ul style="list-style-type: none">● National health policy may not be followed.● Lessons learned in one site may not be carried to others.

Source: AUPHA, Ecuador Health Management Assessment, 1981.

In the area of limitation on decision authority, the AUPHA team identified several possibilities:

- Distinctions by key functions such as employment, supply requisitions, or vehicle deployment.
- Distinctions by amount of resources involved (sometimes known as the concept of "materiality").
- Distinctions by the time at which decisions are made, such as assigning development or construction arrangement to one group (the Secretariat) and operational activities to another (area health chief).

Reporting and feedback arrangements for developing the project on schedule require that numerous organizational units be required to follow the same overall plan. The minimum flow of reports and contact among health-related and nonhealth related units must be maintained. The AUPHA team feels that a significant contribution to that process can be the designation of key officials at each level from the microregion upward who would meet regularly. The development of a simple report preparation and distribution scheme, spelling out upcoming plans, resources and problems, will also be needed.

The AUPHA consultancy emphasizes that the three options noted above--channeling of funds, limitation of decision authority, and reporting and feedback arrangements--are not perceived as being mutually exclusive. Any combination of the above may be employed to establish the necessary level of coordination between the Secretariat and the IRHDS project.

V. Generalizability to Other Developing Countries

In discussing the AUPHA Health Management Assessment's applicability to other developing countries, the consultant team points out two specific areas: the assessment methodology and process and the IRHDS-analysis of institutional capacity building.

However, before turning to a consideration of the methodology, a word is in order regarding the somewhat unique position of Ecuador vis-a-vis the interest and contribution of various donor organizations towards Ecuador's rural development efforts. A substantial number of donor agencies have provided loans, grants and technical assistance. In the course of the AUPHA HMAMP assessment, the team identified fourteen donor agencies engaged in various health sector development activities, from the Inter-American Development Bank's \$9.5 million loan/grant package to construct and equip 300 health posts and 70 subcenters to Catholic Relief Service's Leche-Avena and school feeding programs. The effect of this large infusion of resources is to provide Ecuador with unique development opportunities not necessarily available to other developing nations. The situation does, however, present potential problems for long-term implementation and operation of a restructured rural health delivery system. For example, the IDB and PAHO projects directed at expanding the rural health infrastructure through facilities construction places additional strains on a support system that is already overburdened. Such assistance tends to reduce the potential for future program flexibility by implicitly committing (on a long-term, sustained basis) increasingly larger portions of the health sector budget to operating costs. Further, it tends to wed the rural health care delivery system to a treatment orientation (curative as opposed to preventative) that it is attempting to change.

More importantly, perhaps, these multiple development inputs to Ecuador from a wide array of donor agencies require a more effective planning, coordination, and evaluation system than would be necessary in other developing countries. Given the nature of the potential problems that might emerge from Ecuador's unique and perhaps envious development position, the Ecuadorian context may quite properly be viewed as unique in degree rather than in kind.

The applicability of the assessment methodology to other developing countries is likely less dependent upon the context within which it is applied (the country) than the accuracy and validity of the outline of core functions actually used in the assessment. One of the assumptions that has guided the development of the MAPS modules and that appears to have been borne out in the Ecuadorian experience, is that there is a basic core of management functions that can be identified for each functional area (e.g., finance or information) and that these are cross-culturally valid. While the scope of work and state of MAPS module development precluded an actual in-depth field testing of the core management function in the specific draft modules, these did prove useful in getting at some of the sensitive management issues that confronted the health delivery system. While neither discounting nor minimizing the need for a program of in-depth field testing, the use of the core function outlines is quite generalizable to other developing nations.

There is also no question as to universality of the methodological process of document review, key informant interviews, and site visits. While this requires a sensitivity and appreciation of the socio-cultural norms of the country in question, the requirements are no stricter nor more unusual than those normally applied to development programs.

The AUPHA consultancy also found "management-education" aspects within the methodology/process. Through the key informant interviews and site visits to assess implementation procedures for the core management functions, the health sector personnel become aware of the types of functions that are required for the effective performance of their tasks. In addition, the management issues surrounding the performance of those

functions are raised, perhaps for the first time. A provincial supply chief, when interviewed about warehousing or inventory control, may realize the significance of a spoilage control or inventory system and, secondly, may take some guidance on how to implement such a system. This is not meant to imply that the assessment process can take the place of training. Rather, by making health inspector personnel at the operating level aware of specific needs, the methodology process performs the first step in the management training institutional capacity-building process.

Beyond the recognition of the critical need for effective interagency coordination among and between national and donor agencies at all levels within the system, the AUPHA team believes that options that emerged from the IRHDS-analysis of institutional capacity building in the areas of management training and policy studies may be generalized to other developing countries.

As previously suggested, the ability to extend health care services is to a large extent contingent upon the availability of well-trained administrative and managerial personnel at the national and, especially, the provincial and local levels. It thus becomes critical to build the country's institutional capacity to provide such training on a ongoing and sustained basis. The general focus of the options developed for building Ecuador's institutional capacity for management training, specifically the mix of traditional university-based management programs and in-service training, is applicable to other developing countries. Further, through the use of the core management functions from the draft MAPS modules, the appropriate course content and relevant participants may be identified, a procedure that is also generalizable to other developing nations.

Finally, we turn to the issue of policy studies. While the specific focus of policy studies may vary from nation to nation, the need to maintain an active policy research program is common to all countries, especially those in which development inputs are received from wide array of donor agencies. Further, the significance of having policy studies

undertaken by prestigious institutions with the capacity to do effective research and with access to and the support of the relevant policy and decision makers, is recognized in all countries. In order to effectively plan for and coordinate health sector development, particularly within an integrated rural development framework, the following types of policy research activities would appear to be necessary:

- Manpower studies to analyze supply and demand for rural physicians, auxiliary nurses, promoters and midwives as well as other health professionals. Studies on new health care providers, e.g., rural health technicians; the village (indigenous) health worker; and the relationship among health care providers at the local rural level.
- Utilization studies to emphasize the socio-cultural aspects of health care delivery such as the acceptability of health care providers by the indigenous population.
- Health service delivery studies to investigate the relationship between health and nonhealth-related activities within the IRD context.
- Impact studies to complete baseline data collection and evaluate health service delivery programs.

VI. SUCCESSFUL AND UNSUCCESSFUL ASPECTS
OF THE AUPHA CONSULTANCY IN ECUADOR

The AUPHA consultancy was undertaken for the explicit purpose of assisting USAID/Ecuador in its intensive review and design of the primary care-institutional capacity building component of the integrated rural health delivery system project paper. Within the context of the "scope of work," the consultant team made a distinct and very positive contribution to the development of the project paper. The consultants developed a series of summary management assessments that address the following priority management concerns: rural health promoters; the supply of basic drugs in the MOH; the supply of other medical materials in the MOH; the flow and use of statistics in the MOH; and management of provincial health offices and Ecuadorian resources for training in management of the health sector.

Based on the series of summary assessments, the AUPHA consultants identified four principal problem areas affecting the management of health sector activities. Despite the complexity and the multifaceted nature of the problems encountered and the policy implications involved, the team developed a number of options to address these problems.

Within the first problem area, developing management of MOH microregions for extended coverage, three possible options were identified and addressed: (a) the recruitment, selection and development of the area chief role, (b) increased productivity through training of physicians in their rural year of service, as well as increased supervision and direction of health auxiliaries and health promoters, and (c) employment of counterpart expertise in health management.

For the second area of provincial management capacity building in the three project provinces, the consultancy developed two options. The first addressed the coordination with IDB/PAHO technical assistance efforts, including budget supplements, the second focused on training and technical assistance directed to key functions in provincial offices of the MOH.

A third problem area involved national level policy and supervision of capacity-building activities. The options identified include: (a) the development of extended management training capacity, (b) policy studies by prestigious institutions and (c) development of maintenance management of facilities and equipment.

The final problem area identified involved inter-institutional coordination between the MOH and the Rural Development Secretariat. The possible options developed to address this issue are: (a) channeling of funds through the Secretariat versus the MOH, (b) limitations of decision authority of health officials working in IRD areas and (c) development of reporting and feedback arrangements.

The development of an evaluation strategy for the IRHDS project still needs to be addressed. Tentative plans are for a visit by a member of the AUPHA consultant team in order to develop the necessary evaluation plan.

Turning from the activities related to the "scope of work" to the MAPS assessment modules, the consultancy proved less successful in actually field testing the specific assessment modules and, by extension, the self-assessment methodology woven into the fabric of the modules. Though the consultancy was neither requested nor undertaken for the purpose of validating the specific modules or the general assessment methodology, the team hoped that the situation might arise to allow just such a validation attempt. As noted, the consultancy did use the core function outlines contained in selected modules and confirmed their usefulness for creating a systematic and comprehensive assessment framework.

However, the real significance of the general HMAMP methodology and the specific modules does not lie in their use by highly trained professional consultants but rather in the self-assessment capability they can provide to host country personnel at various levels within the health sector. This assessment aspect was not field tested.

VII. IMPACT AND FUTURE INTERVENTIONS

In contrast to assessments from which consultants recommendations are directly acted upon and where impact can be judged by relative changes in the performance of the projects or programs assessed, the impact of the AUPHA appraisal activities is more nebulous and difficult to delineate. While the recommendations for elements to be included in the IRHDS project were to various degrees incorporated into the USAID Project Paper, the real impact of the AUPHA appraisal activity lies in its identification of problems requiring future intervention.

The consultancy pointed out the need for a mechanism for inter-organizational coordination. A strong tradition of coordination between health and nonhealth sector agencies or among agencies within the health sector itself, has not developed. GOE and USAID officials have seen that most integrated rural development projects undertaken in Ecuador have tended to focus on agricultural development activities. Generally, health sector activities were developed by agriculture personnel with little or no involvement by the MOH and added as afterthoughts. As the USAID project identification document states, "there has been almost no concern with developing an integrated rural health delivery system within IRD areas or addressing delivery system issues in other social sectors." Within the health sector, the number of GOE and donor agencies further complicates coordination. The need for an effective coordination mechanism, particularly at the microregional level, becomes critical to the success of the proposed IRHDS. The area chief concept, as presently developed, is inadequate to the task.

The AUPHA team also saw the need for a mechanism to assure IRHDS accountability to the local community served by the project. The constraints on the present health care delivery system come out of the unique health attitudes, beliefs and practices of the rural population, especially among the indigenous population. GOE and USAID officials realize that these cultural differences cause "the community [to be]

largely ignored with respect to the identification of problems, establishment of priorities and provision of services." Given this situation, the USAID Project Identification Document stated that "a variety of community participation mechanisms for problem identification, planning, and service delivery will be tested and developed." The AUPHA appraisal found little evidence of such mechanisms.

Though rural health promoters play a critical role in terms of both the present delivery system and the IRHDS design, the AUPHA found their role still undefined. They are perceived as a potentially effective, low-cost option for extending health care coverage to underserved rural populations. Furthermore, they are viewed as a potential "bridge" between the hispanic culture represented by the MOH personnel and the indigenous population. But other than general perceptions regarding their general utility, the specific functions and role of the rural health promoters is yet to be defined.

Another key problem area deals with the appropriateness (i.e., training, attitudes, values and beliefs) of physicians posted to rural hospitals and health centers. This closely intertwines with the concept of socio-cultural constraints that inhibit the system from effectively meeting the needs of the rural population. Rural physicians do not receive adequate training to assume the rural functions; furthermore, as MOH officials have suggested, rural physicians often lack motivation, are not willing to travel outside their designated geographic area and do not attempt to "reach out" to the community that they are there to serve. While it is recognized that physicians must be specifically trained to serve in rural areas, the present system of professional and monetary rewards generally point to a more comfortable life in nonrural areas. The question then becomes how the system can attract and maintain qualified physicians in rural areas.

Specific areas of technical assistance do appear necessary for strengthening health sector performance and the AUPHA team identified training needs in these areas.

Foremost is the development of self-assessment skills. The use of outside consultants, i.e., non-MOH or GOE personnel, to assess programs, identify problem areas and suggest alternative solutions can be both necessary and beneficial. However, the use of such consultants on either a long-term basis or as standard procedure for resolving management problems at all levels within the system is antithetical to the development of an effective, well managed health care delivery system. The development of self-assessment skills thus becomes an essential area within the overall institutional capacity building activities that need to be undertaken by the GOE. The use of the AUPHA self-assessment methodology and specific MAPS modules, though these still require actual field testing, would help to facilitate that process.

The second area is the development of skills in functional management areas. The potential for implementing and operating an effective and efficient integrated rural health care delivery system is contingent upon institutional capacity building. Specifically, the administrative and management structure must be strengthened, and skills in functional management areas must be developed. It is in this area, building institutional capacity for management training, that technical assistance must be focused.

And finally, implementation skills must be developed. Programs fail or are ineffective because those responsible lack the necessary skills to assure implementation. Persons must be trained to identify the factors that act to constrain a program from meeting its goals. Further, they must become aware of the various types of strategies that may be employed to overcome those constraints. They must also be able to develop an action plan to carry out the appropriate strategy. Building institutional capacity for training individuals in implementation skills needs to be an essential component of any technical assistance program directed at management training.

LIST OF APPENDICES

- A. CORE FUNCTIONS OF MATERIALS AND FACILITIES
- B. PERSONS INTERVIEWED DURING THE CONSULTANCY
- C. SUBJECT AREAS COVERED IN KEY INFORMANT INTERVIEWS AND SITE VISITS

APPENDIX A

CORE FUNCTIONS OF MATERIALS AND FACILITIES

1. Planning and Budgeting for Materials

Related to financial management, patient care management (user departments), and institutional/systems planning and budgeting.

Includes forecasting of materials usage and knowledge of current materials prices and anticipated increases, of delivery times, of transportation costs, and of custom regulations.

At the executive level it involves decisions to "make-or-buy" materials as some materials and supplies, including drugs, can be manufactured more cheaply locally, or component parts may be imported and materials assembled locally.

2. Purchasing

Interacts with financial management for budgeting and payment procedures and with the user departments for standardization of purchases.

Purchasing involves procuring the right quality and the right quantity at the right price and at the proper time.

A system must be developed for user input into the determination of quality and product selection. It requires from the executive level the delegation of authority to purchase and the establishment of policies and procedures stating the purchasing unit's responsibility, delegated authority and coordinating and control mechanisms. Involves consideration of centralized versus decentralized purchasing to supply a country or region.

3. Receiving and Inspecting

Approval of procedures separating the purchasing function, the receiving function and the payment function. Establishment of policies and procedures for receiving unit. Training of a central receiving staff.

All materials received are properly inspected for quantity damage and spoilage, and receiving copy is matched against purchasing order.

Procedures for forwarding receiving report with supporting documentation to accounting.

4. Storage and Warehousing

Because of often long delays in receiving commodities there is a need for ordering large quantities. Hence the need for proper storage and warehousing, to avoid spoilage, damage, and pilferage. On the positive side, lower unit cost can be achieved through ordering large quantities. Involves decisions on usage of central depot to supply the country versus a decentralized system of mini depots on a regional or subregional or individualized facilities basis.

5. Inventory Control

Related to information system management. Determine type of inventory level system - mini--max, internal, allocation, perpetual.

Existence of procedures for controlling inventory at all levels of the health system and in all areas within a facility.

Presence of a materials information base involving inventory levels, costs, usage and charges.

Frequency of physical counts for reconciliation with information system. Development of policies on inventory discrepancies.

Evaluation of inventory turnover rates by class of items.

6. Requisitioning of Materials by Users

Determine method of requisitioning materials: "push system," i.e., as commodities are received they are allocated to user, versus "pull system," i.e., users request supplies when needed.

Presence of policies and procedures for requisitioning of materials with pull or push systems.

Delegation of authority to request materials.

Control procedures to determine reasonable requests over a given time period using historical data or comparable user units.

7. Distribution of Materials to Users

Involves the movement of materials from the warehouse to the user, either directly or through intermediary warehousing and storage points. This movement can be internal in a medical facility or can be external, i.e., from a depot to other geographic areas of a country. Internal distribution requires a distribution plan for delivery within the facility. External distribution sets in motion a complex set of logistics involving communication and transportation mechanisms (land, air, water).

8. Maintenance and Repair

Presence of a fixed and moveable equipment management and asset inventory program to protect the investment in equipment. Provision for the control, accountability and administration of the location of all moveable equipment, inventory of spare parts and its management, maintenance and repair records of equipment. Existence of a facilities master plan and availability of original and modified architectural drawings. Existence of policies and procedures to establish priorities for maintenance and repair which match the needs of the facilities with the resources available.

9. Environmental Management

Internal housekeeping and maintenance of hospital and clinic grounds to create a safe and clean environment and to eliminate hazards and accidents. Proper waste disposal to prevent infections and pollution. Procedures to handle waste and to dispose of infectious, pathogenic, radioactive and chemical wastes. Control procedures over visitors and vendors on the grounds of the facilities.

APPENDIX B

KEY INFORMANTS INTERVIEWED

Ministry of Health - Central Office Level

Dr. Luis Serrano, Acting Director General

Dr. Roberto Sanperte, Chief of Planning, National Directorate of Planning

Economista Raul Stacey Andrade, Chief, Division of National Statistics, National Directorate of Planning

Dr. Torres, Chief of Medical Supplies, National Directorate of Sanitary Control

Dr. Jorge Suarez, Chief of Basic Medicines Program, Division of Pharmaceutical Products, Directorate of Sanitary Control

Economista Carlos Artieda, funcionario, Division of Pharmaceutical Products, Directorate of Sanitary Control

Ministry of Health - Provincial Level - Cotopaxi Province

Dr. Miguel Medina, Provincial Chief of Health, Cotopaxi

Dr. Barsuelta, Chief of Rural Health, Cotopaxi

Lic. Jaime Arias, Director of Health Education, Cotopaxi

Ministry of Health - Provincial Level - Manabi Province

Dr. Macias, Provincial Chief of Health, Manabi

Dr. Villacreses, Chief of Medical Care, Manabi

Ing. Nercy Cedeno Bailon, Chief of Health Statistics, Manabi

Lic Werme Yenchanga, Chief of Supplies, Provincial Warehouse, Manabi

Ministry of Health - Microregional Level - Cotopaxi Province

Dr. Jijon, Director Hospital/Health Center Salcedo

Ministry of Health - Microregional Level - Manabi Province

Dr. Sergio Jimenez, Director Hospital/Health Center Chone, Manabi

Dr. Hernan Hachon, Chief of Area #4 Manabi Province/ Director Hospital/Health Center Jipijapa, Manabi

CONADE

Dr. Osvaldo Egas (specific title unclear, is chief health person for CONADE)

Universidad Central

Dr. Rodrigo Yopez, Rector, Faculty of Medicine

PAHO

Dr. Carlos Pettigiani, PAHO Country Representative

Dr. Eduardo Aquino, PAHO Country Staff

Hospital Voz Andes

Ms. Sarah Risser, Director of Health Promoters

USAID Mission

Dr. Kenneth Farr, Health Officer

Dr. Eduardo Navas, USAID Mission/MOH, GOE liason for IRHDS project

APPENDIX C

SUBJECT AREAS COVERED IN KEY INFORMANT INTERVIEWS AND SITE VISITS

Quito, February 1. Meeting with Dr. Edwardo Navas, USAID/MOH GOE liaison for the IRHDS project (others in attendance, Drs. Farr, DeGeyndt, Messers Emrey and Feirman) - Initial informational meeting to discuss (a) the structure and operation of the MOH as it relates to the proposed IRD program, and (b) the relevant GOE, donor groups and other agency personnel involved in or influenced by the IRD program. Tentative meetings and site visits were scheduled.

February 2. Meeting with Dr. Oswaldo Egas, National Development Council (CONADE) (others in attendance, Drs. Nava, DeGeyndt, Messers. Emrey and Feirman). Discussion of the specifics of the IRD program as it relates to (a) the administration and structure of IRD areas, (b) the integration of health sector programs within the IRD areas with particular reference to the concept of health area chief, and (c) proposed IRD sites at Penipe, Salcedo and Puerto Ila-Chone.

February 2. Meeting with Drs. Carlos Alberto Pettigiani and Edwardo Aquino, PAHO (others in attendance, Drs. Navas, DeGeyndt and Messers. Emreys and Feirman). Discussion of the PAHO/BID institutional development loan for technical assistance in the areas of administration, supervision and the development of information systems as well as the prospects (none) of PAHO/BID interfacing with the IRD projects. Copies of a just completed administrative evaluation of the MOH undertaken by PAHO were made available to the project team.

February 3. Meeting with Dr. Luis Serrano, Acting Director General MOH (others in attendance, Drs. Navas, DeGeyndt, and Messers. Emrey and Feirman). Discussion focused on the administrative and structural relationships between the MOH Central Office level personnel and the provincial health chief; the provincial health chief and MOH facilities, personnel and programs on the provincial and microregional levels. The concept of area chiefs as operationalized in the provinces of El Oro and Manabi was explored with the perceived strengths and weaknesses of the concept discussed.

February 3. Meeting with Dr. Roberto Sanperete, National Director of Planning (others in attendance see above). Discussion focused on the flow of health services data with the MOH (from health posts to the central office level) and the limited extent of cooperation among MOH, CONADE, and PAHO/BID regarding the planning and information function as they relate to the IRD project.

Cotopaxi, February 5. Site visit to proposed project site in Cotopaxi province (persons making site visit, Drs. Navas and DeGeyndt, Mr. Feirman).

Provincial Health Office, Latacunga. Meeting with Dr. Miguel Medina, Provincial health chief (others in attendance, Drs. Barsuelta, Jijon, Mr. Arias). The meeting focused on the operations of the provincial health office and its relationship with the Central Office, provincial hospitals, health center and health posts in terms of finances, personnel, information systems, supplies, facilities and equipment. Specifics of the IRD project were explored with information elicited regarding what they perceived to be either the potential weaknesses of the concept and problem areas which remain to be addressed for the successful implementation of the IRHDS.

Hospital/Health Center, Salcedo. Meeting with Dr. Jijon (others in attendance, Dr. Barsuelta, Mr. Arias). Discussion focused on the operations of the hospital/health center, difficulties encountered in the provision of health services and the hospital/health center's support role in terms of other health centers and health posts located within the

canton of Salcedo. The concept of area chief was explored in detail with information being elicited as to the strengths and weaknesses of the concept as presently defined and the necessary changes in the present administrative structures, training and manpower requirements, and technical support provided in order for the concept to be effectively implemented.

Subhealth Center, Papahurco. Discussion with the center's rural physician and auxiliary nurse focused on the operations of the facility and difficulties encountered in attempting to carry out the center's designated functions.

Health Post, Anchillivi. Discussion with the auxiliary nurse who staffs the health post focused on the operations of the post and the difficulties encountered in the provision of services.

Quito, February 6. Meeting with Raul Anrade, Director National Division of Statistics (others in attendance, Mr. Feirman). Discussion focused on the operations and structure of the National Division of Statistics. An in-depth description of the flow of information from health posts to the central office level was provided with what were perceived by Dr. Anrade to be the major weaknesses in the collection, transmittal and analysis procedures being discussed. Problems in the areas of equipment, training and supervision of personnel were explored.

February 6. Meeting with Carlos Artida, functionary, Division of Pharmaceutical Products (others in attendance, Mr. Feirman). The supply and distribution process for medical supplies was described in detail with discussions focusing on the problems encountered in the development and operation of the basic medicines program.

Manabi, February 9-10. Site visit to the proposed project site in Manabi province (Drs. Navas, Farr, DeGeyndt and Messers. Emrey and Feirman).

Provincial Health Office, Porto Viejo. Meeting with Dr. Macias, provincial health chief (others in attendance, Drs. Moreno, Villacreces, Jimenez, Hachon). Discussion focused on the operation of the provincial health office and its relationship with the Central Office, provincial hospital, health center, health posts in terms of finances, personnel, information systems, facilities, supplies and equipment. As the area chief concept had previously been instituted in Manabi province (independent of the IRD project), the provincial experience with the concept was explored in detail. With two potential IRD sites located within the province (Pto. Ila-Chone and Jipijapa), arrangements were made to obtain base line data on those areas.

Meeting with Necy Bailon, Provincial Chief of Statistics. Discussion focused on the acquisition, analysis and transmittal of data on the provincial level; problems and difficulties encountered in discharging those functions.

Meeting with Werme Yenchage, Chief of Supplies, Provincial Warehouse. Discussion of the acquisition, warehousing and distribution process for equipment and supplies.

Hospital/Health Center, Jipijapa. Meeting with Dr. Hachon. Discussion focused on Dr. Hachon's dual role as area chief and director of the hospital/health center, with the strengths and weaknesses of combining both roles in a single individual being explored in detail.

Quito, February 10. Meeting with Dr. Jorge Suarez, Director Basic Medicines Program (others in attendance Mr. Feirman.) - Discussion of the basic medicine program with specific emphasis on the difficulties encountered in the operations of the program which lead to its eventual reorganization and placement under the direct control of the National Director of Medical Supplies.

February 11. Meeting with Dr. Angel Travis, functionary, National Directorate of Medical Care (others in attendance, Mr. Feirman). Discussion focused on the process for the acquisition and distribution of equipment purchased at the central office level for use at the hospital, hospital/health center, or health post level.

February 12. Meeting with Dr. Rodrigo Yepas, Rector Medical Faculty, Central University, Quito (others in attendance Drs. Farr, DeGeyndt and Messers. Emrey and Feirman). Discussion focused on operating and proposed graduate level training programs for physicians and other health professionals undertaken by the faculty of medicine. The University's position regarding the 'over supply' of rural physicians, their training and placement was explored in detail. The establishment of bridges between the USAID Mission (potential to provide support in terms of training materials) and the medical faculty were suggested.