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**WATER AND SANITATION
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**ESTABLISHING A HUMAN
RESOURCE DEVELOPMENT UNIT
WITHIN THE DIRECTORATE OF
SANITARY ENGINEERING (DISAR)
IN PERU**

WASH FIELD REPORT NO. 126

MAY 1984

The WASH Project is managed by Camp Dresser & McKee Incorporated. Principal Cooperating Institutions and subcontractors are: International Science and Technology Institute; Research Triangle Institute; University of North Carolina at Chapel Hill; Georgia Institute of Technology—Engineering Experiment Station.

**Prepared for:
USAID Mission to the Republic of Peru
Order of Technical Direction No. 175**

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ment Station.

May 24, 1984

John Sanbrailo
USAID Mission
Lima Peru

Attention: Mr. Gerardo Arabe:

Dear Mr. Sanbrailo:

On behalf of the WASH Project I am pleased to
provide you with ten (10) copies of a report on the
establishment of a human resources development unit
in DISAR.

This is the final report by Hortense Dicker and is
based on her trip to Peru from February 5, 1984 to
March 31, 1984.

This assistance is the result of a request by the
Mission on December 12, 1983. The work was under-
taken by the WASH Project on January 30, 1984 by
means of Order of Technical Direction No. 175,
authorized by the USAID Office of Health in
Washington.

If you have any questions or comments regarding the
findings or recommendations contained in this report
we will be happy to discuss them.

Sincerely,

Dennis B. Warner

Dennis B. Warner
Director
WASH Project

cc. Mr. Victor W.R. Wehman, Jr.
S&T/H/WS

DBW:ybw

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Prepared by:

Hortense Dicker

May 1984

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EXECUTIVE SUMMARY

A two-month consultation (February 5 to April 1, 1984) was carried out through WASH to provide technical assistance in the planning and organization of a training unit for the Directorate of Sanitary Engineering (DISAR), a unit of the Ministry of Health of Peru. DISAR is currently implementing an \$11 million AID-funded project begun in 1980 to install water supply systems and sanitary facilities and provide supporting services to 660 rural communities in Peru. The project was evaluated by the U.S. General Accounting Office (GAO) in 1983 and found to have serious problems. Among the strategies designed to respond to the GAO evaluation was the development of a training capability within DISAR.

The scope of work for the technical assistance called for the consultant to:

1. provide assistance to DISAR in organizing its training unit, including establishing its functions, organizational structure, and staff roles
2. assist in developing curricula of courses to be conducted by DISAR under its rural water supply and sanitation program
3. assist DISAR in coordinating its training delivery system with other AID projects, other donor agency projects, and national organizations

An ad hoc team representing the component departments of DISAR was formed to work with the consultant on conceptualizing and designing a training unit. A detailed plan for the unit was produced and reviewed within the Directorate and other units of the Ministry of Health. Suggested modifications were taken into account in finalizing the plan. The consultation included close coordination with the Primary Health Care program of the Ministry of Health, which is also receiving AID support. This program serves the same client group as that of DISAR, and there is a need to increase collaboration between the two programs.

Specific outcomes of the consultation were:

- Design of a plan of organization and implementation for a human resources development unit for DISAR.
- A short, medium, and long-term training schedule
- A model for curriculum design
- A plan for coordinating DISAR's training and community promotion activities with those of the Primary Health Care program.

In order that the planned unit become a reality, it is recommended that a number of key steps be taken:

- Active and prompt pursuit of official approval for the plan by the Ministry of Health

- Rapid identification and employment of a unit chief in order to facilitate early implementation of the training plan
- DISAR staff assigned to the new unit should receive immediate and periodic training in training methodologies and training management
- Once implemented, the unit's progress should be assessed periodically during the first two years, and short-term technical assistance provided as required.

It is also recommended that DISAR's community promotion activities related to the human resources development function be assessed periodically to ensure their effectiveness. Coordination of these activities with the Primary Health Care system should be strengthened.

A copy of the final report and detailed plan of organization for the DISAR training unit, in Spanish, was left with DISAR and the USAID Mission before the departure of the consultant from Peru.

Chapter 1

INTRODUCTION

1.1 Purpose of the Consultation

This report covers a consultation undertaken in Peru for the Water and Sanitation for Health (WASH) Project from February 5 to April 1, 1984. The purpose of the consultation was to provide technical assistance to USAID/ Peru in helping the Direccion de Saneamiento Rural (The Directorate of Sanitary Engineering DISAR), Ministry of Health, to establish a training unit and develop a training plan. DISAR is the government unit responsible for implementing an AID-funded rural water and sanitation project.

The scope of work for the consultation set down the following principal tasks:

1. Provide assistance to DISAR in organizing its training unit, including establishing its functions, organizational structure, and staff roles.
2. Assist in developing curricula of courses that DISAR will conduct under its rural water supply and sanitation program.
3. Assist DISAR in coordinating its training delivery system with other AID projects, other donor agencies, projects, and national organizations.
4. Write a final report summarizing the activities of the consultation and its major outcomes.

1.2 Scope of the Report

This report will discuss the following areas:

1. Background of the consultation
2. Implementation in the field
3. Outcomes of the consultation
4. Recommendations and conclusions.

Chapter 2

BACKGROUND

2.1 USAID/Peru Rural Water Systems and Environmental Sanitation Project

In 1980 USAID authorized \$5.5 million to install water supply systems and sanitation facilities and provide supporting activities (health education and operation and maintenance training) to improve the health of the populations of 420 small rural communities in six health regions of Peru. An additional \$5.5 million was committed to the project in 1982 to extend similar services to 240 more communities in four other regions. The agency with responsibility for accomplishing these objectives is the Direccion de Saneamiento Rural (DISAR--the Directorate of Sanitation Engineering of the Ministry of Health).

DISAR is responsible for the construction and supervision of rural water systems in Peru for communities with populations of between 500 and 2,000 persons. (Larger communities come under the jurisdiction of SENAPA, a decentralized government agency responsible for urban water and sewerage systems.) DISAR is itself part of a larger, recently created directorate within the Ministry of Health, the Direccion General del Medio Ambiente (DIGEMA), or General Directorate of the Environment (see Figure 1). DISAR is by far the largest component of DIGEMA in terms of personnel and budget, and since a significant percentage of its funding comes from independent sources, e.g., AID, IDB, the Federal Republic of Germany, and the Netherlands, it tends to overshadow the other components of DIGEMA on several levels.

DISAR is divided into five major divisions (see Figure 2):

- 1) Programming and Evaluation, which is responsible for formulating and monitoring long-, medium- and short-term plans, programming activities and evaluating results;
- 2) Administration, which is responsible for accounting, purchasing, storage and distribution of material and equipment, cost control and personnel;
- 3) Projects, responsible for preliminary assessment and design of water projects;
- 4) Works, responsible for directing, organizing and controlling construction of water systems,
- 5) Preservation and Supervision of Services, responsible for providing supervision and technical assistance to the community councils responsible for local administration of the water systems.

In addition to Lima-based personnel included in the units described above, DISAR supervises the technical activities of field personnel consisting of sanitary engineers, sanitary technicians, topographers, designers, warehousemen, chauffeurs, and support staff responsible for executing and supervising DISAR's programs in the field. This staff is attached to the 18 regional

ORGANIZATION CHART, DIGEMA (DIRECTORATE OF ENVIRONMENTAL HEALTH)

Ministry of Health

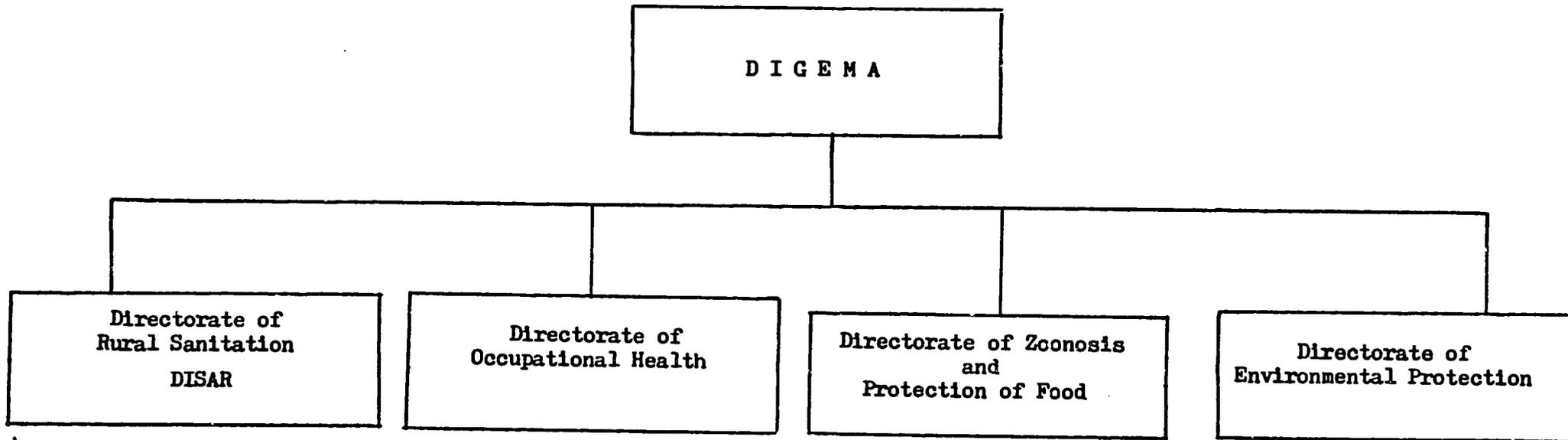


Figure 1

Sanchez

ORGANIGRAMA ESTRUCTURAL DE LA DIRECCION DE SANEAMIENTO RURAL

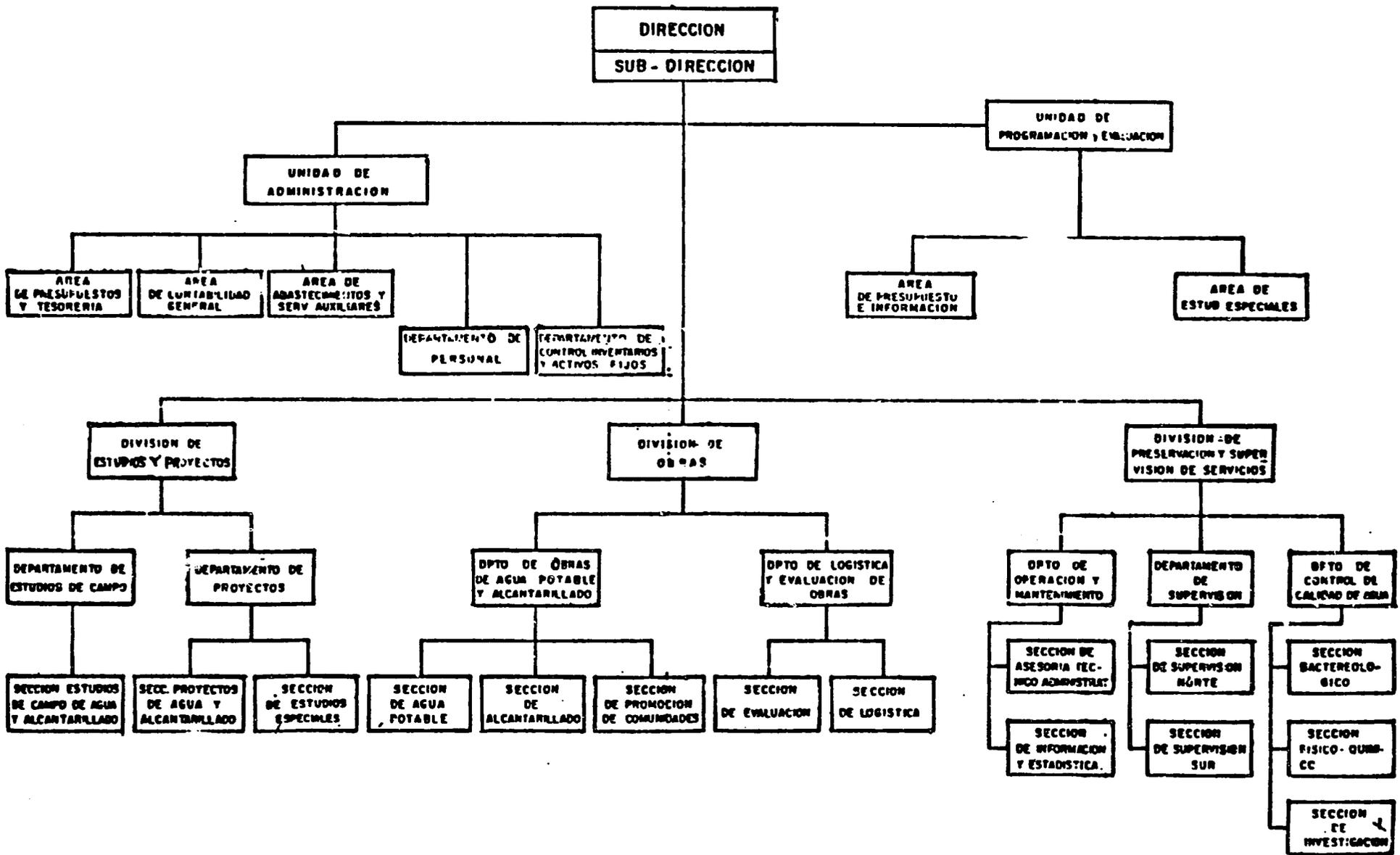


Figure 2

offices of the Ministry of Health and is administratively responsible to the medical chiefs of the regional offices. The arrangement is somewhat unwieldy and has on occasion given rise to problems of coordination but is consistent with the Ministry of Health's policy of both decentralizing services and administration and integrating them at the regional level. DISAR, along with other Ministry units, is in the process of implementing this policy, and the ongoing changes in relationships within and between units of the Ministry as the policy is carried out at operational levels are a source of some strain and stress to the units affected.

In addition to constructing rural potable water systems, DISAR is responsible for building sewer systems, although on a far lesser scale, and for installing latrines in the communities that are involved in the AID project.

2.2 GAO Audit

In early 1983 the U.S. General Accounting Office conducted a field evaluation* of the USAID/Peru Rural Water Project and concluded that it had serious problems, principally:

- Slow design and installation of the water supply system (only ten water supply systems out of a planned one hundred had been completed as of January 1983 although the project started in September 1980.
- Lack of critical operation and maintenance activities, and failure to implement planned training to support these activities.
- Lack of technical assistance to plan and administer the project.
- Ineffective health education activities.
- Delays in integrating water, sanitation, and primary health care activities.

2.3 USAID/Peru Response

In response to this report, the AID Mission in Peru initiated a number of key activities designed to correct the problems identified in the GAO Report. Among these were:

1. Provision for the hiring of additional DISAR sanitary engineers in order to facilitate an accelerated rate of construction of rural water systems. Training for these engineers was organized by DISAR and implemented in the fall of 1983.

* GAO Report to the Administrator, Agency for International Development: A Troubled Project--Rural Water Systems and Environmental Sanitation in Peru, June 2, 1983.

2. Contract of a U.S. sanitary engineer, Mr. Salvador Reyes of the Indian Health Service, to provide long-term technical assistance to DISAR. (Mr. Reyes arrived in Lima in April 1983 for a two-week TDY assignment and began his long-term assignment in August 1983).
3. Contract of a short-term consultation, provided through WASH, in order to develop an action plan to meet project objectives set for January 1984 and to develop a scope of work for further WASH Project assistance to USAID/Peru relative to the rural water and sanitation project.

The latter consultation, carried out by John Austin, AID/S&T/H/WS Washington, and Horst Otterstetter, PAHO/HPE, in July 1983, produced a detailed action plan covering institution building, training, appropriate technology and special studies (see Appendix A). While the projected dates for accomplishing the principal tasks in these areas fell between September 1983 and January 1984, the target dates were considered tentative, and a task of the present consultation was to determine the extent of completion of the first two areas, and facilitate follow-through where indicated.

Chapter 3

THE CURRENT CONSULTATION

3.1 Pre-Departure Preparation

Preparation for the consultation included review of the USAID Project Paper for the Rural Water Systems and Environmental Sanitation Project, the 1982 Amendment, the GAO project evaluation report, and the Scope of Work prepared by the Austin-Otterstetter team. Briefings were provided by WASH. A meeting was held with a WASH consultant who had carried out similar technical assistance to an AID-funded water project in Thailand.

A tentative work plan for the consultation was developed. Its principal activities included:

- Week I: Data gathering and orientation;
- Week II: Field visits and preparation for planning conference;
- Week III: Conference with DISAR personnel to develop a plan of organization for the training unit;
- Week IV: Finalize plan and prepare for curriculum development planning meeting;
- Week V: Curriculum planning meeting with DISAR personnel;
- Week VI: Curriculum plan finalized and submitted to DISAR for comment. Revisions as needed. Final reports and recommendations to DISAR and AID. Debriefings with each.

The rationale for the two planning conferences was to promote maximum participation of the DISAR staff in the planning of the training unit and in the design of training curricula for the rural water and environmental sanitation program in order to ensure DISAR "ownership" of the end products and facilitate their implementation after the consultation was completed.

3.2 In-Country Modifications

Once in Peru, it became apparent that the preliminary work plan as well as the scope of work for the consultation would require modification, due to external circumstances and to factors internal to DISAR. The principal external circumstance was the half-day summer schedule on which all government ministries and many other organizations were then functioning, limiting considerably the time available for the planned activities with DISAR and for meetings with related institutions.

The internal factors were several. Heading the list was the fact that the individual who had been identified to work with the consultant and to head the new training unit, resigned from DISAR the week before the consultation began

in order to take a position with SENAPA, the decentralized government agency responsible for urban water systems.* He was a sanitary engineer who for a number of years had been the chief of the Community Promotion Section of the Works Division of DISAR. In his stead three other individuals from the Community Promotion Section were assigned to work with the consultant--a health educator, a sanitary technician, and a community promoter. The community promoter was on a field assignment at the beginning of the consultation and did not join the team until two weeks later, then only participating intermittently, due to the pressure of other responsibilities (he in fact became acting chief of the Community Promotion Section).

The remaining team members, while pleased at the opportunity to become involved in the creation of a new organizational unit, were not candidates to head the unit, nor did they command the necessary respect within DISAR by reason of their position in the professional hierarchy. However, both had been with DISAR for many years and were knowledgeable as to its past history and current functioning. Nonetheless, they were not in a position to direct future implementation of the planning to be carried out during the consultation phase.

When this situation was discussed with the director of DISAR, the consultant was urged to use her interviews and interaction with other staff to identify and recommend someone who could be a candidate to head the training unit. This proved to be a difficult task, which was only partially resolved by the end of the consultancy. There were few, if any, staff members whose professional background and/or personal qualities approximated the prerequisites for directing a training unit.** The problem was further exacerbated by an environment of interdepartmental and interpersonal rivalries which made it difficult to identify someone on the staff who would be able to work effectively with all levels and units of the organization. The task of identifying someone to head the training unit proved no easier when the search was extended outside of the organization. One of the few likely candidates proved, at the last moment, to be unavailable, having been hired by CEPIS, the regional sanitary engineering training center of the Pan American Health Organization, located in Lima.

* SENAPA is in a position to offer substantially higher salaries than DISAR, and thus DISAR is losing some of its qualified personnel.

** A major problem in institutionalizing a training function in Peru is the fact that the concept of training, as opposed to education, is still relatively new, in spite of the excellent vocational training resources of SENATI, the government-sponsored, industry-funded training institute, and a few parallel groups, i.e., SENCICO, the training institute for the construction trades, CESPAC, which trains trainers and produces audiovisual training materials for the agricultural sector, etc. These and a number of other groups are the exceptions that prove the rule. There are few Peruvian professionals outside of these organizations who have had experience as trainers, and even fewer who could be considered as training managers, hence the difficulty of staffing an institutional training function.

The absence of assigned staff to implement the planning to take place during the consultation called into question the usefulness of carrying out at that time the curriculum development objectives of the original scope of work in the manner and to the degree originally planned, and these objectives were modified to conform with the current reality. (see discussion of curriculum outlines, Section 3.6 below.)

Another factor that required revision of the preliminary work plan was a scheduled week-long annual meeting in Cuzco of all DISAR staff, to begin on February 19. The purpose of the meeting was to bring together the Lima and regional staffs of DISAR with the medical chiefs and regional representatives of the Primary Health Care Program of the Ministry of Health in order to review the annual implementation plan for the AID/DISAR program for 1984. A second objective of the meeting was to promote integration and coordination between the chiefs of the regional offices, DISAR, and Primary Health Care personnel in the field offices of the Ministry. The frequent lack of coordination and collaboration between the medical chiefs who head the Regional Offices and the DISAR field personnel had been identified as one of the causes for delays in implementation of the rural water project under the AID program. It was hoped that a joint meeting of regional staffs to review and plan implementation of national targets for the rural water project would also serve as a team-building exercise.

While the week-long meeting meant that the planned consultation scheduled would have to be reworked, it was felt that the consultant's attendance at the meeting would be a very useful orientation to the government's rural water and primary health care programs, since an objective of the consultation was to assist DISAR to coordinate its training delivery system with other related AID projects.

At the last moment the Cuzco meeting had to be postponed, due to administrative problems involving both AID and DISAR, and was rescheduled for three weeks later, requiring yet another modification in the planned consultation schedule. When the meeting was postponed a second time because of unexpected difficulties, it was decided to extend the consultation period by two weeks, the rationale being that the meeting would now serve as an opportunity to share and get feedback on the training plan from the participants. (It should be noted that once the meeting actually took place during the week of March 18, it was highly successful, amply fulfilling its stated objectives. It is discussed in greater detail in Section 3.8 of this report.)

3.3 Orientation Activities

The first seven days of the consultation were principally spent in becoming familiar with DISAR, DIGEMA, and other related programs of the Ministry of Health as well as with other organizations such as SENATI, CEPIS, CESPAC, SENAPA, the IDB, CARE, etc. (see list of organizations and individuals contacted, Appendix E.) Staff members in all departments and at various levels of DISAR were interviewed to better understand the Directorate's programs and structure and obtain preliminary views on training needs and the concept of a training unit. USAID staff in the Office of Health, Nutrition, and Education were also interviewed to ensure clarity as to AID's expectations for the

results of the consultation. (Close contact with AID was maintained throughout the assignment. The Mission's interest in the success of the consultation was evidenced by its active support throughout.)

3.4 Field Visit

The postponement of the meeting in Cuzco made it possible, and especially useful, to carry out the originally planned field visit during the second week of the assignment, since there would not be the opportunity to meet with and gather information from regional staff in Cuzco for several more weeks. The city of Ica, to the south of Lima near the coast, was chosen, since it did not present the problems of accessibility that were plaguing other regions of the country at the time due to severe winter flooding and washouts of mountain roads. A three-day visit to Ica took place between February 15 and 17 and proved to be time well spent for the information and perspectives it provided on DISAR's program implementation in the field. DISAR and Primary Health Care staffs were interviewed and a number of rural water projects were visited, with opportunities to meet informally with community members.

3.5 Planning the Training Unit

3.5.1 Organization of the Planning Activity

In consultation with the director of DISAR, a week-long planning session was planned for the week of February 20 to conceptualize a training unit, define its purpose, identify the principal objectives, design its structure, and spell out the responsibilities of its units and staff. It was agreed that the heads of the five major divisions would participate for at least the first three days together with assigned representatives from their units. The latter personnel would continue the process until it was completed. (Since the half-day summer schedule was in effect there was some question as to whether the work could be completed by the end of the week.)

The director provided the consultant with a voluminous and detailed plan of the organization of DIGEMA that included DISAR and indicated that this was the model to be followed in designing the new unit since it was based on the organizational norms of the Ministry of Health. It was important that these norms be followed, since the plan for the unit would have to be submitted to the Office of Rationalization of the Ministry for review and approval before it could be implemented.

The planning week began with an introductory session in the director's office, attended by the unit heads and selected members of their staffs as well as the subdirector of DISAR. The purpose, objectives, tasks, tentative schedule and participation norms for the planning conference were presented for consideration and discussion. The subdirector took issue with the concept of the planning conference itself, as well as with a number of its objectives, feeling that there was no need to involve the staff in what he saw as the consultant's primary responsibility. He proposed that the consultant prepare a draft plan on her own and that this then be submitted to the unit heads for their comment and recommendations. A number of unit heads also agreed.

The consultant explained the rationale and advantages of joint planning, and after considerable discussion it was finally agreed that the unit heads would attend for the first day with other members of their staffs continuing the work. The meeting was then adjourned to another office which had been set up for that purpose. None of the unit heads arrived, although members of their staff did. The consultant decided to go ahead with the meeting nonetheless with those who were present, a total of seven individuals who "represented" the major units of DISAR. The team, while quite knowledgeable, was for the most part composed of members lower in the organizational hierarchy than the unit heads who were originally slated to attend. (Only one engineer participated in the meeting and then sporadically.)*

3.5.2 The Planning Process

The first session began with a review and clarification of the expectations and schedule for the week, as well as a discussion of the process to be followed and the norms for participation. Openness and informality were stressed. The substantive portion of the meeting began with a directed discussion of the perceived needs for a training unit within DISAR. The group was then divided into two teams to identify the general functions that the training unit might perform. These were then shared and compared. Using this material as a point of departure, the group then reviewed a preliminary plan that had been developed prior to the consultation. Three teams were then formed with the task of defining the purpose and general objectives of the unit. The teams were free to retain the definitions in the draft plan or to modify them. The rest of the morning was spent in again sharing, comparing, and reaching consensus on these items. The level of participation by group members was good, and it was apparent that they were enjoying what was for them a very new experience. There was inevitable discussion of past history and current institutional problems of DISAR from the point of view of "soldiers in the ranks," which provided yet another perspective of the organization.

While the first session had proceeded reasonably well, given the circumstances, the consultant felt the need to explore with the group the possibility of working full days in order to achieve the objectives for the week. Although not enthusiastic, the group agreed to follow a full day schedule if certain administrative problems related to the change in "normal" hours could be resolved through the director's office. Effecting the change proved to be a thorny procedure. The group did work the full day schedule for the next two days, but the administrative issue continued to be of concern. Whether for this or combined reasons, the afternoon sessions proved less productive, and on the fourth day the consultant decided to revert to the summer schedule.

In spite of the scheduling issue, the meetings did achieve the major part of their objectives by the end of the week. It remained for the consultant to

* The rest of the team was composed of a health educator, two community promoters, one sanitary technician who had had experience in training regional technical staff, an auditor from the Administration Unit, and an economist from Programming and Evaluation.

complete and refine the material the following week and put it into a first-draft form. At the same time the main outlines of the material were discussed with the director and the AID project officer all of whom were in general agreement with the direction the work was taking.

3.5.3 Outline of the Training Unit

The principal outlines of the training unit as it developed from the planning sessions were the following, translated from Spanish:*

Title: Human Resources Development Unit

Purpose: To contribute to the achievement of the objectives of the National Plan for Rural Water and Sewage through the promotion of the optimum performance of the human resources available to DISAR.

General Objectives:

1. To promote the optimum performance of the personnel of DISAR in the central headquarters as well as in the field through programs of orientation, training and education, according to the requirements of the various dependencies of the Directorate.

2. To promote the organizational effectiveness of DISAR through activities directed to reinforcing teamwork at all levels.

3. To contribute to raising the level of health of rural communities through promotion, education, and training related to potable water and sewerage systems.

4. To maintain the quality of services to DISAR through investigation and diffusion of information with respect to appropriate technology, community participation, and other aspects of the field of potable water, sewerage, and latrine systems.

General Functions

1. Elaborate and propose human resources development policies for DISAR, in accord with goals established by the Directorate.

2. Forecast the human resources required by DISAR to enable it to meet the goals and objectives of the National Rural Potable Water and Sewerage Plan.

* The wording of several draft versions was much discussed and went through many iterations before a final draft was submitted. It was necessary to achieve the correct nuances in order to satisfy the concerns of varied units within DISAR as well as DIGEMA and other units of the Ministry of Health.

3. In coordination with other units of DISAR, direct, program, execute, and evaluate activities to train and improve individual and team performance at all levels of the Directorate.

4. Program, execute, and evaluate educational materials and activities to support the motivation, education, and training of the population of rural communities included in the National Rural Potable Water and Sewerage Plan, reinforcing their knowledge and skills in the use and maintenance of potable water, sewerage, and latrine systems.

5. Coordinate activities with other dependencies of the Ministry of Health and other public sector agencies to support the National Rural Potable Water and Sewerage Plan.

6. Promote, organize, and coordinate socio-cultural studies related to DISAR's purpose, in order to obtain and disseminate information that supports the implementation of the National Rural Potable Water and Sewage Plan.

7. Identify and utilize educational resources of other public and private entities to support the training and actualization of DISAR's personnel.

General Activities

Summarized, the general activities of the Human Resources Development Unit were defined as:

1. Design, implementation and/or coordination of training in the areas of:

- (a) technical skills
- (b) management and supervision
- (c) project management
- (d) community promotion and organization.

2. Development and/or acquisition of training and educational materials.

3. Coordination of activities with the training units of the Regional Health Offices (see Section 3.7 below for a discussion of these units).

4. Supervision of promotion activities.

Location Within DISAR

The proposed Human Resources Development Unit was placed on a line with the Programming and Evaluation Unit, and the Administration Unit, both of which are considered support units for the Director and serve the three executing divisions--Design, Works, and Preservation and Supervision of Services (see Figure 3). The rationale for this placement was that the unit, as designed, would also be a support unit serving the three line divisions as well as the other units of the Directorate.

ORGANIZATION CHART - DISAR
WITH HUMAN RESOURCES DEVELOPMENT UNIT

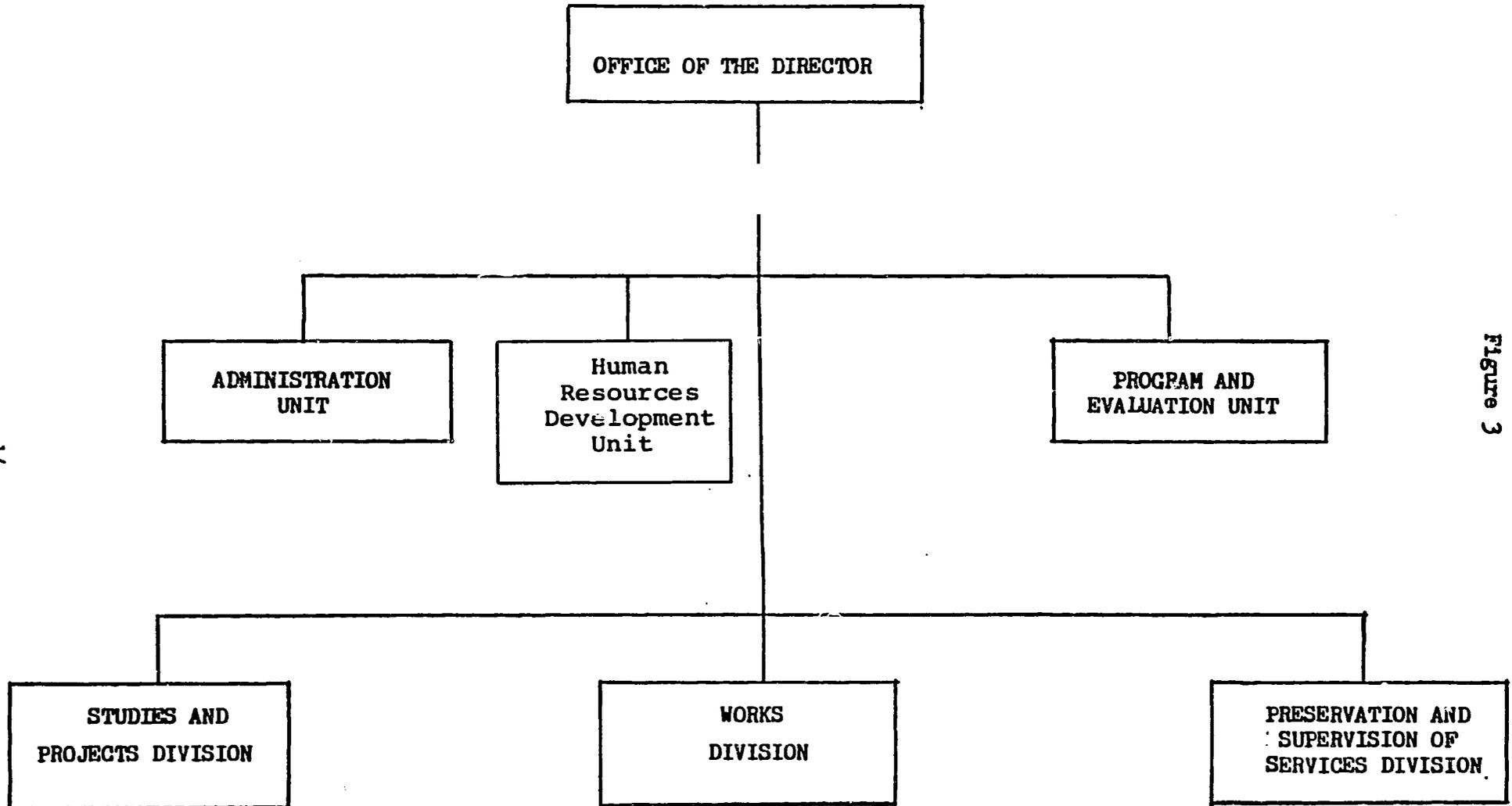


Figure 3

Structure

The HRD unit was designed to have two main sections, reflecting its principal client groups--the DISAR staff and the rural communities they serve (see Figure 4). The sections are the Area of Training Services under which fall the Training Group and the Training Aids Group. The second section is the area of Community Promotion and Regional Coordination, under which fall the Sanitary Education Group and the Community Promotion Group.* As the titles suggest, the Training Services Area focuses on the training function itself engaging in all of the activities required to implement this function for the DISAR staff, while the Community Promotion and Regional Coordination Area focuses on promotion, sanitary education, and training for the rural communities included in DISAR's program. (The reasons for including the promotion function in the new unit are discussed below. A detailed description of the functions of all the subunits within the proposed HRD unit was included, in Spanish, in the consultant's report left was DISAR.)

As noted above, the new unit, as conceptualized, went beyond training to include aspects of a broader definition of human resources development for DISAR--community promotion and organization, organization development, and research directed to supporting the HRD function.

The inclusion of the community promotion function was arrived at after much discussion and some hesitation, since it is currently located in the Works Division. The rationale for including it in the new unit was based on several factors, namely:

1. The community promotion function is closely allied with human resource development in that it seeks to further human change through training and related activities. An important element of DISAR's program is the training of the community councils responsible for administering and maintaining the water systems and orientation of the communities as to their responsibilities as users of water systems.
2. The community promotion function as presently implemented by DISAR was felt to be limited in scope and ineffective in supporting the long-term responsibilities of the communities to maintain their water systems as well as ensuring their ongoing commitment to environmental sanitation and health practices.
3. Promotion and training activities at the community level are required during all three phases of the water projects design, execution, and preservation. The function should therefore be placed in a unit that could provide needed services in all of the phases.
4. With the increasing decentralization of DISAR, in keeping with current Ministry policy, the field staff, rather than Lima-based promoters, should have principal responsibility for carrying out the promotion function. The function of the central office with respect to promotion should be limited to supporting field promotion

* The nomenclature of the units and subunits within DISAR follow an official model for all government agencies in Peru.

Structure

The HRD unit was designed to have two main sections, reflecting its principal client groups--the DISAR staff and the rural communities they serve (see Figure 4). The sections are the Area of Training Services under which fall the Training Group and the Training Aids Group. The second section is the area of Community Promotion and Regional Coordination, under which fall the Sanitary Education Group and the Community Promotion Group.* As the titles suggest, the Training Services Area focuses on the training function itself engaging in all of the activities required to implement this function for the DISAR staff, while the Community Promotion and Regional Coordination Area focuses on promotion, sanitary education, and training for the rural communities included in DISAR's program. (The reasons for including the promotion function in the new unit are discussed below. A detailed description of the functions of all the subunits within the proposed HRD unit was included, in Spanish, in the consultant's report left was DISAR.)

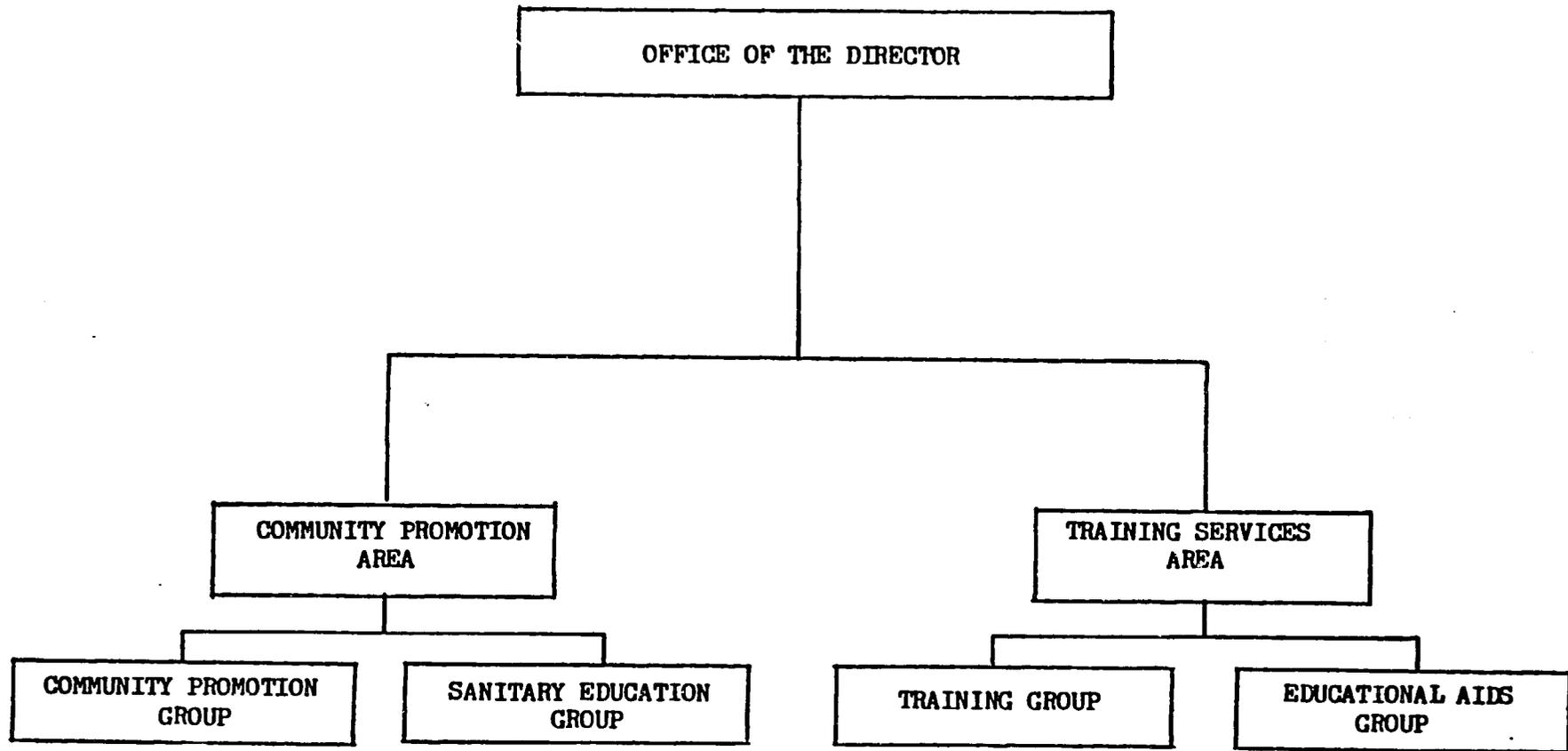
As noted above, the new unit, as conceptualized, went beyond training to include aspects of a broader definition of human resources development for DISAR--community promotion and organization, organization development, and research directed to supporting the HRD function.

The inclusion of the community promotion function was arrived at after much discussion and some hesitation, since it is currently located in the Works Division. The rationale for including it in the new unit was based on several factors, namely:

1. The community promotion function is closely allied with human resource development in that it seeks to further human change through training and related activities. An important element of DISAR's program is the training of the community councils responsible for administering and maintaining the water systems and orientation of the communities as to their responsibilities as users of water systems.
2. The community promotion function as presently implemented by DISAR was felt to be limited in scope and ineffective in supporting the long-term responsibilities of the communities to maintain their water systems as well as ensuring their ongoing commitment to environmental sanitation and health practices.
3. Promotion and training activities at the community level are required during all three phases of the water projects design, execution, and preservation. The function should therefore be placed in a unit that could provide needed services in all of the phases.
4. With the increasing decentralization of DISAR, in keeping with current Ministry policy, the field staff, rather than Lima-based promoters, should have principal responsibility for carrying out the promotion function. The function of the central office with respect to promotion should be limited to supporting field promotion

The nomenclature of the units and subunits within DISAR follow an official model for all government agencies in Peru.

ORGANIZATION CHART
HUMAN RESOURCES DEVELOPMENT UNIT - DISAR



activities through training, development of promotion materials, and general supervision and review. These activities could approximately be attached to a human resources development unit.

It should be noted that three participants on the planning team were members of the Community Promotion Section. They were the most insistent on the need to move the promotion function from the Works Division into a more broadly-based unit where it would have the importance and attention they felt it required. Much of their reasoning was confirmed by a number of other sources both within and outside of DISAR.

Although the group surmised that the proposed change would meet resistance from the chief of the Works Division, they felt that it should remain in the draft plan in order to reach and be discussed at a higher level. At one point during the week, the chief of the Works Division joined the group briefly and observed an organization chart of the proposed unit as well as descriptions of its functions on newsprint. He noted and commented on the fact that the promotion section was included in it, studied the material and, from his comments, appeared to agree that the move was logical.

3.5.4 The Review Process

As noted earlier, as the first draft of the plan for the new unit took shape, the Director was apprised of its outlines and key elements. A meeting was arranged with the Director of DIGEMA to also apprise him of progress to date, since his approval would be required for any organizational change within DISAR. He was presented with a verbal description of the plans as they had emerged, as well as with a written outline of the proposed purpose, objectives and functions of the new unit, and the proposed organization chart. While he appeared in general agreement, he was concerned at the references to "organizational effectiveness" and "reinforcing teamwork" in the objectives, since he felt that this reflected on the current effectiveness of the organization and that such matters needed to be handled "very carefully."

These comments notwithstanding, the director of DISAR felt that the consultant could complete a first draft, which would then be reviewed by the DISAR unit heads. Copies of the completed first draft were subsequently distributed to the unit heads and a meeting date was arranged.

The meeting produced considerable negative reactions from some of the participants while others limited themselves to questions for clarification of specific points or remained silent. The main points at issue were: (a) the unit heads had not been adequately consulted (this in spite of the earlier invitation for them to participate in the planning meetings); (b) the promotion function was being carried out at present formally and informally and quite adequately in other units; (c) the proposed unit was too large and had too many functions (it was planned to eventually have seven members and a secretary; the start-up staff would be much smaller); (d) the unit, as described, was usurping the functions of the director's office (the director did not agree); (e) the plan did not take into account the fact that training for communities was at present being carried out by the Division of Preservation and Supervision of Services (the head of this unit had, in fact, been consulted previously on this issue, and agreed that the function would be

transferred to the new unit); (f) according to the position descriptions in the plan, there was no room in the proposed unit for inclusion of persons currently on the DISAR staff (actually, several staff members were considered to be candidates for positions at the Area level); (g) the research and investigation function was at present the responsibility of the subdirector (while it had not been planned that the new unit would be involved in studies of technical matters, the point was quite valid, and it was agreed that the language of the plan would be modified in order to clarify this issue).

The issues raised were examined and clarified, where possible. It was plain that the proposed unit was seen, at least by some of those present, as diminishing their own spheres of influence within the organization. It was also apparent that other issues were making it difficult to have an objective discussion on the merits of the plan alone. It was finally suggested, and accepted, that the consultant meet individually with each of the unit heads to review their concerns and make any modifications indicated.

The individual meetings that took place over the following days showed that most of the unit heads in fact supported the proposed plan, with minor modifications. The principal difficulty lay with the location of the promotion function. The head of the Works Division now maintains that it should remain in that unit for reasons of efficiency in meeting the requirements of community participation during the construction phase of the potable water projects.* The "promotion" tasks entailed in meeting these requirements, however, seemed more administrative than promotional and did not deal with the larger issues of long-term community involvement discussed earlier in this report.

After considerable exploration of this issue at various levels of the institution and with knowledgeable sources outside of DISAR, it was decided to recommend retention of the function within the Human Resources Development Unit.

A final meeting was held with DIGEMA before the consultant left Lima, in order to present and discuss a copy of the final draft of the plan for the Human Resources Development Unit. A principal concern expressed during the meeting was the question of why the unit did not include all of DIGEMA, rather than being limited to DISAR. This was obviously outside the scope of work of the consultation, and raising the issue at that point in time meant that it would have to be dealt with independent of the consultation. Concern was also expressed at the prerequisites proposed for the human resources development unit staff, particularly for that of the chief of the unit. It was felt that it would be difficult to meet these prerequisites, given the scarcity of human resource development professionals in Peru. Although the original prerequisites formulated had been modified from those that would be expected in a more developed setting, it was agreed to bring them further in line with what appeared feasible at this time.

* Communities involved in the water projects were required to form Administrative Councils, sign agreements to provide unskilled labor for the construction of the water system, provide necessary land for storage of materials and other purposes, collect money for construction costs (80 percent had to be paid before construction would begin), arrange user contracts with individual families, and submit periodic reports as well as the remaining 20 percent of payments to DISAR.

3.5.5 Future Implementation of the Human Resources Development Unit

The ultimate implementation of the new unit will be subject to a number of formal and informal approvals at a number of levels. There will undoubtedly be additional review and modifications of the plan document within DISAR and then by DIGEMA. The plan must then be formally submitted to the Office of Rationalization of the Ministry of Health which must review and approve any structural changes within units of the Ministry. The School of Public Health, which is attached to the Ministry and is responsible for the training of all health personnel, may also enter the approval process. Finally, a ministerial resolution will be required to put the official seal of approval on the proposed unit. The speed and ease with which the official approvals are accomplished will depend to a large extent on the agility of DISAR in moving the plan through the bureaucracy, the collaboration of DIGEMA, and the informal role that AID can play at the ministerial level. (The consultant visited the Office of Rationalization and the School of Public Health as the planning took place, in order to apprise them of the proposed human resources development unit and to give them an opportunity for prior comment.)

3.6 The Training Plan

In accordance with the scope of work, a short-, medium, and long-term training plan was developed for DISAR based on available data. In fact little hard data were available, since DISAR does not have a management information system that could produce the data required for a training needs analysis. Given this reality, the consultant developed a training plan based on information derived from a simple questionnaire administered to all levels of the DISAR staff in Lima, and a similar questionnaire administered to regional staff assembled at the meeting in Cuzco (see Appendix B). This was supplemented by interviews with representative personnel in both areas.

In summary, the major areas of perceived training needs, in order of descending priority, were:

1. Technical training related to the design, construction and maintenance of rural potable water systems. It was felt that this training was required on various levels for a wide range of personnel and other individuals related to the rural water program, including new and old engineers, sanitary technicians, construction foremen, community administrative councils, system operators, and personnel of the Primary Health Care Program (the latter level requiring information and basic concepts).
2. Techniques of rural community promotion and organization. Again, training in this area was recommended for a broad range of personnel.
3. Training and coaching techniques for engineers, sanitary technicians, construction foremen, and auxiliary sanitary technicians.
4. Management and administration of programs and personnel for the heads of units, divisions, areas and sections, as well as the chief engineers in the regional offices.

5. Supervision of programs, projects, and personnel for heads of departments and offices, regional engineers, sanitary technicians and construction foremen.
6. Technical training in diverse areas for administrative, support and auxiliary personnel (i.e., bookkeepers, secretaries, chauffeurs, warehousemen, etc.).

As noted earlier, it was decided that in the absence of appropriate training personnel to implement the work of the consultant, the scope of work relating to the development of curriculum would be limited to the development of a format for writing course curricula.

A format loosely based on a model included in the Caribbean Basin Water Management Project Trainers Manual was developed and included in the consultation report to DISAR. A model for a basic orientation course for new engineers to be hired by DISAR in the coming weeks was also developed with the collaboration of the long-term AID consultant attached to DISAR (see Appendix C).

3.7 Coordination With Other Programs and Resources

3.7.1 The Primary Health Care Program

As the plan for the new DISAR training unit moved forward, ways were sought to coordinate its activities with parallel activities of the AID-supported Primary Health Care Project of the Ministry of Health. As the name suggests, the project is directed to providing essential health services to rural communities through local health centers, health posts, and community-based health promoters. These are the first level of a four-level public health system that graduates to local and regional hospitals, all supervised and administered by the regional offices of the Ministry of Health. The Primary Health Care Program promotes family planning, nutrition, and preventive health care services.

The Rural Water and Environmental Sanitation program has a number of points where its interests join those of Primary Health Care, e.g., both promote community health and both include important elements of community health education, and participation. (The Primary Health Care system, in contrast to DISAR, identifies and names health promoters in each community. These are unpaid members of the community who receive training and ongoing support from the regional health offices and are considered the first link in the rural health care system. DISAR does not have promoters from the community). While some collaboration does take place between the two programs in the field, it has been minimal,* and there has been increasing pressure both from the Ministry of Health and from AID to increase collaboration and integration of their activities at the regional office and community level.

* Part of the problem stems from the fact that the Rural Water and Sanitation Program is seen as primarily an engineering activity, staffed by engineering personnel. As such, it has been relatively isolated from the medical/health-oriented program and personnel of the Primary Health Care system. Communication between the two programs is limited. A task of the integration process is to bridge the information and communication gap.

A recent development, that of the creation of training units within the regional offices of the Ministry of Health, has added another element of common interest between the two programs, one that had immediate relevance to the present consultation. These units represent the decentralization of the School of Public Health's functions at the regional level, although they are still under the supervision of the school. Still at an incipient stage, these regional training units are expected to provide training for regional health personnel. Given the policy of coordination of health sector programs in the regions, it was important that they be taken into account in the planning for the DISAR training unit.

To promote the needed coordination, frequent meetings took place between the WASH consultant and a long-term Westinghouse human resource development consultant assigned, through AID, to give technical assistance to the Primary Health Care Project. One of her responsibilities was to assist the development of the regional health office training units. As a result of these meetings, it was possible to develop an operational system for the DISAR unit that included major coordination with the regional health office training units. Its principal points were discussed and reviewed at several levels within DISAR and AID and with representatives of the Primary Health Care Program at the ministerial and regional levels. A description of this system and a flow chart illustrating it graphically were included in the final document presented to DISAR.*

Possible areas of collaboration and coordination between the two training systems would include the training of regional Rural Water and Environmental Sanitation program (DISAR) personnel by the regional Primary Health Care training units in such topics as community organization and promotion skills, health education techniques, elements of primary health care, and possibly techniques of program management and supervision of personnel. At the same time, the DISAR training unit would develop modules on the Rural Water and Environmental Sanitation program for the Primary Health Care training units in order to orient their own personnel to the DISAR program. In all probability regional personnel from both programs would participate as trainers for each other's personnel where appropriate. The definition of the operational details of the planned coordination must await the evolution of both the DISAR and the regional health training units and will undoubtedly proceed slowly as alternative arrangements are tested.

An early result of the coordination plan was a proposal to include DISAR staff in a training of trainers project from members of the regional training units. The projects, to be carried out through the School of Public Health, will include a series of three training seminars to be held in different areas of the country, beginning with a pilot seminar to be held in Lima in July. At a minimum, three members of the Community Promotion Section of DISAR would participate in addition to any other staff identified by that date as personnel of the Human Resources Development Unit.

* See Appendix D.

3.7.2 Other Resources

Although the half-day summer schedule limited the effort to identify other institutions that could provide training resources for DISAR in coordination with the proposed training unit, some important contacts were made with SENATI, CEPIS, CESPAC and SENCICO (see earlier descriptions). At each of these institutions information was gathered on resources relevant to the needs of DISAR, as well as on procedures for collaboration and tentative costs. Each has useful resources that could support DISAR's training goals, although cost factors might affect their utilization to some degree. Information on these institutions, as well as others that were identified, though not visited, was included in the consultant's report to DISAR.

3.8 Cuzco Meeting, March 18-22

The meeting of DISAR and regional health office personnel to review and finalize the 1984 implementation plan for the AID Rural Water and Environmental Sanitation Project took place in Cuzco during the week of March 18. It was attended by the Lima and regional staffs of DISAR, the chiefs of the regional health offices, and regional representatives of the Primary Health Care program as well as representatives of AID and the Ministry of Health.

The program for the week was divided into general introductory presentations by the representatives of DISAR, Primary Health Care, and AID with opportunities for open discussion on the presentations. This was followed by a division of the participants into work teams by regions, in order to review and develop local implementation plans for the 1984 Rural Water Plan.

The WASH consultant attended the early part of the meeting, using it as an opportunity to make a formal presentation on the proposed Human Resources Development Unit as well as to administer a training needs questionnaire to DISAR staff. Attendance at the meeting also made it possible to personally discuss the training unit and its planned activities with the regional personnel of DISAR and the Primary Health Care program. These discussions were particularly helpful, since most of the latter group were also members of the regional health office training units.

There was considerable interest and support for the DISAR training unit expressed by the regional DISAR personnel. Interestingly, the Primary Health Care personnel saw it as a supporting resource for their own training units, while some medical chiefs of the regional health offices were concerned that it would compete with these units. Considerable effort was given to clarifying the overall relationships between the two systems and, at least within the context of the meeting, these concerns appeared to be laid to rest.

3.9 Final Meeting with DISAR

At the conclusion of the consultation a final meeting was held with the director of DISAR at which time the results of the technical assistance provided were reviewed and the steps required to ensure the establishment and operation of the Human Resources Development Unit were discussed. Particular attention was given to the issue of staffing, and the consultant made some

recommendations with respect to current DISAR personnel. It was agreed that DISAR would look outside of the organization to fill the position of the Chief of the Unit and that in the interim a current professional on the DISAR staff, an engineer with a background in education, would be assigned to coordinate the development of the training unit.

Chapter 4

ASSESSMENT, RECOMMENDATIONS AND CONCLUSION

4.1 Outcomes

Several important outcomes resulted from the consultation. These are:

1. A detailed plan of organization for a human resources development unit for DISAR, including a short-, medium- and long-term plan of implementation.
2. General data on perceived training needs within DISAR and a short-, medium-, and long-term schedule for training activities.
3. A model for curriculum design.
4. A plan for the coordination of DISAR's training and community promotion activities with those of the Primary Health Care program.
5. A clearer understanding by DISAR staff of the differences between education and training and of the organizational implications of a modern program of human resources development.
6. Recognition of the importance of staff development and a constituency within DISAR which did not exist prior to the consultation.

The raising and exploration of the issue of the community promotion function, regardless of its ultimate outcome, provided an opportunity for DISAR to reassess implementation of this important element of its program.

4.2 Recommendations

The successful establishment and operation of the proposed human resources development unit for DISAR will require a number of conditions and steps. These are:

1. Active support for and pursuit of its approval by the Ministry of Health by the director of DISAR and the AID mission.
2. Rapid identification and employment of a Chief for the new unit. This individual should have the professional and personal qualifications that will command respect and collaboration within DISAR, DIGEMA, and other units of the Ministry of Health.
3. Provision of periodic training of trainers and training management courses to DISAR staff assigned to the human resources development unit.

4. Design and implementation of a simple management information system that will (a) be acceptable to the Ministry of Health; (b) permit assessment of staff performance; (c) provide data for identification of training needs; and (d) facilitate evaluation of training programs.
5. Periodic assessment of the progress of the new unit by an outside source during the first two years of its implementation and provision of short-term technical assistance as required.
6. DISAR community promotion activities related to the human resources development function should be assessed periodically to ensure their effectiveness. Coordination of these activities with the Primary Health Care system should be strengthened.

4.3 Conclusion

This consultation provided needed technical assistance to aid DISAR in developing a training capability. The Directorate now has the basic instruments required to institutionalize the training function and a long-range plan to implement it. It rests with DISAR to take the next steps.

APPENDIX A

OTTERSTETTER ACTION PLAN FOR PERU RURAL WATER PROJECT

ACTION PLAN FOR PERU RURAL WATER PROJECT

COMPONENT: 1 - Institution Building

DRAFT: 1

BY: H. Otterstetter

DATE: August 11, 1983

ACTION TO BE TAKEN	OUTCOMES	RESPONSIBILITY	
		OF	DATE DUE
1.7.4 Develop additional models as necessary	1.7.4 Models developed	WASH	According to Time Chart 1.6
1.7.5 Institutionalize adopted organizational models according to time chart in 1.6	1.7.5 Models institutionalized	DISAR	idem
1.7.6 Review and adjust models	1.7.6 Models revised	DISAR	idem
1.8 Design a management information system for decision making process for DISAR			
1.8.1 Define purpose of information system	1.8.1 Purpose defined	DISAR	29 Feb.84
1.8.2 Identify users of information system	1.8.2 Users identified	WASH	30 Mar.84
1.8.3 Decide on type of information and frequency of collection	1.8.3 type and frequency defined	WASH	30 Mar.84
1.8.4 Identify sources of data and information	1.8.4 Sources identified	WASH	30 Mar.84
1.8.5 Collect and analyse existing data base information systems within MOH/DIGEMA; WHO/PAHO, etc.	1.8.5 Systems analyzed	WASH	11 May 84
1.8.6 Adapt existing system to DISAR's needs or develop new system	1.8.6 Adaptation completed	WASH	29 June 84
1.8.7 Decide on type of data management system	1.8.7 System chosen	DISAR	31 May 84
1.8.8 Develop the manual for operation of the information system	1.8.8 Manual Developed	WASH	11 July 84
1.8.9 Test the system and adjust as necessary	1.8.9 Testing and revisions completed	WASH	1 Dec.84
1.9 Conduct an institutional climate survey within DISAR at central and regional levels			
1.9.1 Define objectives of the survey	1.9.1 Objectives defined	DISAR	1 Jan.84
1.9.2 Develop survey format	1.9.2 Format developed	WASH	31 Jan.84
1.9.3 Train team to conduct survey	1.9.3 Surveyors trained	WASH	10 Feb.84
1.9.4 Conduct survey	1.9.4 Survey completed	WASH	15 May 84
1.9.5 Analyse data and information gathered	1.9.5 Data and information analysed	WASH	15 June 84
1.9.6 Produce conclusions and recommendations for action	1.9.6 Final report	WASH	30 June 84
1.9.7 Take action as needed	1.9.7 Action taken	DISAR	

ACTION PLAN FOR PERU RURAL WATER PROJECT

COMPONENT: 2 Training

DRAFT: 1

BY: John H. Austin

DATE: August 11, 1983

ACTION TO BE TAKEN	OUTCOMES	RESPONSIBILITY	
		OF	DATE DUE
2.1 Develop and implement an in-house management system for all training activities within DISAR central and regional offices.	2.1 Procedures developed-lines of communication defined-reporting systems in place. 2.1.1 First draft " 2.1.2 Reviewed and changes suggested 2.1.3 Second draft (for use for next six months) 2.1.4 Revise system	DISAR WASH DISAR WASH DISAR	30 Sept. 83 14 Oct. 83 1 Nov. 83 30 Jun. 84 30 Sept. 83
2.2 Establish methods of collaboration and sharing of information with PAHO (including CEPIS), BID, CARE, AILIS, etc.	2.2 E.g. contact person selected, means of sharing information agreed upon, periodic meeting time established		
2.3 Define types (job titles) and numbers of personnel needed for various project related activities in the following organizations: DISAR (central and region) (e.g. Engineers, Tecnicos de Saneamiento, Auxiliares de Saneamiento, Administrative personnel, training coordinators, etc.) Other MOH (e.g. PHC workers; Health inspectors; Health promoters; training coordinators, etc.) Regional Development Corporation (e.g. Engineers; Tecnicos; promoters, etc.) Community (e.g. Construction Junta, Administrative Junta, Care taker).			
2.3.1 Develop worksheets to use	2.3.1 Worksheets	WASH	15 Sept. 83
2.3.2 Make estimates for needs (by year 83, 84)	2.3.2 First draft of completed worksheets	DISAR	30 Sept. 83
2.3.3 Review and change as appropriate	2.3.3 Revised worksheets	WASH	14 Oct. 83
2.3.4 Make estimates for 1985	2.3.4 Completed worksheets	DISAR	30 Jun 84
2.4 Carry out task analysis for all tasks to be carried out to accomplish project objectives.			
2.4.1 Develop worksheets	2.4.1 Worksheets	WASH	30 Sept. 83
2.4.2 Field test worksheets	2.4.2 Worksheets tested and revised as necessary.	DISAR	14 Oct. 83
2.4.3 Conduct task analysis	2.4.3 Completed task analysis including knowledge and skill requirements.	WASH	31 Oct. 83

ACTION PLAN FOR PERU RURAL WATER PROJECT

COMPONENT: 2 Training

DRAFT: 1

BY: John H. Austin

DATE: August 11, 1983

ACTION TO BE TAKEN	OUTCOMES	RESPONSIBILITY	
		OF	DATE DUE
2.5 Assign tasks, responsibilities and establish chain of command for each worker.			
2.5.1 Develop worksheets	2.5.1 Worksheets.	WASH	14 Oct. 83
2.5.2 Field test worksheets	2.5.2 Worksheets tested and revised as necessary.	DISAR	31 Oct. 83
2.5.3 Complete assignments and define chain of command	2.5.3 Worksheets completed.	DISAR	11 Nov. 83
2.6 Develop job descriptions for all project related activities for each job title.			
2.6.1 Develop worksheets.	2.6.1 Worksheets.	WASH	14 Oct. 83
2.6.2 Field test worksheets.	2.6.2 Worksheets tested and revised as necessary.	DISAR	31 Oct. 83
2.6.3 Complete job descriptions.	2.6.3 Job descriptions completed.	DISAR	30 Nov. 83
2.7 Collect appropriate training materials, outlines, syllabi, curricula in required subject areas.			
2.7.1 Information from REPIDISCA	2.7.1 Copies of materials or information on how to obtain.	DISAR	31 Oct. 83
2.7.2 Information from organizations (PVO's, donors, etc.) not linked to REPIDISCA.	2.7.2 Copies of materials or information on how to obtain.	WASH	31 Oct. 83
2.8 Collect information on courses, workshops, organizations, programs, consultants who could assist with training in required subject areas.			
2.8.1 Information from REPIDISCA.	2.8.1 List of information	DISAR	31 Oct. 83
2.8.2 Information from organizations (PVO's, donors, etc.) not linked to REPIDISCA.	2.8.2 List of information	WASH	31 Oct. 83
2.9 Evaluate suitability of training materials, etc. (2.7) and courses, etc. (2.8)			
2.9.1 Develop evaluation system.	2.9.1 An evaluation methodology	WASH	31 Oct. 83
2.9.2 Conduct evaluation.	2.9.2 Evaluation of each item.	WASH	30 Nov. 83
2.9.3 Determine what new materials, outlines, syllabi, curricula, courses, workshops, etc, must be developed or adopted.	2.9.3 Listing of items.	WASH	9 Dec. 83
2.10 Explore methods of collaborating with Peruvian organizations (e.g. ESPAC, SENAPA, SENCICO, SENATI, universities, etc.)			

ACTION PLAN FOR PERU RURAL WATER PROJECT

COMPONENT: 2 Training

DRAFT: 1

BY: John H. Austin

DATE: 11 August 1983

ACTION TO BE TAKEN	OUTCOMES	RESPONSIBILITY	
		OF	DATE DUE
2.17 Develop 5-year training plan.	2.17.1 Draft plan developed.	WASH	31 Jan. 84
2.17.1 Develop 5-year training plan	2.17.2 Revised plan,	DISAR	17 Feb. 84
2.17.2 Review 5-year draft training plan of DISAR and suggest changes	2.17.3 Second draft of plan.	WASH	16 Mar. 84
2.17.3 Negotiate changes in plan.	2.17.4 Approved plan.	DISAR	30 Apr. 84
2.17.4 Obtain approval of plan.	2.18.1 First draft of plan.	DISAR	30 Apr. 84
2.18 Develop 1985 training plan.	2.18.2 Revised plan.	WASH	30 July 84
2.18.1 Develop 1985 training plan.	2.18.3 Approved plan.	DISAR	31 Aug. 84
2.18.2 Review 1985 training plan and suggest changes.	2.19 A schedule.	DISAR	1 Oct. 83
2.18.3 Obtain approval of plan.	2.20 Fate determined.	DISAR	3 months prior to contract termination.
2.19 Develop detailed schedule of use of training materials and vehicle with A-V supplied by project			
2.20 Determine future of regional engineers hired on contractual basis.			

APPENDIX B

FORMAT FOR TRAINING NEEDS QUESTIONNAIRE

TRAINING NEEDS QUESTIONNAIRE
(Administered to DISAR staff - Lima)

NAME

UNIT

POSITION

1. What training do you think is needed by the personnel in your unit in order to reach the goals for DISAR's work plan for 1985 - 85? Specify the personnel and their positions.

2. In what specialization would you like to receive training? Indicate the institutions that offer training in this area, if you know them.

TRAINING NEEDS QUESTIONNAIRE
(Administered to DISAR regional staff)

1. In what skill or knowledge areas related to the construction and maintenance of water and sewage systems do you feel the following groups should receive training? (Indicate the areas that correspond to each group).

Category I: Engineers, sanitary technicians, topographers, designers, construction foremen.

2. Category II: Primary Health Care personnel (doctors, nurses, midwives, health auxiliaries, health promotors).

Category III: Users of water and sewage systems, administrative councils, system operators, local authorities, etc.

2. Indicate the order of priority of the categories you have mentioned.

APPENDIX C

MODEL OF A BASIC ORIENTATION COURSE FOR NEW ENGINEERS (SPANISH)

**CURSO DE ADIESTRAMIENTO EN ESTUDIOS, PROYECTOS
Y EJECUCION DE OBRAS DE AGUA POTABLE RURAL**

Propósito: Orientar al nuevo personal de ingeniería sanitaria de DISAR a los objetivos, políticas y programas de la Dirección, y proveerlos con los conocimientos y destrezas fundamentales del diseño, construcción, administración, operación y mantenimiento de sistemas de agua potable rural.

Objetivos: Al finalizar el curso, los participantes estarán en condiciones de:
(Copiar los objetivos específicos del curso previo, y agregar cualquier objetivo nuevos que sean necesarios).

Duración: (A decidir)

ASIGNATURAS

Unidad		Sesion	
<u>No.</u>	<u>Nombre</u>	<u>No.</u>	<u>Nombre</u>
1.	Introducción	1.	Introducción al curso
2.	Orientación a DISAR	1.	El Plan Nacional de Agua Potable
		2.	Contexto y Organización de DISAR
		3.	Programas de DISAR I: Convenio AID
		4.	Programas de DISAR II: Otros Convenios y Programas (CARE, BID, etc.)
3.	Salud Pública	1.	Conceptos de Enfermedades Comunicables
		2.	Agua Potable y Sanidad Ambiental Rural
4.	Proyectos de Agua Potable Rural	1.	Proceso del Desarrollo y Mantenimiento de Sistemas de Agua Potable Rural (overview)
		2.	El Estudio Socio-Economico
		3.	Elementos de Promoción y Organización de la Comunidad:
			(a) Motivación y Educacion
			(b) Organización de la Junta Admin.
			(c) El Convenio
		4.	Administración de Sistemas de Agua Pot. Rural:
			(a) Responsabilidades y Funciones de la Junta Administrativa
			(b) Proceso de Administración del Sistema (Costos, Colección, etc)
		5.	Operación y Mantenimiento de Sistemas de Agua Potable Rural
5.	Diseño de Sistemas de Agua Potable Rural	1.	Fundamentos de Ingenieria Sanitaria
		2.	Topografía:
			(a) Elementos de Topografía
			(b) El Estudio Topográfico de la Comunidad

<u>Unidad</u>		<u>Sesión</u>	
<u>No.</u>	<u>Nombre</u>	<u>No.</u>	<u>Nombre</u>
5.	Diseño de Sistemas de Agua Potable Rural (continuado)	3.	Diseño de Sistemas de Agua Potable Rural
		4.	Estructura de Sistemas (a) Captación de manantiales (acequias) (b) Reservorios (c) (Stand-pipe) (Spanish?)
6.	Construcción de Proyectos de Agua Potable Rural	1.	Planeación, Organización y Supervisión de Proyectos
		2.	Adquisición de Materiales
		3.	Organización y Supervisión del Mano de Obra
		4.	Proceso de Construcción
		5.	Inspección del Proyecto
		6.	Prueba del Sistema
		7.	Práctico - Campo
7.	Post-Construcción	1.	Aceptación y Entrega del Sistema
		2.	Operación y Mantenimiento del Sistema (a) Papel de la Junta Administrativa (b) Papel de DISAR (c) Papel y Requerimientos del Operador (d) Aspectos técnicos de mantenimiento y Reparación de Sistemas
8.	Políticas Económicas	1.	Financiación de Proyectos
		2.	Estrategias para Mantener la Viabilidad Económica de Sistemas de Agua Potable
9.	Otros Programas de Saneamiento Rural	1.	Alcantarrillado
		2.	Letrinización
10.	Capacitación y Supervisión Docente	1.	Elementos de Capacitación Técnico
		2.	Elementos de Supervisión Docente (coaching, on-the-job training)
11.	Conclusión	1.	Repaso y Resumen
		2.	Evaluación

CURSO: ADIESTRAMIENTO EN ESTUDIOS, PROYECTOS Y EJECUCION DE OBRAS DE AGUA POTABLE RURAL

UNIDAD II, SESION 1.: El Plan Nacional de Agua Potable Rural

Objetivo: Al terminar esta sesión, los participantes estarán en condiciones de:

- Enumerar los elementos principales del Plan Nacional de Agua Potable Rural
- Explicar la historia e implementación actual del Plan

Condicion: Traendo los datos de la memoria

Criterio: 80% correcto

Tiempo: 60 minutos

Recursos requeridos:

- Copias del Plan Nacional de Agua Potable Rural, con sus reglamentos
- Retroproyector
- Transparencias de los puntos principales del Plan Nacional, y datos relacionados/relevantes a sistemas de agua potable rural en el Peru
- Proyector de diapositivos ("slides")
- Diapositivos de sistemas de agua potable rural
- Tripode con papel periódico, marcadores

Actividad Instruccional

<u>Tiempo</u>	<u>Actividad</u>	<u>Método</u>	<u>Material</u>
15 min.	1. Tratar la historia y desarrollo del Plan Nac. de Agua Potable Rural, incluyendo estadísticas de la problemática de agua potable rural y salud	Charla corta con material gráfica	Retroproyector y transparencias
10	2. Enumerar los puntos claves del Plan: _____ _____ _____	Distribuir copias del Plan Nacional de Agua Potable Rural	Copias del Plan
10	3. Explicar los reglamentos principales del Plan Puntos claves: _____ _____	Distribuir copias de los Reglamentos	Copias de los Reglamentos

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(Instructor Outline)

Curso: Adiestramiento en Estudios, Proyectos y Ejecución de Obras de Agua Potable Rural

UNIDAD II, SESION 1.: El Plan Nacional de Agua Potable Rural - 2

Actividad Instruccional

<u>Tiempo</u>	<u>Actividad</u>	<u>Método</u>	<u>Material</u>
10 min.	4. Ilustrar la implementación del Plan con ejemplos gráficos de sistemas construidos <u>Puntos claves:</u> _____ _____	Charla corta con material gráfica	Proyector de "slides", con transparencias de sistemas de agua potable rural
5	5. Clarificación del material anterior	Preguntas y diálogo	
5	6. Pedir resumen del material anterior de varios participantes, que deben destacar los puntos principales	Actividad de los participantes	
5	7. Puente a la próxima sesión		

D E S C A N S O C O R T O

(Instructor Outline)

ADIESTRAMIENTO EN ESTUDIOS, PROYECTOS Y EJECUCION DE OBRAS DE AGUA POTABLE RURAL

UNIDAD I, SESION I: Introduccion al Curso

Objetivo: Al terminar esta sesión los participantes:

- Conocerán los objetivos, asignaturas, calendario, horario y normas de participación del curso.
- Conocerán los otros participantes y tendrán información en cuanto al personal docente del curso
- Aclararán conceptos y/o inquietudes en cuanto al propósito, objetivos, y/o administración del curso

Tiempo: 65 minutos

Materiales requeridos:

- Tripode con papel periódico; marcadores
- Solaperas, carpetas, papel, lapices
- Asignaturas del curso
- Calendario y horario (macro-diseño) del curso
- Lista de participantes y personal docente

<u>Tiempo</u>	<u>Actividad</u>	<u>Método</u>	<u>Material</u>
10 min.	1. Bienvenido e introducción general al curso	Comentario informal	
10	2. Introducción del personal de DISAR, Digema, etc.		
10	3. Introducción de los participantes		
20	4. Orientación al curso: <ul style="list-style-type: none">• Presentación del propósito, objetivos, y asignaturas• Presentación del calendario/horario• Aclaraciones	Comentario, con distribución del material indicado Preguntas por participantes	Lista de asignaturas Calendario/horario (macro-diseño)

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(Instructor Outline)

Adiestramiento en Estudios, Proyectos y Ejecucion de Obras de Agua Potable Rural

UNIDAD I, SESION I: Introduccion al Curso - 2

<u>Tiempo</u>	<u>Actividad</u>	<u>Método</u>	<u>Material</u>
10 min.	5. Asuntos administrativos Puntos claves: _____ _____ _____	Discusión y aclaración	
5	6. Normas de participación Puntos claves: - Puntualidad - Participación activa de todos - Apertura, resolución de problemas - Etc.		
5	7. Resumen	Distribución de material informativo, y puente a la próxima sesión	Lista de participantes y personal docente

D E S C A N S O

APPENDIX D

**FLOW CHART, COORDINATION SYSTEM, DISAR/PRIMARY HEALTH
CARE TRAINING SYSTEM**

APPENDIX E

PERSONS AND INSTITUTIONS CONTACTED

Persons and Institutions Contacted

Sr. Ruben Flores Guillen
Sectoral Specialist
Interamerican Development Bank
Paseo de la Republica 3245
Tel.: 415639; 220517

Lic. Juan Huaman Soravia
Director, Institutional Development and Human Resources
SENAPA (National Potable Water and Sewage Service)
Domingo Cueto 120, Jesus Maria
Tel.: 714920

Ing. Alfredo Gutierrez (former head of Community Promotion Section, DISAR)
SENAPA
(See above)

Sr. Manuel Garcia Solaz
General Executive Director
CESPAC (Educational Audiovisual Service Center for Training)
Osa Mayor 118, Monterrico
Tel.: 350054

Ing. Rodolfo Saenz Forero
Project Manager
CEPIS (Panamerican Center for Sanitary Engineering)
Los Pinos 259, Urbanización Camacho
Tel.: 354135

Ing. Marco Campos
CARE PERU
Los Laureles 485, San Isidro
Tel.: 400589

Dr. Michael Alms
CARE PERU
(See above)

Ing. Jorge Caceres Lazarburu
SENCICO (National Training Service for the Construction Industry)
Av. Circunvalación, Km. 6.5, Panamericana Sur
Tel.: 368040

Sr. Oscar Holguin Velzaquez
Department of Organizational Training (ADE)
SENATI (National Training Service for Industry)
Autopista Lima/Ancón, Km. 15.200
Tel.: 818272, Anexo 18

Ing. Rosario Castro
School of Engineering
National University
Tel.: 81-10-70

Ministry of Health (Av. Salaverry, Jesus Maria)

Dr. Federico Ugarte
Sub-Director for Coordination
School of Public Health

Dr. Hernan Farje
Director, Maternal - Infant Service

Professor Enrique Torres Laura
Director, Directorate for Health Education

Soc. Gaby Huertas
Department of Health Education

Dr. Rogelio Bermejo
Director, World Bank Project

DISAR (Directorate of Rural Sanitation)
Av. Salaverry 1238, Jesus Maria
Tel.: 713991

Ing. Carlos Marroquin, Director
Ing. Renato Escobar
Ing. Roxanna Leon
Econ. Flor Garcia
Lic. Federico Romero
Lic. Julio Mesa
Ing. Rolando Flores
Sr. Salvador Maioli
Ing. Nestor Esquivel
Ing. Jose Tello Molina
Soc. Ramon Concha
Prof. Jorge Vargas
Tec. Ciro Escobar
Tec. Leonidas Arrieta
Ing. Luis Valencia
Ing. Victor Jessen
Ing. Cesar Petit (Ica)
Tec. Carlos Cayo (Ica)

Srta. Gladys Gallardo
Chief, Health Education Unit
Regional Office, Ministry of Health, Ica

Ing. Javier Bacigalupo, Director
DIGEMA (General Directorate for Environmental Health)
Ministry of Health

USAID/PERU

Mr. John Sanbrailo, Chief of Mission

Ms. Norma Parker
Chief, Health, Nutrition and Education Office

Mr. Gerardo Arabe, Program Officer
Health, Nutrition and Education Office

Ms. Joan La Rosa, Program Officer
Health, Nutrition and Education Office

Mr. Salvador Reyes
Long-term consultant to Disar

Ms. Laura Altobelli
Long-term consultant, Primary Health Care Project

Mr. Cesar Ruiz,
Engineering specialist