WATER AND SANITATION FOR HEALTH PROJECT

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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.

AN ASSESSMENT OF THE WATER AND SANITATION SECTOR IN THE PEACE CORPS PROGRAM: ROLE OF THE OFFICE OF PROGRAM DEVELOPMENT

WASH FIELD REPORT NO. 86

MAY 1983

Prepared for:
Office of Health
Bureau for Science and Technology
U.S. Agency for International Development
Order of Technical Direction No. 109

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May 23, 1983

Mr. Victor W.R. Wehman, Jr., P.E., R.S.
Office of Health
U.S. Agency for International Development
Room 702-C, SA 18
Washington, D.C. 20523

Dear Mr. Wehman,

On behalf of the WASH Project I am pleased to provide you with ten copies of a report on Assessment of the Water and Sanitation Sector in the Peace Corps Program: Role of the Office of Program Development.

This is the final report by John B. Tomaro and is based on his work with the Peace Corps Office of Program Development from August 1982 through February 1983.

This assistance is the result of a request by the Peace Corps on July 28, 1982. The work was undertaken by the WASH Project on August 20, 1982 by means of Order of Technical Direction No. 109, 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, Ph.D., P.E.
Director
WASH Project

DBW:tg

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Prepared for the Office of Health,
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Prepared by:

John B. Tomaro, Ph.D., M.P.H.

May 1983

Water and Sanitation for Health Project
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Washington, DC 20523

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Acknowledgement

Gratitude is expressed to those at all levels of the Peace Corps who received the consultants warmly and responded fully and openly to all questions. While it was at times apparent that there were divergent and often conflicting opinions on the importance of water supply and sanitation projects, it was always apparent that all interviewed believed completely in the need to develop and support fully those interventions that (1) provide the most effective measures for achieving the goals of the Peace Corps and (2) support the overall development strategy of the host countries.

EXECUTIVE SUMMARY

With support from the U.S.AID-supported Water and Sanitation for Health Project (WASH) two consultants worked with the Water and Sanitation Specialist of the Peace Corps Office of Program Development (OPD) to:

- assess the status of the Water and Sanitation Sector of OPD
- suggest prospects and possibilities for future development in the sector
- collect and analyze the field data on programs, and the perceptions of home office staff on programs in water and sanitation
- define the connection between traditional Peace Corps programs in water and sanitation and programs suggested by the Forward Plan initiatives, and
- review the resources that are or should be available to the sector that enhance the impact of operations.

Interviews were conducted and file data collected and analyzed in August and September 1982, shortly after (1) the appointment of key Peace Corps administrative staff and (2) the promulgation of the Forward Plan. Issued in April 1982, the Forward Plan instructs those responsible for developing programs to give special emphasis to assignments which:

- support and promote local economic development and self-sustaining productive capacity especially in the areas of food and energy, and
- develop or improve income-generating market mechanisms and build local institutions and initiative.

The assessment was carried out during a transitional period in the history of Peace Corps. Staff awareness of the transition undoubtedly colored their comments and influenced the consultants.
The conclusions are five-fold:

1. The number of Peace Corps water and sanitation projects and volunteers has increased significantly over the last three years. This positive trend appears to be holding.
2. The Water and Sanitation Sector of the Office of Program Development plays a central, but not exclusive, role in linking administrative policy,

recruitment, training and programming for in-country projects. In addition, OPD is a recipient of significant contributions from PVOs, government agencies and industry.

3. Traditional Peace Corps programming in water and sanitation does not have immediate relevance to the new initiatives of the Forward Plan. However, programming has contributed to institution-building at the local level and, in some instances, income generation and food production.

4. Programming for the new initiatives may call for the recruitment of a volunteer with a skill type different from that of the Peace Corps generalist.

5. The Water and Sanitation Specialist is an invaluable resource to the personnel of the regional bureaus and the Assistant Peace Corps Directors--APCDs. However, he/she is frequently unavailable and inadequately "backstopped."

The recommendations are three-fold:

1. Traditional programs in water and sanitation remain in great demand. Since these activities are well suited to the skills of Peace Corps Volunteers and meet needs of the communities in developing countries, the demand is likely to continue for many years to come. Every effort should be made to continue and to support traditional programs in water and sanitation at existing or, if possible, increased levels.

2. When there are opportunities to use "water resources" or sanitation projects to enhance agricultural productivy and increase local income and the prospects of self-sufficiency, water and sanitation programs should reflect the Forward Plan initiatives. These objectives are complementary to but different from the traditional programming activities and OPD may need to add staff who have a different type of expertise. Since Peace Corps may not have the authorization or resources to recruit staff with this special expertise, agencies or industries should be approached--perhaps through the "Partners in Development Program"--and asked to make personnel available for fixed periods of time.

3. The Office of Program Development needs to implement mechanisms that ensure better communciation and more thorough information exchange within the Office, and to develop adequate mechanisms to help define priorities and projects and to backstop Peace Corps country programs. As resource persons responsive to home office and Peace Corps country staff, OPD specialists should have systems in place that give clear information on the priority of program areas within countries and regions. Unlike the country staff and personnel who work in the regional bureaus, the sector specialists have a technical rather than a geographical focus. Programs that require technical expertise are found throughout the globe and the specialists can be called on to travel to any location at any given moment. Overseas travel by the specialist frequently leaves home office staff without ready access to needed technical assistance. OPD needs to institute measures to remedy this situation.

Chapter 1

INTRODUCTION

Since its establishment more than 20 years ago, the Peace Corps has taken seriously its mandate to:

- promote world peace and friendship by making available to interested countries Americans willing to serve overseas who will help people of these countries to meet their needs for trained manpower;

- help promote a better understanding of the American people on the part of people served; and

- promote a better understanding of other people on the part of the American people (The Peace Corps Act, 1961).

In their role as "capacity builders" to members of communities in developing countries, many Peace Corps Volunteers (PCV) have designed, installed and maintained water supply and sanitation systems. These projects, requested by the communities in which they were installed, have been designed most often to improve the quality of life of the local community by reducing morbidity rates and increasing productivity.

Project success has been measured on one level as the continued operation of the water supply and sanitation project at some point in time after its installation. In general, four basic factors have been identified as requisites of project success. Users of the water supply or sanitation facility need to be trained how to use and maintain the well, pump or latrine. The community needs to have access to spare parts and/or the knowledge and materials to make them. When problems arise that cannot be handled at the local level, mechanisms to contact and receive assistance from an outside agency (governmental or private) must be available. Finally, and most importantly, the community must understand the value of the improved water supply and sanitation facilities and work to use and maintain them properly (NOTE).

NOTE: The Information Collection and Exchange (ICE) section of the Office of Program Development is currently supporting an investigation of Peace Corps Water and Sanitation projects that is designed to document the degree to which projects have been successful, as measured by the four indicators mentioned. A draft report of this study, conducted by Ms. Diana Talbert of Creative Associates of Washington, D. C. and tentatively entitled "Peace Corps Water and Sanitation Case Studies and Analyses," should be available in June 1983. The final report is due in the late fall.

Water supply and sanitation projects have been and remain a high priority for rural and peri-urban dwellers who constitute 80 percent of the population of the developing world. A high degree of community interest in these projects has often led Peace Corps country directors to request volunteers and to define water supply and sanitation programs.

A majority of Peace Corps Volunteers have worked at the village level in developing countries. Over the past two decades an estimated 3,000 volunteers have been directly or indirectly involved in water supply and sanitation projects. For example, many volunteers have had to dig and maintain their own latrine and arrange for the provision of an adequate and uncontaminated supply of water. These practices have had an influence on villagers who observe the daily habits of volunteers. Where water supply and sanitation programs have been implemented, volunteers have helped to train villagers, participated in the installation of facilities, and worked to ensure village access to outside assistance and spare parts.

Peace Corps investments of labor, material and finance have focused on improving the living standards of communities by upgrading the quality and increasing the availability of water, and implementing effective means to dispose of wastes. Community participation has been strongly emphasized by volunteers. In addition to being a major factor in the relative success of water and sanitation projects, the degree of community involvement generated by water supply and sanitation projects can serve as a stimulus for additional community development activities.

The traditional rationale behind water supply and sanitation projects - namely, that such interventions produce health improvements among rural populations who in turn contribute to national development - has been and remains operative in Peace Corps programming. Studies suggest that water supply and sanitation projects have a positive impact on health status. It has been difficult, however, to measure quantitatively the effect of these programs on health. Improved health outcomes appear to depend on a wide range of variables. Water supply and sanitation improvements have an influence on the prevalence of disease but may not be sufficient by themselves to ensure substantial health benefits. 1/ Also, health benefits, when they do occur, are not necessarily translated into economic benefits of a productive sort.

Therefore, attempts have been made to link water supply and sanitation projects and other development interventions. Improving health status remains an objective. Emphasis is also currently placed on ensuring the

1/ Huges, James M., "Epidemiological Studies of Water Supply and Sanitation and Health," in The Impact of Interventions in Water Supply and Sanitation in Developing Countries, U.S.AID, April 1981, 47-52.

continuous operation of the facility after the departure of the volunteer, as well as on the project's potential to train villagers and enhance community cohesiveness. Recent water supply and sanitation projects can be seen as complementary to other development interventions designed to improve the quality of life of a community. Further, these projects are a focus of community participation and a catalyst of development.

For example, well projects have enabled village women to have the water needed to irrigate village gardens; sales of garden produce have generated increased incomes and given households options traditionally unavailable. A number of other examples could be selected; they would, however, only emphasize the point that Peace Corps' water supply and sanitation projects have been designed to improve human potential and to generate the elements needed to foster economic development and to enhance the prospects for self-sufficiency.

Peace Corps Volunteers, working on water supply and sanitation projects in harmony with local communities and supported by host country and Peace Corps home office (Washington-based) personnel, have been key agents in the community development process. Their effectiveness has been dependent on, among other elements, the assistance provided by Peace Corps country desk officers and, in technical matters, the information and support given by the sector specialist in the Peace Corps Office of Program Development (OPD).

The position of Water and Sanitation Sector Specialist was created in 1978 in order to (1) provide field programs with responses to technical questions, (2) improve the capacity of PCVs through pre-service training programs and (3) facilitate cooperation between the Peace Corps and other agencies working in water supply and sanitation programs. The UN Declaration of the Water Decade and recognition that new emphasis and attention would be given to water supply and sanitation issues provided additional stimulus for establishing the position.

The Water and Sanitation Specialist has a mandate to work with Peace Corps home office staff, Assistant Peace Corps Directors (APCD) in the field and host country counterparts to:

- design water supply and sanitation projects that reflect overall host country and Peace Corps development strategy and can be implemented by volunteers and members of local communities with minimum expertise and experience;

- provide technical assistance to volunteers and staff working on overseas projects; and

- define and arrange effective programs that can train trainers and volunteers to establish, maintain and monitor water supply and sanitation projects.

Along with his/her colleagues in OPD, the Water and Sanitation Specialist is called upon to carry out a range of activities, some requiring creativity and forward planning, others the definition and implementation of detailed work plans. This specialist must also be aware of new developments in the field while he/she closely monitors ongoing projects. The sector specialist position is an invaluable resource to the Peace Corps program.

Chapter 2

ASSIGNMENT

Within the last 16 months (January 1982 - April 1983), significant administrative and policy changes have taken place in the Peace Corps. New, key administrative staff were appointed following the general election of November 1981 and the Peace Corps was separated from ACTION. In July 1982, the agency defined and promulgated a Forward Plan that suggests the outlines and emphasis of Peace Corps programming over the next four years. According to the Forward Plan, Peace Corps programming will emphasize volunteer assignments which: (1) promote local economic development through the introduction of income-generating market mechanisms; (2) promote self-sustaining productive capacity (especially in the areas of food and energy), and (3) build local institutions and initiatives.

In an effort to assist the Water and Sanitation Specialist to execute his responsibilities to the overall program more fully and effectively in the light of these policy and administrative changes, and to give the Peace Corps administration an appraisal of the significance of the water supply and sanitation projects within the agency, the U.S.AID-supported Water and Sanitation for Health Project (WASH) was requested to provide management consultants. Accordingly, WASH made available the services of two consultants. In August and September, 1982, Dr. John B. Tomaro (Office for International Programs at Research Triangle Institute) and Ms. Dorothy Andrake (private consultant) worked with the Peace Corps Water and Sanitation Specialist to conduct a comprehensive review of the role of the sector in the Peace Corps program.

The consultants attempted to: (1) assess the current status of the Peace Corps' water and sanitation sector; (2) suggest possibilities for future developments in the sector; (3) define the perceptions of the Peace Corps staff regarding the relevance of water and sanitation projects; (4) estimate the type of resources that can or should be made available; and (5) describe existing or potential links between the Peace Corps and other private voluntary organizations/ (e.g. Save The Children) and nongovernmental organizations (e.g. UNICEF). The consultants gave special emphasis to analyzing recent programming trends in the Peace Corps water and sanitation sector, and to estimating the degree to which water and sanitation activities respond to development priorities of Peace Corps countries and are suitable and productive pursuits for the average volunteer (PCV). The consultants examined the relevance of water and sanitation activities in the Supply/Demand Survey conducted by the Office of Program Development (Summer 1982) and made an effort to define the appropriate and effective links between the traditional water and sanitation activities and the newly proposed private sector, competitive enterprise focus set forth in the Forward Plan.

Chapter 3

METHODOLOGY

This report is based on data acquired through interviews with Peace Corps staff and taken from selected documents in Peace Corps files. File data consists of: (1) information on past and proposed water and sanitation projects, (2) the 1980-81 Volunteer Activity Survey Reports and, (3) recent cables responding to the Supply/Demand questionnaire's request for information on future programming and training assistance. Peace Corps administrative staff and key personnel from international operations (Office of Program Development and the regional bureaus), the Office for Recruitment and Placement, the Office of Private-Sector Development, and the Office of Planning, Assessment and Management Information were interviewed. (See Appendix B: Persons Interviewed).

Each person interviewed was asked a series of open-ended questions. The questions were designed to elicit information on the significance of water and sanitation projects within the total Peace Corps program. Those interviewed were asked to assess (1) the relevance of water and sanitation projects to the needs of developing countries, and (2) the degree of correspondence between country needs and the skills of Peace Corps volunteers (existing on entry or acquired after training). Personnel were also asked to assess the caliber of assistance provided by the Water and Sanitation Specialist for training Peace Corps volunteers, providing technical assistance to existing water and sanitation projects and defining new projects that meet country needs and are suitable for execution by Peace Corps volunteers. Since the Peace Corps was eager to define and launch programs responsive to the guidelines of the Forward Plan, Peace Corps personnel were also asked to suggest the manner in which water and sanitation projects had or could manifest characteristics of private sector enterprises, and how those projects could play a role in increasing collaboration with private voluntary organizations and the degree of private sector activities in developing countries. Personnel were asked to cite examples of water and sanitation projects that had income-generating elements and to describe projects that enhance local institutions and contribute to community development.

The interviews took place at a time when some of the new personnel were relatively unfamiliar with the operations of Peace Corps and had not had the time or opportunity to place their hallmark on the activities of the agency. The Forward Plan reflects the orientation that the new administration plans to give to Peace Corps operations. However, the qualities emphasized in that seminal document had only begun to appear in agency programming at the time of the assessment. The assessment was, therefore, conducted during a transitional period in Peace Corps history.

Chapter 4

FINDINGS

The findings are based on an analysis of (1) data contained in Peace Corps files and published reports and policy documents on water and sanitation activities, and (2) information obtained through interviews with Peace Corps staff. While many of the findings obtained through interviews pertain to all sectors in the Office of Program Development (fisheries, agriculture, health and nutrition, energy, forestry), the interviews were designed to focus solely on the water and sanitation sector.

4.1 Files and Published Data

Analysis of the data in the Peace Corps files indicates that there has been a significant increase in the number of volunteers involved in water and sanitation projects over the last three years, 1980-1982. (See Appendix C: Peace Corps Water and Sanitation Projects). In December 1980, there were 334 volunteers in water supply and sanitation projects; 144 were serving in Africa, 101 were in North Africa, Near-East, Asia and the Pacific (NANEAP), and 89 were in the Inter-America Region. On December 31, 1981, the total number of volunteers in water and sanitation projects had increased to 350. The largest number were still serving in Africa (217); NANEAP's total had increased slightly (103), while the number of volunteers in the Inter-America Region had declined to 30. The number of PCVs in water and sanitation projects increased by 51 percent and three percent for Africa and NANEAP respectively, while a 66 percent decline was noted for Latin America. Figures for 1982 are incomplete but there are indications, based on requests from the countries, data on training programs currently underway, and information contained in the Supply/Demand Survey, that the total number of volunteers will not be lower than 350 and could be higher than 400.

The increase in the total number of volunteers in water and sanitation projects over the last three years results in part from an increase in the number of projects. There were 46 projects in 1980 and 51 in 1981. The increase in the total number of water and sanitation projects and Peace Corps volunteers working in the water and sanitation projects occurred during a time when the total number of Peace Corps projects and volunteers serving overseas was actually declining. In 1980, PCV's numbered close to 5,400; approximately 5,100 were actively serving at the end of 1981. In short, the water and sanitation volunteers represent an absolute as well as a significant percentage increase in the total number of Peace Corps volunteers. PCVs in water and sanitation represented 6.2 percent of all volunteers in 1980 and 6.9 percent of all volunteers in 1981.

Analysis of the 1980-81 Volunteer Activity Survey Reports (based on 1980 data) suggests that almost 20 percent of all volunteers - more than 1,100 - were involved in water supply and sanitation projects as primary, secondary or tertiary activities in 1980. Regrettably, there are no data to determine whether there was any change in this percentage in 1981. However, since the number of water and sanitation projects increased after 1980, the percentage could be significantly higher.

These data would tend to suggest that water supply and sanitation projects occupy a significant percentage of volunteer hours and absorb - directly or indirectly - an equally significant percentage of the budget for international activities, as much or more than one-fifth.

There is as yet no published analysis of the data obtained from the Supply/Demand Survey, carried out in the Summer and Fall of 1982. This survey was conducted by the Office of Program Development with the full support of the Peace Corps administration. It was designed to collect information on current and projected programming trends. Along with other information, the data will be used to define Peace Corps policy in recruitment, programming and training assistance, as well as budgetary allocations.

Preliminary results of this survey, available as of March 17, 1983, indicate that the largest single number of volunteers requested--were for water supply (293) and irrigation (126) projects. This figure represents more than 12 percent of the total number of volunteers requested, and it does not include requests for training assistance in water and sanitation. It should also be noted that the forms sent from Peace Corps home office requesting information on programs did not ask for information on host country needs in sanitation.

Since the bulk of the new requests for volunteers came from countries in the NANEAP region and the other regions appear to be holding at the 1981-82 levels, the total number of PCVs in water and sanitation projects may continue to increase in the immediate future. In short, the recent trend appears to be holding; water and sanitation projects are increasing, requiring a larger number of PCVs, and calling for a greater percentage of agency resources.

It should be emphasized that the data on projects and number of volunteers cannot be compared by region. The data do not reflect total demand for water and sanitation projects in any given region, nor can they accurately differentiate between the needs and demands of the different regions. For example, the number of water and sanitation projects in Latin America apparently declined between 1980 and 1981. However, file data on projects and volunteers do not contain information on requests for training assistance nor the qualities prevalent in Latin America that make water and sanitation projects significantly different from, and technically more complicated than, water and sanitation projects in other regions.

It is estimated (1980) that 50 percent of Latin America's rural population has access to safe and adequate supplies of water and almost 35% to improved sanitation facilities. In NANEAP and Africa safe water is available to no more than perhaps 35 percent of the rural population. (See Appendix D World Bank's Estimate of Percentage of Population with Access to Safe Water by Country with Peace Corps Programs.) While the percentage of coverage in Latin America is greater than the other regions, the rate at which coverage can be extended is slower because the communities that remain to be reached are more dispersed. In NANEAP and Africa many large rural and peri-urban communities are without access and comparatively easier and relatively less expensive to reach.

Data from the Inter-America Region should not be analyzed from the same perspective as data from NANEAP and Africa. The latter data reflect perhaps a demand for traditional Peace Corps training and programming activities, as presently understood by country directors and host country officials. The data from Inter-America Region may in fact be suggesting that new and more creative programming is required in order to extend water and sanitation systems to the more difficult areas of the region. The data should, therefore, not be seen as expressing a lack of interest in water and sanitation projects but rather as a stimulus to define and launch programs that increase the rate and percentage of coverage of water and sanitation facilities in the region.

Two other points need to be kept in mind when reviewing the situation in the Inter-America Region. First, the Peace Corps is no longer operating in two countries (e.g., Colombia and Chile) where water and sanitation programs were well established. Second, since the Peace Corps is operating in fewer countries in the region, there appears to be an overall decline in requests for volunteers although the situation is not unique to the water and sanitation sector.

4.2 Interview Data

The interviews were structured to obtain information from Peace Corps home office staff on the extent and value of the interaction between the activities of the Water and Sanitation Specialist in the Office of Program Development and the existing and proposed activities of the PCVs. No single definition of the role of the sector specialist emerged during the interviews. In general, staff cited examples of the manner in which the specialist had provided assistance. Aside from the comments on the difference in professional routines among the sector specialists of OPD, those interviewed did not have a profound knowledge of the goals and objectives of any OPD sector. Most had the impression that the sector specialist was a resource available to both field and home office staff as needed.

Those interviewed characterized the Office of Program Development as having the enviable (or perhaps unenviable) task of being at the hub of

Peace Corps operations. The Office is expected to provide technical assistance and expertise to ongoing projects and to help program agency policy. OPD sits squarely between the administrative staff of the agency and the regional bureaus of the Peace Corps and is expected to meet the needs of both.

OPD contains sector specialists with expertise in Fisheries, Agriculture, Health and Nutrition, Water and Sanitation, Energy and Natural Resources/Conservation, and functional specialists in Information Collection and Exchange, Training and Multilateral Programs.

> OPD's sectors focus on preparation of generic programming guides, innovative technical training models, and project designs to be adapted and modified as appropriate to fit in-country needs and requests. The specialists explore common interests and facilitate joint programming and potential resource pooling with other development agencies, often in the form of interagency agreements. These sectors provide technical support to overseas operations in the form of on-site visits by staff and consultants, information materials, and correspondence (Office of Program Development functional statement, page 1).

Interview data suggest that OPD is a key department in Peace Corps and has a far greater significance that its small staff and budget would suggest. (Approximately $2 million in 1981-82 - less than five percent of the total Peace Corps budget). The Water and Sanitation Specialist, along with his/her colleagues in OPD, has to carry out a number of significant duties. This specialist provides (1) technical expertise to the other personnel in the Peace Corps, and reviews and recommends technical material in response to requests from the field. He/she is also responsible for (2) visiting country projects and providing direct technical assistance to PCV's and (3) developping programs in cooperation with country staff and counterparts that are appropriate to Peace Corps and meet host country needs and objectives. In addition, the sector specialist is responsible for (4) arranging and providing the training programs needed to prepare volunteers to work effectively in the field. The sector specialist can also be called on (5) to coordinate activities between the Peace Corps and public and private agencies in the United States and, if possible, to secure their involvement in the form of financial and material support to Peace Corps programs. Finally, the OPD specialist works with the staff of the regional bureaus and the country programs (6) to translate the policies of the Peace Corps administration and the results of recent research into new and creative programs that reflect host country concerns and Peace Corps capabilities.

Those interviewed identified OPD as the single department within the Peace Corps through which outside assistance could be easily channeled to projects in the field. It was emphasized that OPD is the only Peace Corps division that has a technical rather than a geographical focus. Since many PVOs, NGOs and private businesses are also structured to address technical issues, OPD is the most frequent point of contact between these outside groups and Peace Corps projects.

It is estimated for example, that more than 65 U.S.-based private voluntary organizations have water-related projects (e.g., water supply, small-scale irrigation, lowhead hydro power) as a primary focus of their programs. Some of these organizations choose to restrict their activities to specific countries or regions. However, it is the type of project rather than the region or country of activity that characterizes the organization.

It was widely recognized by headquarters staff that OPD has established good working relationships with PVOs, NGOs and some private sector corporations. However, few of those interviewed were aware of the extent to which outside agencies had complemented the programmatic activities of the Water and Sanitation Specialist. Only the staff of OPD were aware that several pumps had been donated by equipment manufacturers, that training in water and sanitation had been subsidized in part (U.S. $40,000) by the Indian Health Service, and that the U.S.AID-funded Water and Sanitation for Health Project had made substantial contributions (U.S. $267,000) to Peace Corps water and sanitation programs. (See Appendix E: U.S.AID and Indian Health Service Contributions to Peace Corps Water/Sanitation Sector - OPD.)

It was apparent to the staff of OPD and some others that altering or eliminating the water and sanitation sector could jeopardize support from PVOs, businesses, etc. The fact that the number of projects and volunteers in water and sanitation has been increasing only heightens staff's concern about the effect of revising OPD's current operations.

All those interviewed characterized current and traditional water and sanitation activities as having a high priority at the community level in most developing countries. Implementation of projects to cap springs, dig wells, build small reservoirs and construct latrines were described as "useful in stimulating village participation" and "initiating the community development process". In short, water and sanitation projects have often been viewed as a catalyst for change. A well-digging project, for example, was credited as the activity that often stimulated villagers to work together to begin to change the poor living conditions within a village.

Very few of those interviewed could do more than suggest in a general and formal fashion the manner in which water and sanitation activities provide or have provided opportunities for generating income, were the basis for small business ventures or led to direct association with

other sector activities (i.e., fisheries, forestry, agriculture, health, etc.). However, examples of these linkages were commonly cited in interviews. The connection was described as ad hoc and focused at the local level, often without formal pre-project planning and involvement of Peace Corps home office staff. (It was noted that headquarters staff were available and could be called on if necessary.) The interviews frequently recorded, for example, that hand dug wells had been and continue to be used to irrigate small vegetable gardens. The produce harvested is used to improve the family diet or, more often, sold to increase the household income. Where water is plentiful and flooding threatens the environment, trees have been planted to safeguard arable land by controlling erosion. Those interviewed noted that income generation had not traditionally been one of the objectives of water and sanitation projects. Most often the project had been established as a means to organize a community and to meet a need defined by the community.

Water and sanitation projects were of special relevance to the Peace Corps, it was reported, because most of the activities were well within the technical ability of the Peace Corps Volunteer, the principal representative of the program.

In general, however, responses to questions asking for discussion of the connection between existing water and sanitation projects and the initiatives of the Forward Plan were guarded. Those familiar with the Inter-America Region reported that local manufacturing of spare parts for pumps and latrines, as well as fixtures for sanitary facilities, was well developed and the result in part of the Peace Corps long involvement in water and sanitation projects in the region. There was also some agreement that Latin America offered the best opportunity to develop the income-generating market mechanisms called for in the Forward Plan. NANEAP and Africa were regarded by those interviewed as somewhat less promising regions for private sector development opportunities.

While those interviewed were supportive of the need to develop projects that promote self-sustaining productive capacity (especially in the areas of food and energy), there was general concern that turning "projects" into "businesses" demanded a scale of operations and an investment far beyond what is currently, or has been traditionally, within the capacity of the Peace Corps. It was noted, for example, that irrigation projects of the type proposed for the Caribbean Basin require a technology and are of a magnitude that is far beyond that needed to supply drinking water or the water needed by a family vegetable garden (NOTE). Still, projects designed to make water accessible for drinking

NOTE: One suggested that the amount of water needed to irrigate one hectare of land for eight days could supply the household water needs of a family of five for more than four years.

and small-scale irrigation have been traditional activities of the Peace Corps, it was emphasized, and do enhance the productive capacity of a segment of any given community.

Those interviewed questioned whether the Peace Corps should be considering large-scale projects that require special expertise that is not currently available among Peace Corps Volunteers and has been difficult to obtain in the past. It was noted, for example, that the recruitment of engineers has been difficult. It was further suggested that expertise required for a large-scale project was more appropriate for U.S.AID missions than the Peace Corps. Promoting projects that ensured self-sustaining productive capacity also raised questions in the minds of those interviewed about the role of the volunteer and the difficulty of recruiting, training and retraining more technically skilled volunteers.

Headquarters staff interviewed discussed the implications of the Forward Plan on the recruitment of volunteers. It was universally accepted by those interviewed that the host country should be responsible for inviting and accepting volunteers. While there was some consensus that the Peace Corps should accommodate the wishes of host-country governments by providing a given number of volunteers in response to a request for assistance, staff were aware that the type of expertise required to execute many in-country projects was beyond the abilities of most Peace Corps Volunteers, even with good training programs.

Many "old Peace Corps hands" who were interviewed expressed the conviction that the Peace Corps should recruit a "critical mass" of BA/BS generalists, provide comprehensive but general training (language, technical, etc.), and send groups to the field to work with villages needing the most basic form of assistance. Many of those interviewed who were Returned Peace Corps Volunteers observed that a young, well-trained and highly motivated group of volunteers was frequently instrumental in helping to develop local institutions and capacities, and to direct and/or foster local initiatives.

Others contended that most developing countries require a form of assistance different from what was needed in the 1960's and 1970's. Since the Peace Corps has an excellent reputation in development and does not carry some of the negative characteristics associated with other development assistance agencies, this group suggested that efforts be made to recruit and train individuals with more specialized skills who can address the new needs of developing societies. This group also offered the opinion that the Peace Corps should make every effort to respond to requests from the governments of developing countries by providing individuals with required skills.

These two very different perceptions of the volunteer influence recruitment, training and programming activities. Presently, both generalists and specialists are serving as volunteers in Peace Corps water and sanitation projects in the three regions. In the water and sanitation sector the Peace Corps has attempted to meet as many requests from host-country governments as possible. In short, there is no one model of a water supply and sanitation volunteer as there is a fisheries or TOEFL volunteer. It was reported by those interviewed, for example, that at one location volunteers are working with villagers to dig and maintain wells and to build appropriate excreta disposal systems; at another location they are operating sophisticated drilling equipment. Expertise varies from a minimum understanding of construction techniques and effective public health measures to a comprehensive understanding of diesel mechanics. Furthermore, since volunteers are serving in so many different types of water supply and sanitation projects, all designed in response to requests from the field, the sector and training specialists have frequently found themselves in the difficult position of having to stage different types of training programs in order to provide personnel with a broad range of experience and expertise.

Those interviewed recognized that the basic qualifications and, therefore, the model of the volunteer may differ from region to region (InterAmerica, NANEAP, Africa), as defined by requests from developing countries. Still, the staff recognized that all requests cannot be and should not be honored and that it is a disservice to the agency to promise what is either inappropriate or unavailable.

Staff expressed a degree of willingness to entertain the idea that Peace Corps Volunteers should implement a new type of project, demanding different skills and experience - primarily commercial. In response to questions pertaining to the new initiatives of the Forward Plan, however, some echoed the concerns expressed in a cable sent to Peace Corps headquarters by one country director.

> "The most compelling precaution in entering new program areas is to maintain sight of program standards. New programs always require risks for we only learn and really develop programs through experience, but we have to begin new programs for the right reasons -- our ability to contribute to real host-country needs."

The interviews focused as well on obtaining an assessment of the implications of the new initiatives of the Forward Plan, since this document has been a hallmark of the newly appointed Peace Corps administration. Still, staff at all levels repeatedly emphasized the point that all new programs, designed to reflect the new initiatives, should complement - not supplant - effective existing activities in water and sanitation. Those interviewed stressed the point that country needs and requests for projects in water and sanitation were steadily

increasing, a fact documented by the Supply/Demand Survey. The majority of those interviewed also expressed the opinion that OPD specialists who have been involved chiefly with traditional, relatively small-scale, village-based programs should not necessarily be expected to have expertise in or to address projects responsive to all the new initiatives. However, sector specialists should be aware of this need and take advantage of opportunities when any appeared.

Among those interviewed there was universal approval of the work of the Water and Sanitation Specialist, as well as other sector specialists. However, some, especially the personnel of the regional bureaus, observed that the sector specialists were often unavailable, over-extended and under-financed. It was also noted that little backstopping existed among the sectors of OPD. Personnel from the regional bureaus reported that the absence of backstopping procedures in OPD frequently delayed dispatch of technical responses to requests from country projects. Those interviewed urged greater inter-sectoral cooperation in OPD. Cooperation could enhance the quality and extent of technical support provided to the field. Streamlining and integration were also needed, it was suggested, because coordination among projects was often missing. It was noted that projects were at times too large and that training activities were sometimes duplicated.

Chapter 5

CONCLUSIONS AND RECOMMENDATIONS

The general conclusions and recommendations that follow are based on an analysis of data taken from the files and reports, and from information obtained during interviews with Peace Corps staff in Washington.

The conclusions are five-fold:

1. The number of Peace Corps water supply and sanitation projects and volunteers has increased significantly over the last three years. This positive trend appears to be holding.

2. The Water and Sanitation Sector of the Office of Program Development plays a central, but not exclusive, role in linking administrative policy, recruitment, training and programming for in-country projects. In addition, OPD is a recipient of significant contributions from PVOs, government agencies and private businesses.

3. Traditional Peace Corps programming in water supply and sanitation does not have immediate relevance to the new initiatives of the Forward Plan. However, programming has contributed to institution-building at the local type and, in some instances, income generation and food production.

4. Programming for the new initiatives may call for the recruitment of a volunteer with a skill level different from that of the Peace Corps generalist.

5. The Water and Sanitation Specialist is an invaluable resource to the personnel of the regional bureaus and the APCDs. However, he/she is frequently unavailable and inadequately "backstopped".

Over the past three years there has been an increase in the number of projects and volunteers in water supply and sanitation. The upward trend is especially noticeable in Africa and NANAEP. The figures for Latin America may actually be masking real demand which could be addressed through creative training and programming activities.

In relation to the new initiatives of the Forward Plan, the traditional water and sanitation activities appear to have little immediate relevance. The relationship between existing water supply and

sanitation projects and self-sustaining productive capacity or local economic development is indirect. Water and sanitation projects improve the health and well-being of local communities and enhance their ability to work harder and to be more productive. At the same time, however, the successful implementation of these projects represents considerable savings in time and energy for villagers. Readily available water can be used to irrigate small household gardens; composts made from waste can be sold or used for fertilizer and/or fuel.

The project summaries in Appendix C contain some examples of the connection between water projects and income generation. Peace Corps files also contain reports submitted by volunteers who have helped local communities install water supply and sanitation systems that generate income for members of the local community. However, these projects are a minority. There are currently no water and sanitation projects underway or proposed that are designed to use water in sufficient quantities to increase directly the prospects for economic self-sufficiency of any given community. Water and sanitation projects have been and continue to be modest in scope, if not in number, and designed to make water accessible to human populations for personal use and improvement. These projects also foster community participation, contribute to the development of local institutions and enhance local initiatives. However, direct large-scale economic benefits have not traditionally been emphasized in water and sanitation projects.

Current and projected activities in water and sanitation comprise a significant percentage of the Peace Corps program. These activities should be continued and supported at existing or, if possible, increased levels. These activities receive a considerable degree of support from outside agencies, precisely those with whom the Peace Corps wishes to collaborate as part of its current operational policy. It would appear appropriate to make every effort to increase the number and amount of contributions and the degree of cooperation, possibly under the leadership of the OPD Water and Sanitation Specialist who has been the point of contact between the Peace Corps and these agencies and private or public enterprises.

OPD should distinguish between the traditional programming activities and the new programmatic emphasis expressed in the new initiatives. In those countries where water and sanitation projects offer the promise of improving living conditions of the majority of the population, traditional programming activities need to continue, with assistance from the Water and Sanitation Specialist. Where there are opportunities to use "water resources" to enhance agricultural productivity and increase local income and self-sufficiency -- in short, where a larger and different type of project could be implemented -- another specialist with the necessary expertise should be called on either from within the Peace Corps or outside the agency. A different specialist may not be required to dig an irrigation ditch that doubles for domestic use but

one may be required to design and implement a "drip" system of the type considered for some sites in the Caribbean Basin.

If water resource projects of the variety that call for large scale investment or a different type of expertise are to be launched by the Peace Corps, additional sector specialists will need to be added to OPD. Perhaps senior staff from private businesses could be made available to the Peace Corps through the "Partners in Development" program. These staff might be compensated by the private agency or business, and work with the Peace Corps to launch the private-sector commercial enterprise activities that represent a central thrust of the Forward Plan. It is not readily apparent that a different level of expertise is needed to enhance the impact of current Peace Corps sector programs. It may be that a wholly different type of specialist is required, e.g., a credit development specialist. This possibility should be explored. This, too, is an initial form of involving private sector in water and sanitation efforts which may lead to an increase in more direct aid in the future. (NOTE)

Sector specialists are presently over-extended in their administrative and program responsibilities; supplemental personnel are necessary. Agencies or businesses should be approached and asked to make professional personnel available for fixed, limited periods of time.

Any specialist who joins OPD should have skills different from but complementary to those of current sector specialists. For example, if the Water and Sanitation Specialist has expertise in wells and latrine construction, the new specialist might have expertise in irrigation systems or the treatment and use of waste products. New personnel would be responsible for programs that incorporate the new initiatives. The Water and Sanitation Specialist would simultaneously make every effort to take advantage of and to develop the income-generating potential of the traditional water and sanitation projects. This suggests that increased attention needs to be paid to proposals to facilitate the

NOTE: There is much to be said for the attraction and potential impact of programming in accord with the new initiatives. It could be suggested, however, that these large-scale, income-generating projects would be implemented by communities in the course of their development. Private enterprise would naturally find a role and the need for direct assistance from any outside public agency would be unnecessary. It might be suggested in passing that there are an adequate supply of entrepreneurs in every society. Significant barriers, however, e.g., the absence of credit, prevent them from exercising their talents freely.

local manufacture of spare parts for pumps and wells, to promote the collection and use of compost for fertilizer and fuel, etc.

Increased communication, cooperation and integration among OPD sectors is essential. Only recently were all sector specialists given offices on the same floor within Peace Corps headquarters. Individual sector specialists are also probably better known to the staff of regional bureaus than to their colleagues in OPD. In addition, the specialists would appear to be more aware of sector specific activities in any given country or region than they are of the overall Peace Corps program in any given country. The sector specialists should be responsive to the sector needs of country projects within regions. However, their lack of knowledge of other projects in any given country prevents them from backstopping colleagues who are traveling and from exploring the manner in which sector specific activities can complement each other and enhance overall project impact.

OPD needs to implement mechanisms that ensure better communication and information exchange among sector specialists and others within Peace Corps home office. It might be suggested that one specialist track all Peace Corps training and programming activities in a particular country, group of countries or region in addition to reviewing sector projects. For example, the Water and Sanitation Specialist might examine programs in countries where water supply is a high priority -- the Sahel. Another specialist might follow programs in a country or region where his/her area of expertise is of primary importance (e.g., forestry in the Inter-America Region). Emphasis needs to be placed on encouraging contact between sector specialists in relation to the activities of the total Peace Corps program. This practice would enable more than one specialist to know, in some detail, the programs in another technical area. It would also ensure that regional bureau personnel have access to an OPD backstop person when the sector specialist is traveling on project work.

The demand for assistance in all aspects of water and sanitation (recruitment, training and program definition) is large and growing. The sector specialist cannot respond to all requests with equal competence. Moreover, equity does not require simultaneous worldwide coverage. The Water and Sanitation Specialist should prioritize activities by task, region and country. Currently, there are no guidelines in place to estimate the level and/or priority of a project activity in any given country or region. The absence of these guidelines leads the Water and Sanitation Specialist, and probably his or her colleagues, to attempt to respond equally to every request.

Different regions and countries are in different stages of development and have different requirements. Once the level of Peace Corps activity in any given sector is defined, and the needs of the regions are reviewed and discussed with personnel from the regional bureaus, the sector specialist can focus on those areas where his/her resources and

skills are likely to have the greatest impact or meet the greatest need. The data suggest that among the three regions Africa has generated the greatest demand for basic water and sanitation programs (i.e., building reservoirs, digging village wells, training villagers to build, use and maintain facilities). The Inter-America Region may be the one offering the most potential for establishing private sector activities, e.g., manufacture of pipes, faucets, etc. At the same time, Latin America may call for the development of new types of training and service programs that can make water supply and sanitation facilities more accessible to remote rural communities.

Given that most evaluations of Peace Corps activities are designed to gauge the degree of volunteer satisfaction, it is suggested that the Peace Corps program exists as much to develop a U.S. constituency that understands international assistance as to contribute solutions to the problems of developing countries. The program is designed to train volunteers to operate effectively within a totally different environment while allowing the community to observe different habits and to be exposed to a perspective that is different from their own. The assumption is that exposure will enable the community to begin to take steps to change the manner in which everyday life has been conducted and to believe that change can be beneficial.

Water and sanitation projects have traditionally been ideal mechanisms for allowing volunteers to come into direct contact with all members of the community. Since water and sanitation projects raise issues that affect the entire community, volunteers have been able to reach most, if not all, segments of the community with which each is working. At the same time, the projects have provided opportunities for members of the community to come together to begin to alter traditional practices. This first step has usually been followed by other related activities. Some have been the local manufacture of spare parts for the wells, pumps, latrines, etc. Others have been training programs that have increased the knowledge and changed the habits of villagers. Still others have increased the access of the community to the resources needed to foster further development.

The sequence in which activities take place is neither apparent nor documented in Peace Corps files. Records do suggest that water and sanitation projects can have a catalytic effect on life within developing country communities. Data in Peace Corps files indicate that water and sanitation projects are highly desired by most developing countries. Their implementation also provides Peace Corps Volunteers with a deeper understanding of development issues. Proper design and implementation of these projects and appropriate training of the responsible volunteers are essential. The OPD Water and Sanitation Specialist plays an important role in ensuring that projects are properly identified and defined and that volunteers are adequately trained to carry out the work. This is the fundamental responsibility of the specialist.

The Peace Corps is not unlike a guild of craftsmen. It is best known for the quality and impact of the labor of the volunteers. Volunteers receive pre-service and in-service training that allows them to work most effectively at the village level in developing countries. Water is an essential component of village life. The development of water resources is key to improving the quality of life of a community. Since it is frequently the case that more than one-half of a developing country's population does not have access to safe water and waste disposal systems, traditional Peace Corps programs should be in high demand for many years to come. Still, among those communities that are more advanced, new and creative programming in water and sanitation is warranted. Programs that reflect the Forward Plan initiatives should be viewed as a logical complement to traditional water and sanitation programs, part of the development continuum and launched whenever and wherever opportunities appear.

While the OPD Water and Sanitation Specialist, as well as other specialists, should be conscious of the need to design projects and to structure training programs that are wholly responsive to Peace Corps policy -- whether it emphasize "basic needs" or "new initiatives," he/she has a primary obligation to ensure that a project meets the needs of the community and can be executed by a volunteer. Attention to this operational principal has been the strength of the Peace Corps for more than 20 years. Continued commitment to this principal will ensure the future success of the program.

APPENDIX A

WATER AND SANITATION FOR HEALTH (WASH) PROJECT
ORDER OF TECHNICAL DIRECTION (OTD) NUMBER 109
August 20, 1982

TO: Dr. Dennis Warner, Ph.D., P.E.
WASH Contract Project Director

FROM: Mr. Victor W.R. Wehman Jr., P.E., R.S. VWW
AID WASH Project Manager

SUBJECT: Provision of Technical Assistance Under WASH Project Scope of Work for U.S. Peace Corps

REFERENCE: A) Bell (USPC)/McJunkin (AID) Letter, dated 28 July 1982
B) Summary of Peace Corps Water and Sanitation Projects 1980-1981
C) McPherson (AID) letter to Rappe (PC), dated-no date

1. WASH contractor requested to provide technical assistance to U.S. Peace Corps as per Ref A. Contractor to accomplish scope of work outlined in Ref A as well as additional scope of work described below that was developed as a result of meetings with Bell (USPC) on several occasions.

2. WASH contractor/subcontractor/consultants authorized to expend up to 52 person days of effort over a four (4) month period beginning 1 August 1982 to accomplish this technical assistance effort.

3. Contractor authorized up to 26 person days of domestic per diem to accomplish this effort.

4. Contractor to coordinate with U.S. Peace Corps (J. Bell) and S&T/H (V. Wehman) and should provide copies of this OTD along with periodic progress reports as requested by S&T/H or U.S. Peace Corps personnel.

5. Contractor authorized to provide up to six (6) domestic round trips from consultants home base to Washington D/C and return to home base during life of this OTD.

6. Contractor authorized to obtain secretarial, graphics or reproduction services from CIC resource or from subcontractor for draft report work.

7. In addition to scope of work identified in Ref A, contractor requested to determine following:

A. the current status of the Peace Corps Water Supply and Sanitation Sector and
B. the possibilities for future developments of the sector

Activities to be included involve:

A. A series of interviews with key Peace Corps officials so as to assess:

(1) how the individuals now perceive the Peace Corps Water Supply and Sanitation Program(s) as they currently operate

(2) what resources the individuals see currently available to the sector, and how these resources should be deployed

(3) what resources could be made available to the sector in the future and how these resources might be deployed

The persons to be interviewed will be determined by the Peace Corps Water Supply and Sanitation Coordinator (Mr. Bell).

B. Data gathering on Current Peace Corps Water Supply and Sanitation Operations, to include the following:

(1) the same basic data base, format and degree of information found in Ref B for the years FY 81, FY 82.

The above data should be incorporated into a final report and briefing on the entire effort. Work should begin O/A 1 August and be completed by 15 October 1982.

8. WASH contractor will adhere to normal established administrative and financial controls as established for WASH mechanism in WASH contract.

9. WASH contractor should definitely be prepared to administratively or technically backstop field consultants and subcontractors.

10. The final report for this effort is due by 15 October 1982.

11. Contractor/subcontractors shall adhere to new procedures regarding cost estimating and justification of consultants/subcontractors utilized as per SER/CM/COD and S&T/H/WS letter to WASH Project Director dated 18 August 1982.

12. U. S. Peace Corps (Mr. Bell) should be contacted immediately and technical assistance initiated as soon as possible.

13. Appreciate your prompt attention to this matter. Good luck.

APPENDIX B

List of Persons Interviewed

Office of the Director
Ed Curran, Deputy Director

Office of Private Sector Development
Gerald D. Kisner, Director
George M. Gillet, III, Development Officer

Office of Recruitment and Placement
Nadine Plaster, Associate DIrector
Thomas G. Moore, Director, Recruitment
Jim Hogan, Special Assistant
Ken French, Consultant

Office of International Operations
Lon Randall, Director
Anne Richardson, Administrative Officer
Jane Mayne, Budget Analyst
Susan Scull, Women in Development Coordinator

Luis Del Rio, Director, Inter-America Operations
George Evans, Chief of Operations, Inter-America Operations
Bill Gschwend, Caribbean Basin Initiative Coordinator, Inter-America Operations
Gerald McIntosh, Director, Africa Operations
Arlene Mitchell, Chief of Operations, Africa Operations
Joan Dudik-Gayoso, Deputy Director, Africa Operations
Carol Wzorek, Chief of Operations, NANEAP Operations
Robert Taylor, Program and Training Officer, NANEAP Operations

Office of Management
Rex Costanza, Associate Director, Planning, Assessment and Management Information Office

Office of Program Development
Rick Abell, Director
Logan Sallada, Chief of Operations
Lynn Spier, Administrative Liaison
Kathie Judge, Technical Information Specialist - ICE
Paul Jankura, Energy Specialist - Energy Sector
Ada Jo Mann, Associate Energy Specialist - Energy Sector
Franklin Moore, Agriculture Specialist - Agriculture Sector
Jay Tuttle, Forestry/Natural Resources Associate Specialist - Forestry Sector
John Guerre, Competitive Enterprise Specialist - Competitive Enterprise Sector
Claudette Kaba, Health Specialist - Health Sector
Denise Conley, Associate Health Specialist - Health Sector
Jim Bell, Water/Sanitation Specialist - Water/Sanitation Sector

Peace Corps Times
Louis Panarale, Assistant Editor

Indian Health Service
John A. Cofrancesco, P.E.

WASH Project
Dr. Raymond B. Isely, Deputy Director
Craig Hafner, Area Coordinator for Africa

SUMMARY

PEACE CORPS WATER AND SANITATION PROJECTS 1980-1981

	Countries*	Projects*	PCVs as of 12-31-80	PCTs	PCVs + PCTs	FY81 Requests
AFRICA	16	26	144	27	171	115
LATIN AMERICA	6	7	89	22	111	39
NANEAP	11	13	101	0	101	108
TOTALS	33	46	334	49	383	262

* Countries & projects phased out not included in country and project figures.

*KEY

PCVs-Peace Corps Volunteers
PCTs-Peace Corps Trainers
TRs-Trainee Requests

PEACE CORPS WATER AND SANITATION PROJECTS

1980 - 1981

AFRICA

COUNTRY	PROJECT NAME	*PCVs as of 12/31/80	*PCTs	*TRs FY81	PROJECT DESCRIPTION
Benin	General Construction	0	0	5	Water Technicians Project not initiated yet
Botswana	Water Bore Hole Maintenance 637-A1	2	0	0	PCVs acting as Borehole Maintenance Advisors provide on-the-job training and instruction in the maintenance and repair of boreholes. Also serve as foremen for maintenance teams. (phasing out)
	District water Maintenance 637-C3	12	0	10	Assigned to District Council Works Dept., PCVs will supervise the repair of village borehole water reticulation systems and train local counterparts.
	Rural Water Installation 637-C4	0	0	0	PCVs supervise the installation of borehole water reticulation systems. Includes site layouts pipe fittings, mechanical erection and system testing. (phased out)
	Water Management 637-B5	0	0	0	Phased out.

		PCVs	PCTs	TRs	
(Botswana continued)	Environmental Sanitation 637-C5	2	0	0	AID sponsored, village awareness campaigns on sanitation, diseases, & latrines. (phasing out)
Cameroon	Practical Training in Health Education-Sanitation Specialist 694-A2	2	0	0	Assist Cameroon in effort to dev. & implement a comprehensive health ed. program for rural poor, improve health conditions thru villabe committees for improved area sanitation, i.e. latrines, water storage facilities & act as trainer for health personnel.
The Gambia	Rural Water Supply 635-A3	1	0	0	Being phased out.
Ghana	Upper Region Agric. Development, 641-A3	0	0	1	URADEP-Dam Construction PCV supervise daily operation and equipment in preparation of dam site. Survey fields to determine character of proposed area. Assist in designing of irrigation layouts.
Kenya	Village Polytechnics 615-B1	2	0	0	Teach plumbing at a village polytechnic school under the Min. of Labor. Also training Kenyan counterpart.
	Water Development 615-A1	15	0	12	PCVs involved in the construction of communal water points to serve approx. 1,000,000 rural inhabitants. Projects utilizes self-help approach where rural community provides the necessary labor and part of cost.
Lesotho	Clean Water Advisor 632-B8	1	0	3	Resource engineer concerned with construction of water systems, repair of existing systems and exploration of new supplies. Train local people to repair systems.

		PCVs	PCTs	TRs	
(Lesotho continued)	Urban and Rural Development 632-A9	2	0	0	PCVs assisting in the designing and constructing of village water systems and other rural development projects. (phasing out)
Liberia	Hand Dug Wells/ Rural Development 669-A2	6	4	4	Volunteers assigned to the Ministry of Local Government supervising and training co-workers in spring box construction, hand-dug drilled well construction.
Malawi	Rural Water Supply 614-A3	0	1	2	PCVs work under Min. of Comm. Dev. as hand dug wells supervisors and trainers of rural villagers.
	Preventative Health Services, 614-A2	7	6	0	Environmental Sanitation, organizing committees and advising villagers on building latrines, sanitary water supplies, and refuse dumps. Educate villagers to maintain facilities through workshops.
Mali	Community Dev. 688-A2	6	0	16	Community organization project involving latrine building.
	Preventative Health 688-C1	2	0	0	Organize and train health committee members to educate fellow villagers in health and nutrition, insure that water supplies are decontaminated, latrines dug, garbage disposed of properly in Cooperation with Min. of Health.

		PCVs	PCTs	TRs	
Mauritania	Water, 682-A4	0	0	0	Project never initiated.
Niger	Agricultural Surveyor 683-A4	0	0	0	Phased out.
Senegal	Rural Animation 685-A1	34	0	25	Teaching Sanitation 685-A2 is now within this project. PCVs participate in village development wells, latrines, health-care facilities, agric. production
	Machinist 685-B-0	0	0	0	(discontinued)
Sierra Leone	Rural Water Supply Wells Engineer 636-A4	4	3	0	Meet water needs of area through construction of hand dug shallow well or gravity fed piped water systems.
	Public Health Services/ Community Health Worker 636-A2	10	13	0	Improve environmental sanitary conditions of rural villages by increasing public health knowledge of pop. and constructing wells, sanitary latrines and compost piles.
Swaziland	AID-Waterborne Disease Control	0	0	0	
	Water Resources Appropriate Technology 645-A2	1	0	4	Alternative energy resources, water sanitation, solve problems in local availability of water through appropriate technology.

		PCVs	PCTs	TRs	
Togo	USAID-Environmental Sanitation Education 693-B0	0	0	6	Provide training in health educ., design health educ. campaigns, handle purchasing and distribution of construction materials for family latrines and other health related projects.
Upper Volta	Hand Dug Village Wells, 686-A2	6	0	3	PCVs assist rural villagers to construct hand-dug wells. Masons and well-digging teams are trained, augmenting existing construction capabilities.
	Agriculture Construction, 686-B2/C2	0	0	5	PCVs assigned to villages to assist in technical work necessary to complete small dams, dikes, and canals which provide water for crop irrigation.
	Village Health/San. 686-C3	0	0	4	PCVs to be involved in instalsation of hand pumps for hand dug wells.
Zaire	Rural Water Supply 660-A3	1	0	0	PCVs supervising the construction of spring boxes and piped water systems.
	Community Health Project 660-A5	28	0	15	PCVs working on water projects on Basic Family Health Program involving water system development, latrines, etc.
(AFRICA TOTAL)		144	27	115	

LATIN AMERICA

COUNTRY	PROJECT NAME	PCVs	PCTs	TRs FY81	DESCRIPTION
Chile	Watershed Management 513-B8	0	0	0	Erosion control project for demonstration and data gathering purposes. (phased out)
Costa Rica	Community Health Ed. Health Promoters 515-B9	28	1	0	Work in cooperation with Min. of Health and CONAI (Nat'l Commision on Indian Affairs) to improve physical quality life by teaching basic health, nutrition, hygiene, and envir. san.
Dominican Republic	Health, 517-B0	0	0	0	Phased out.
	Hydrology Survey 517-A4	0	0	0	Phased out.
Eastern Caribbean	Dominica Water Services, 538-G6	0	0	0	Still in planning stages.
	St. Vincent Water Services Dev. 538-G7	0	0	0	Still in planning stages.
Ecuador	Rural Public Health/ Promoters, 518-A3	38	1	23	In cooperation with Provincial/ Health Dept. of Cotopaxi or Social Security Institute's Rural Health Program. Program designed to promote public health services in rural areas by training locals in hygiene, sanitation, etc.

		PCVs	PCTs	TRs	
(Ecuador continued)	Rural Infrastructure 518-A5	0	11	0	PCVs to assist communities of less than 2500 to meet needs in education, for health clinics, access roads and sanitary facilities by initiating local self-help projects and working with existing organizations (public and private)
Guatemala	Rural Infrastructure/ Potable Water, 520-A1	2	0	12	Construction and reconstruction of (105) simple water supply systems. Approximately 125,000 rural Guatemalans will be given access to potable water.
Honduras	Irrigation, 522-B9	1	0	0	PCVs evaluate data on soil analysis, rainfall records, soil/water/plant relationships; determine most adequate irrigation systems; design small irrigation systems; supervise construction of systems and assist in running system efficiently.
Jamaica	Winter Omnibus-Health Ed., 532-A7	3	0	4	PCVs work in health clinic teaching (among other things) parent seminars on preventative health including sanitation and improved garbage and fecal disposal.
Paraguay	Environmental Sanitation 526-A2	17	9	0	Improve sanitation of small towns and rural areas. Construct running water systems and sanitary facilities in urban areas. Construct wells and sanitary latrines, protect existing wells. Under direction of SENASA (Nat'l Environmental San. Service)
(LATIN AMERICA TOTAL)		89	22	39	

NANEAP

COUNTRY	PROJECT NAME	PCVs	PCTs	TRs FYβ1	Description
Kiribati	Health/Sanitation 441-A4	5	0	16	Village Health Aide: In cooperation with Min. of Health & Community Affairs, WHO & Govt. of New Zealand. Building wells & toilets, encourage health education. Village Construction: includes building sea walls and Catchment tanks.
Malaysia	Water Resources Sanitation, 483-B2	0	0	0	Not initiated
	Sabah Health/Agri-cultural Irrigation Engineer, 483-A1	3	0	0	PCVs assist in design & construction of major irrigation schemes including dams, tertiary systems and canals. Also they develop flood control & forecast capabilities for the Malaysian peninsula. (being phased out.)
Micronesia	Environmental Sanitation-Water Systems Advisor, 401-B8	4	0	1	In cooperation with Public Works Dept. of Palau, train & assist water Treatment Plant Operators in basic operation & maintenance of their facility. Treatment includes sedimentation, filtration, & chlorination.
Nepal	Community Water Supply, 367-A1	5	0	30	PCVs survey design & organize Labor forces & supervise construction of water systems. They also train local people in proper maintenance of the systems.

		PCVs	PCTs	TRs	
(Nepal continued)	Hydraulic Ram Development 367-B6	2	0	3	PCVs work in site identification, survey, design & installation of hydraulic rams in rural mountain areas, where water sources are at lower elevations and alternate energy forms are not available.
Oman	Village Sanitation 381-A6	4	0	4	PCVs participate in a preventative program with Environmental Health Unit of Ministry of Health in construction of either dry pit latrines, bucket flush water seal privy, tank flush or flush toilet.
Philippines	Health-Community Development 492-A2	46	0	20	PCVs act as catalysts to motivate others to identify & satisfy own needs in areas of Health, Nutrition, environmental sanitation through training of health worker & communicable disease control.
	Upland Community Development & Water Specialist 492-D0	15	0	16	Foster social & econ. dev. of upland Community in own & national context. Work in cooperation with Pilipino Govt. & private organizations to maximize use, preserve & conserve natural resources especially land, water, energy, & forests. Water Specialist assists in design & construction of sanitary water systems.

		PCVs	PCTs	TRs	
Thailand	Water Resources Development 493-A7	12	0	10	PCVs are involved in the development of various water resources, dams, spillways, reservoirs, culverts, & irrigation canals to aid farms in increasing production & to provide sufficient water for domestic use.
Tonga	Technical Services Water Project Management, 421-A7	1	0	1	Improve sanitation by providing safe & adequate water supply systems. Goal of providing 89 cement water tanks & correspondent rain (catchment area to fill tanks over 3 year period.
Tunisia	Wells Rehabilitation 364-A2	1	0	0	PCVs assigned to existing water-wells teams to refurbish public wells, create maintenance teams, train masons, construct latrines, initiate health ed. & wells maintenance teams. (Being phased out.)
Western Samoa	Water Resources Development 491-A4	0	0	0	PCVs (Engineer Construction Supervisor & Store Manager) assist Public Works Dept. in improving existing & constructing new water supply systems in Apia. More TRs anticipated for 82.
Yemen	Small Water Projects Construction, 397-A1	3	0	7	Volunteers supervise the construction of water catchments, act as surveyor designer support & backstop. 3 of the construction supervisors.
NANEAP TOTALS		101	0	108	

SUMMARY OF PEACE CORPS WATER AND SANITATION PROJECTS

1982-1983

Submitted to: Craig Hafner
WASH
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October 1, 1982

OVERVIEW

The Water and Sanitation Sector of OPD has asked the AID-funded "Water and Sanitation for Health" (Wash) project to update a report of Peace Corps water and sanitation projects which was compiled in 1980. The following report updates the 1980 findings and is expanded to include collaborating agencies, related/secondary activities and project accomplishments. The standard of at least 50 percent of the volunteer's time spent in water activities was used as a basis for inclusion as a water project. All other water related activities are included under related/secondary activities.

The findings indicate not only an overall increase in water and sanitation activities but a programming strategy of integrating water and sanitation, health extension, appropriate technology, agriculture and education programs. Volunteers working in other projects are also often involved directly or indirectly with water projects as secondary activities or as part of their primary job. The introduction of new technologies in a developing country can often lead to less than satisfactory results without the accompanying education on use, maintenance and environmental considerations. A situation in which latrines are constructed above a water source has obvious contamination implications but those implications would very well go unrecognized without proper education. Peace Corps field staff and volunteers recognize the importance of integrated programming and feel strongly that sanitary and health education should be an integral part of any water project.

The fisheries programs have not been included in this report merely because it is a fairly specific programming area and the linkages to water are obvious. There are, however, specific tie-ins with water projects in several situations which should be mentioned: (1) in arid regions like Senegal the fishery volunteers work with water volunteers building irrigation systems; (2) dams and reservoirs are used as sources for fish ponds; and (3) hydraulic dams are used for household and fish pond water.

There are also many examples of volunteers who ended up working in water and sanitation projects even though their original assignments were in different areas. The following three examples illustrate ambitious, creative involvement in water projects.

A five-year Peace Corps Volunteer from Cameroon, Leanora Orr, was chosen as outstanding PCV for 1982. She became involved in water and sanitation projects while she was a TEFL teacher in Cameroon. During her volunteer years she initiated plans, solicited funding and worked on numerous water and sanitation projects including latrine construction projects in 10 primary schools, five gravity flow water systems, sanitary education and worked with a local civil engineer to upgrade existing water sources.

Gregory Tuttle and Mary Jo Wimmer were recruited as animal husbandry experts for a pig project in Swaziland. The goal of the project was the marketing of pigs in a market dominated by the South Africans. When they arrived on the site, however, there was nothing--no housing, no piggery, and no pigs. As implementation of the project stalled, Wimmer and Tuttle decided that if the piggery were ever to be successful, water (which was also missing on the site) would have to be present. The nearest source--a mountain stream--was about three kilometers away. Although they had no experience with water systems, the couple piped a gravity based system to the piggery site. Funds and consultation came from USAID but community organization and implementation were handled by Mary Jo and Greg. As the end of their tour approaches, piped water has been brought to the valley and in two animal husbandry experts have expanded their expertise into a totally new area. There are still no pigs at present.

Phebe Prescott is a Peace Corps Volunteer in Togo working on a water project in collaboration with AID, the Regional Society for Coffee and Cocoa Production and the Ministry of Rural Development. Phebe was originally in Togo working with Crossroads Africa building a youth center and was recruited by Peace Corps to work on the water project. She is presently project manager for the project which involves the construction of two small dams and a gravity feed system. This system will bring clean water to approximately 5,600 people in the village. Water will be piped to two large cisterns located on the hillside above the village and 15 faucets will be set up along the main road with faucets at both the primary and secondary schools. Villagers will have the option of piping water into their homes and paying a monthly fee. The revenue from the fees will go into a fund for maintenance of the system. There is a health/sanitation component of the project, and Phebe will be organizing seminars for sanitation education. Villages are presently using a polluted river as their water source. This gravity feed system is the first of its kind in Togo. The government anticipates duplicating the system in other locations throughout southern Togo.

The accomplishments section of this report identifies specific results of Peace Corps Volunteers working in collaboration with other development agencies to create and/or to improve the quality and availability of water resources. Through the introduction of potable water systems, there is a direct and immediate effect on health and labor by providing safe water and significantly reducing the labor cost of carrying water. These projects, especially those in which local materials and simple technologies are used, also have the potential of providing a direct small business opportunity in the marketing of these products.

CONTENTS

SUMMARY PEACE COPRS WATER AND SANITATION PROJECTS, 1982-1983

	COUNTRIES *	PROJECTS *	PCVs AS OF 12/31/81	PCTs	PCVs & PCTs	FY83 Requests
AFRICA	16	24	217	16	233	206
INTER-AMERICA	7	8	30	17	47	58
NANEAP	13	19	103	20	123	76
TOTALS	36	51	350	53	403	340

* Countries and projects phased out or that do not have V's in water projects as primary job are not included in country and project figures.

COUNTRY	PROJECT NAME	PCV'S AS OF 12/31/81	PCTs	TRs FY83	PROJECT DESCRIPTION	COLLABORATING AGENCIES	RELATED AND/OR SECONDARY PROJECTS
Benin	Water Sanitation	0	0	2	Still in planning stage.		School Construction V's are involved with well construction.
Botswana	Renewable Energy 637-DO	.5	0	0	Project is in developmental stage. Designed to promote renewable energy technologies, esp. in the areas of domestic technology, such as cooking, water & space heating, grain milling & water pumping.	AID EDF SIDA	V's in Rural Credit Officers Prog. are involved with approving small water projects. Community Self Help Sec. School V's are involved with getting funds for & helping with the installation of wells & latrines. V's in the woodlot proj. are developing water resources for woodlots & advising on water sources.
Burundi					New Country Entry. Prog. may include; village well capping, sanitary installation, health ext. & health & water systems development.	AID	
Cameroon	Practical Training in Health Ed./ Sanitation Specialist 694-A2	11	0	0	Assist in effort to develop & implement a Health Ed. Prog.for rural poor, improve health conditions thru village committees for improved area sanitation,i.e. latrines, water storage facilities & act as trainer for health personnel. Prog. being phased out but programming potential exists in water/ environmental sanitation.	AID UNICEF Amb. Self Help	Com. Dev. V's are involved with improving water sources & promoting latrine construction.
	Water/Sanitation Technician 694-B6	0	0	8	Program in developmental stage.		
	Health Educator 694-B5	0	0	10	Program in developmental stage. (V's integrate potable water projects with other activities.)		

		PCVs	PCTs	TRs			
C.A.R.							Health Ed. V's work with primary school teachers & directors incorporating health content into the school curriculum. This involves lessons in sanitation & potable water.
Gabon							Construction V. is working on installing wells at newly constructed primary schools. This V. will provide tech. trng. in water & sanitation to other construction V's in Gabon.
The Gambia							V's in Rural Health Ext./ Prog. are involved in water & sanitation ed., well rehabilitation, well site improvements & building latrines. 1 V.is working on a UNICEF water sanitation proj. 1 A.T. V. is designing & testing latrines.
Ghana	Community Dev./ Village Facilitator 641-A2	14	0	8	Organize labor & resources for local self-help projects which include; construction of pit latrines & earthen dams for water supply & health clinics.	CIDA Catholic Mission CRS AID	
Kenya	Water Development 615-A1	16	9	20	Construct communal water supply systems through self help approach. Assist with the design & construction of wells & latrines.	UNICEF AID	

		PCVs	PCTs	TRs			
Lesotho	Water & Sanitation Engineer 632-B8	1	0	3	Construction of water systems, repair of existing systems & exploration of new supplies. Train local people to repair systems.	AID	Every V. is responsible for building their own latrine & informally passing on skills to villagers.
Liberia	Rural Development/ Appropriate Tech. 669-A2	22	0	12	Organize village committees & work with them for safety in the use of the water source. Construction of water seal toilets, hand dug wells & latrines.	AID EEC UNICEF UNDP CARE/Lib. Amb. Self Help	
Malawi	Rural Water Supply 614-A3	1	2	9	Installation of a major piped water proj. Siting & designing headworks, survey of main lines & route selection, siting of storage tanks, river/gully crossings, valves & flush-points. Construction of intakes, screening & sediment tanks & all other concrete works.	AID	
	Preventative Health Services/Sanitarian/ Pub. Health Lab. Technician 614-A2	10	5	7	Sanitarian: Advise villagers in the construction of simple sanitary facilities, experiment with new sanitation technologies, educate villagers in the use & maintenance of the facilities, devise workshops to teach sanitation technologies to villagers & health workers. Lab Tech: Taking samples and analysis of water, milk, and milk products, water bodies where mosquitoes and bilharzia snails breed, hookworm, meat for tapeworm, tuberculosis to determine presence of disease or infestation.	AID	

		PCVs	PCTs	TRs			
Mali	Community Development/ Health 688-A2	8	0	6	Specific activities depend upon V's skills, needs of villagers & specific goals of the community development component which may include; simple filtration of water, rehydration techniques, wells & latrine building.	Amb. Self Help	
Niger							V's in Nutrition/Ed. Prog. are involved with teaching methods of water purification & preparation of potable water for infant formula.
Senegal	Rural Development 685-C3	43	0	37	V's act as facilitators in their villages to assess specific village needs. Activities include; kitchen & truck gardens,well digging,latrine construction,poultry raising,sm. building construction,prenatal & child care, nutrition etc. The kinds of projects are varied reflecting a diversity of needs at the village level.	Amb. Self Help CRS Baptist Mission CARITAS Dutch Emb. French Voluntaires Progres	V's in other programs have applied to Amb. Self Help Fund for assistance in funding wells, latrines etc. as secondary projects.
Sierra Leone	Rural Water Supply/ Water Supply Tech./ Health Ed. Advisor 636-A4	7	0	4	Teach villagers how to use & maintain the water sources after construction. Organize & conduct Health Ed. workshops, follow-up on water supply maintenance after construction & assist in organizing periodic inservice trainings for water project employees.	AID World Bank UNDP Fed. Rep. of Germany UNICEF	V's in other projects are involved in the construction of latrines & wells.
	Health/Community Health Worker 636-A2	16	0	25	Assist in developing a village infrastructure so that health status & environmental sanitation conditions can improve with villagers themselves as the active element in determining how the change is to occur.	Amb. Self Help	

		PCVs	PCTs	TRs			
Swaziland	Appropriate Technology 645-B7	1	0	0	Daming of water sources & piping of clean water to school location. Use of gravity piping & installation of facets. Project was completed.	Amb. Self Help	V's from pig project built a clean water system using gravity piping & pump.
Tanzania	Rural Water Supply 621-B6	0	0	15	Programming in this area is projected for implementation in FY83. The V's will assist villages in obtaining a potable source of water.	AID	
	Schisto Control Worker 621-A6	2	0	2	A new area of programming in FY82 with plans for evaluating improvement & expansion for FY83. V's conduct surveys of bodies of water, applying molluscicide where necessary.		
Togo	Environmental/ Sanitation Education 693-B0	11	0	12	V's train & supervise teams of social affairs agents to organize villages to accept responsibilities for maintenance of well pumps, organize health/sanitation campaigns & assist in construction of latrines.	AID FAC FED	Urban housing V's provide technical assistance for the construction of septic tanks. Rural Infrastructure V's construct latrines & cisterns as part of their primary jobs. TEFL, math-science, ag educ and health V's are all involved in building latrines and cisterns in schools and clinics in villages as secondary projects.
	Individual Placement 693	1	0	0	Installation in a village of aquaduct/ reservoir which is a gravity flow pure water system.	AID	

		PCVs	PCTs	TRs			
Upper Volta	Village Health/ Water Sanitation Worker 686-C3	4	0	4	Educate communities about the importance of clean water. Organize village health committees. Establish primary school health prog. Organize & make operational other programs such as latrine construction.	AID	
	Village Water Supply/ Wells Specialists 686-A2	4	0	0	Technical consultant to the well drilling teams &/or the drilled well improvement group. Train & work with village masons both in the actual digging of wells, including lining, & in planning & providing logistic support to the digging site.	AID	
Zaire	Rural Water Supply 660-A3	5	0	0	Supervise the construction of spring boxes & piped water systems. Develop training materials. (There are no future requests since V's are being reassigned from the Health project. Country is developing an integrated program of water, sanitation, health ext. & nutrition.	AID OXFAM UNDP ECZ	V's in Sec. Ed., Fisheries & Sm. Animal Hus. Programs give lessons on potable water in schools & villages.
	Community Health Project 660-A5	35	0	22	Intensive local community organization to develop a viable community health infrastructure including maternal & child health, basic sanitation, immunization & safe water supply. Training of Zairian Health workers & counterparts.	Canadian Intn'l Dev. AID WHO Catholic Dev Fund	

		PCVs	PCTs	TRs			
Costa Rica	Individual Placement 515	1	0	0	A 3rd. yr. V. started proj. & it is now being carried on by another V. Developed a hand pump for shallow hand dug wells 3-4 ft. deep. Pumps made from local materials, simple parts & are highly durable.		
Dominican Republic	Community Water/ Sanitation Promoters 517	0	0	6	Program in developmental phase. V's will work closely with, train & help to motivate community members on water/san. projects.	AID SENASA UTOC CARE Save The Children	
Eastern Caribbean	Community Deveopment 538-11	2	2	2	Plan & design water supply systems. Simple designs for bringing pure water to sm. rural populations.	AID PAHO CADEC	
Guatemala	Potable Water 520-A1	5	10	18	Participate in the training of counterparts & technical assesors in the planification & constrction of potable water systems & in the direction & supervision of the actual construction. Orientate communities on the installation of potable water systems.	CARITAS UNEPAR	Com. Health V's are involved with Sanitation Ed. projects. 2/3's of Forestry V's are involved with educating farmers in irrigation techniques. V's in the 4-H proj. manage water resources for irrigation of sch. gardens.

		PCVs	PCTs	TRs			
Honduras	Municipal Development/ Civil Engineer 522-A4	2	0	3	Provide technical assistance for projects chosen by the community. Responsibilities include planning, designing & supervising construction of projects such as; potable water & sewage systems & waste disposal. Maintenance & rehabilitation of water systems.	AID World Bank EEC	Pub. Health V's are involved with the promotion of latrine & water projects as part of their primary job. Some V's are involved with major proj. in Water & San. with a Health Ed. component designed to teach proper use of water & sanitary facilities & to promote their continued use once installed.
	Irrigation 522-B9	2	0	0	Work with sm. farmers to promote irrigation systems collect & analyze water data & construct sm. water systems.		
Jamaica							V's in Health Ed. Prog. teach sanitation as part of their primary job.
Ecuador	Rural Infrastructure/ Water & Sanitation Engineer 518-A5	6	5	12	Help design & construct water & sanitary systems for rural communities.	AID CARE IEOS	V's in Rural Public Health Prog. are involved with training locals in hygiene & sanitation & the building of wells & latrines as part of their primary job.
Paraguay	Environmental Sanitation/Sanitary Inspector 526-A2	12	0	17	Development of potable water systems & sanitary waste disposal. Development of running water system, fund raising, house by house inspections of water sources, latrines & trash disposal & protection of natural springs.	AID SENASA World Bank UNICEF CRS World Food Program IDB	Rural Health Ed. & Home Ext. V's teach sanitary ed. in communities as part of their primary job. 1 V. in Forestry Ext. Prog. had well dug & pump installed for irrigation of nurseries. Health Ed. V's are involved with installation of latrine slabs. 1 V. involved with SENASA water project in preparation of wells & elevated water storage tanks.

		PCV's	PCTs	TRs			
Fiji	Rural Community Development/Water Technician 411-A3	0	0	2	New Project. Carry out field surveys in drought prone areas; Design appropiate water systems; supervise the building of catchment & ferro-cement water storage facilities with the people; teach both local gov. workmen & villagers the necessary skills for building water catchment & storage facilities.		A.T. & Nutr. V's work with construction of water-seal toilets & ferro-cement water storage tanks as part of their primary project.
	Health/Public Health Engineer 411-A1	2	0	0	New Project. Demonstrate to the community, methods of water supply, waste disposal & housing & kitchen construction. Help communities survey, estimate & install water supply systems & water-seal toilets on a self-help basis.		
Kiribati	Village Health 441-A4	8	0	0	Upgrade existing wells, install well covers, hand pumps & rainwater catchment systems. Develop sanitary means of waste disposal including water seal latrines. Work with Island Health Council & put together health instructional materials.	WHO	Construction Aid V's build water catchment systems as part of their primary jobs.
Micronesia	Environmental Sanitation/Water Systems Advisor 401-B8	2	0	0	Train & assist water treatment plant operators in basic operation & maintenace of facility. Treatment includes sedimentation, filtration & chlorination.	Public Works Dept. of Palau	Health Ed. V's teach sanitary ed. as part of their primary jobs.
Morocco	Rural Water Supply 378-A1	14	0	20	Program is in start-up phase. Rehabilitation of Diesel & wind powered wells. Expansion of water supply system, well digging, capping & pump installation. Projects are all located in rural areas.	UNICEF	Voc. Ed. V's are involved with installing latrines & passive solar water heaters.

		PCVs	PCTs	TRs			
Nepal	Community Water Supply 367-A1	14	6	10	Survey possible sites, collect survey data, design profiles, establish cost estimates organize village water committee & draw up a contract with the village. # 1 priority for the Gov. of Nepal & P.C. Nepal.	UNICEF CIDA German Vol. Service VSO JOCV Dutch Vol. Service	All Rural Construction V's build personal & school latrines as part of their projects. Most V's use their primary project as base from which to promote sanitary & health ed.
	Minor Hill Irrigation 367-C3	0	1	4	New Project. Survey, design, estimate & oversee construction (or renovation) of small rural irrigation proj. in the mountainous region. Train local people to understand & maintain system.	AID Dutch Vol. Service	
	Hydraulic Ram Development 367-B6	2	0	2	Oversee & supervise the voluntary village laborers in all aspects of construction of the hydroram, its housing, cement structures, pipe distribution system & taps. Train local people to understand & maintain the hydoram.		
Oman	Water Sanitation 381-A6	3	0	0	Construction of either dry pit latrines, bucket flush water seal privy, tank flush or flush toilet. Project being phased out.	UNDP WHO	
Papau New Guinea	Lumi-Integrated Village Dev. Women's Activities Coordinator 471-A4	0	1	0	New Program. Involved with appropriate technology which will include village water systems, simple construction techniques & sanitary projects & solar drivers.		

		PCVs	PCTs	TRs			
Philippines	Health/Community Dev. 492-A1	9	0	10	Total # of V's in prog. is 70 but 9 are working with water as primary job. Construction of potable water systems, outhouses & water-sealed toilets.	AID	V's in non-conventional Energy Dev./A.T. Spec. Prog. are involved with workshops or seminar for solar water heaters, micro-hydros & water-sheels. Ag. Prod. V's collaborate with water V's for construction of irrigation projects.
	Ag. Prod. 492-05	2	0	2	Total # of V's in prog. is 80 but 2 are working with water as primary job. Installation of irrigation systems.		
	Uplands Community Dev./ Water Systems Specialist 492-D0	3	0	0	Assist Uplands communities in design & construction of sanitary water systems. Design, drill & supervise construction on the most appropriate type of water system for that area Design & build a spring box & water delivery system, drilling for artesian water or setting up a pump for ground water.		
	Local PCV Administration 492-B0	1	0	0	Installation of potable water wells.		
Solomon Islands	Rural Water Supplies 431-B2	1	5	0	Survey of village water needs, plan work schedules & material requirements for building water system. Supervise & assist with installation. Train villagers in maintenance & repair of system.	AID Intn'l Human Assistance	

		PCVs	PCTs	TRs			
Thailand	Water Resources Engineer 493-A7	15	0	0	Plan, design & supervise construction of sm. dams, spill ways & irrigation canals which will increase & control water resources for farming in rural areas.	AID	V's in Girl Guides Prog. are responsible for maintaining water systems on land settlements as part of their primary job. 1 of the Fisheries V's is working in collaboration with a water engineer to build a dam. Ag. Ext. V's are involved in building irrigation systems as part of their primary jobs.
	Land Settlement Engineer 493-DO	5	0	0	Construction & maintenance of village feeder roads, sm. dams, weirs, wells & ponds.	AID	
Tonga	Technical Services Water Project Management 421-A7	1	0	0	Supervise planning & construction of water systems. Provide technical expertise on rain catchment &/or tank construction.	FSP	Integrated Village Dev. V's teach sanitation in Adult Ed. classes as part of their primary job.
Tuvalu							V's in other projects are involved with building ferrocement water tanks as part of their primary job.
Western Samoa	Water Resources Dev./ Rural Maintenance Supervisor 491-A4	2	0	0	New Project. Monitor pipeline systems using pressure & flow meters. Trouble-shooting system faults & taking corrective action setting-up fault reporting systems by working through traditional village hierachies.		Health V's work with improving sanitary conditions.
Yemen	Sm. Water Projects Construction 397-A1	16	3	11	Supervision of implementation of water system; masonry, concrete tanks, catchment cisterns, laying of water pipes & installation of pumps.	AID	
	Local Resources for Dev. 397-B5	3	4	5	Plan, design & construct water systems, schools & roads.		

PEACE CORPS WATER/SANITATION ACCOMPLISHMENTS OF PROJECTS ON-GOING IN FY82

AFRICA REGION

Botswana

At the end of FY83 10 of 12 districts will have well established water units with trained local staff.

The Water Bole Hole Maintenance Program resulted in the creation of repair facilities, storeroom and stock replacement in 12 water maintenance offices.

Volunteers from the District Water Maintenance Program prepared and distributed instructional materials for the repair of existing equipment.

Reticulation of water systems for villages. Installation of 50-60 new systems, which are now self operational.

Volunteers developed a prototype of a pit latrine for a pilot project which is now being applied on a national level.

Cameroon

Trained over 100 Community Development Field Agents, initiated approximately 15 rural water projects and improved over 100 water points.

Gabon

The Ministry of Mines and Power is implementing a well digging program country wide to provide 320 selected regrouped villages with hand pumps. An extending PCV will begin a pilot wells project as a component of that project.

Ghana

Village facilitators have assisted District Councils and Village Development Committees within districts of six of Ghana's nine regions. PCVs have helped villagers plan, locate funding and resources, organize work groups and implement the construction of pit latrines, schools, community centers/libraries, bridges and culverts, earthen dams for water supply and health clinics.

Kenya

Technicians assisted 10 communities in completing major water projects; initiated three community-based well development programs; developed two community-based rain catchment programs; assisted with the design and construction of several smaller improved water sources and latrines.

The engineers have upgraded the staffs of provincial, district, and sub-regional water development offices. They have also surveyed, designed and/or supervised the construction of dozens of water systems.

Liberia

Completed potable water supply project using a gravity feed system in Yengema, Lofa County.

Completed construction of over 200 drilled, dug and spring wells (serving estimated 35,000 people).

Completed several latrines and schools.

Malawi

With Ambassador's Self Help Funds have constructed or will complete construction of 130 pit latrines and 140 shallow wells by the end of 1983, training seminar conducted for 250 health workers.

Have completed 200 kilometers of piping and installed 300 taps by May 1983.

Senegal

Assisted in well improvements, new wells and latrines. Water supply training at local training center and upgrading traditional well digging techniques.

Sierra Leone

Since the beginning of the Health/Rural Development Program, Peace Corps Volunteers have provided assistance and technical support to villages in the construction of wells, latrines, compost fences and health facilities. Exact production figures are unavailable.

Swaziland

Six or seven homesteads and one district school (approximately 200 people) now have running, sanitary water. This project has drastically cut the amount of people-time and energy spent on carrying water from distant sources.

Togo

Teams of social affairs agents coordinated by volunteers are currently working to organize the villages to accept the responsibility for the maintenance of the well pumps, organize a health/sanitation campaign and assist in the construction of family latrines. To date 250 villages have been contacted and the actual drilling and pump installation is underway. In FY83 Volunteers plan to establish and train 200 village health committees, undertake 175 secondary health/sanitation projects, design and implement a health education campaign and plan to begin village contacts in another region.

Upper Volta

The Rural Water Supply Project funded by AID is designed to provide the rural people of southwestern Upper Volta with a potable water supply which will meet their minimal daily requirements of 10 liters per person per day; an estimated 620 wells will eventually be dug in approximately 550 villages and an effective community health education program to maximize the potential health benefits inherent in an improved water system.

NANEAP REGION

Micronesia

Designed, equipped and assisted in the construction of a water and wastewater laboratory in Truk and trained two Trukese laboratory technicians; developed training manuals for sanitarians in all districts of Micronesia; designed operators' manuals for the Truk and Ponape wastewater treatment plants; advised Environmental Protection Board staff on current wastewater plant operations in all districts of Micronesia.

Nepal

Rural Construction: Over the past ten years Peace Corps Volunteers have surveyed, designed, and overseen the construction of over 100 rural drinking water projects in Nepal (8 in 1981) reaching an estimated 75,000 people. These systems have a direct and immediate effect on health and labor by providing generally safe water and significantly reducing the labor costs of carrying water.

Over the past five years, rural construction PCVs have had an important and direct effect on both the quality of water systems being built and on the number of qualified Nepali manpower required to meet HMG's very ambitious objectives in water supply. During this period PCVs have helped provide on-the-job training to 25 Overseers and 75 Technicians, adding greatly to the pool of trained manpower. They have also improved system quality by standardizing designs and, by using the hydro-ram pump, introduced water where systems were previously not possible.

Peace Corps Volunteers (and volunteers from other agencies) played a major role in establishing a national water and supply maintenance program.

Philippines

Have completed five barangay potable water systems, one spring development project, two upland community potable water systems and construction of barangay outhouses and water-sealed toilets which will benefit 35 families as part of environmental sanitation program.

Construction of 100 dug wells through joint Peace Corps/Canadian Embassy Environmental Sanitation project.

Solomon Islands

Provision of adequate supplies of potable water to every village in the country within 10 years is a major goal of the government's rural development commitment.

Of the visible accomplishments of community development aides, the most obvious are the water systems established at the Anulighi Resettlement site and at Bambanikira village. Both were major efforts, funded from outside sources sought and arranged by the PCVs, and both have made significant impact on the lives of community residents. Water is now available in the villages at all times, thus saving the women's labor, previously required for carrying water. And since all of the water outlets in the systems are equipped with shower heads as well as taps, there is a general tendency for people to "swim" (Pijin for bathe) more frequently.

Thailand

In 1982, 15 volunteers in the water resources program completed construction of 2 irrigation canals, 3 irrigation check structures, 3 box culverts, 3 earth dams with reservoirs, 6 R.C. diversion dams, 1 windmill with water pump, 1 suspension bridge and 2 large farm ponds. The total value of the construction projects was apprxoimately US$320,000. They affected the lives of about 1,600 farm families (approximately 9,600 people). In addition an average of 5 projects were surveyed and designed by each volunteer engineer for a total of 75 projects.

The work of these engineer volunteers in the past has begun to demonstrate the value of the small water projects to the Thai Government. The Water Resources Development Committee has been set up under the Prime Minister's Office since 1980. It has promised greater financial outlay to small water resources development projects instead of expanding the construction of big irrigation projects.

Agriculture extension, TEFL and health volunteers (1981-82) have constructed 40 shallow wells, 10 windmills, 25 water storage tanks, 1 water supply project. The total value of the construction projects was approximately US$17,771. They affected the lives of about 700 rural families (approximately 4,200 people).

Tonga

Plan to provide 89 5,000 gallon cement water tanks over a three year period and 44,630 square feet of rain water catchment roof area to fill cement water tanks over a three year period.

Yemen

Several water projects have been completed ranging in complexity from single spring boxes to water tanks with gravity feed distribution systems.

INTER-AMERICAN REGION

Eastern Carribean

Two civil engineers on Dominica have contributed significantly to rural infrastructure improvement in their design and supervision of road, bridge and water systems.

Ecuador

Water volunteers are involved in the design and construction of six community water systems, the installation of 80 manual pumps and the training of 30 promoters who will maintain the pumps and systems.

Energy volunteers are expected to complete construction of 30 solar water heaters in 1982.

Guatemala

Through the introduction of a potable water system, the community gains an improvement in health conditions and a freeing of time for economic activities once spent in water collection. To date:

- 30,000 individuals have benefitted from this project
- 10 projects have been executed serving a population of 18,000 persons
- 17 projects under construction to benefit 15,000 persons
- 9 topographic studies completed
- 10 designs for systems finished
- 40 counterparts trained
- 12 feasibility studies realized
- 13 potable water systems plans completed

Honduras

1,000 latrines and 50 wells have been built.

Paraguay

Volunteers have been involved in the following:

- inspections of 4,845 houses and sanitary facilities
- construction of 346 sanitary latrines
- repair of 153 latrines
- dug 53 wells
- installed 18 water pumps
- protected 16 springs
- made visits to 4,362 families in health education
- interviewed 1,421 families in local health posts
- participated in 76 classes involving sanitation education
- conducted six potable water education classes
- discussed water and sanitation at 296 health committee meetings

LIST OF COLLABORATING AGENCIES INCLUDED IN REPORT

This listing represents international and donor agencies who are involved in collaborative activities with Peace Corps. The information was gathered through discussions with Country Desk Officers and review of the Country Management Plans reflecting collaboration from Dec. 1981 through the present. More specific information on Peace Corps collaboration can be obtained from a preliminary report that was prepared by the Office of Programming and Training Coordination in April 1981.

AGENCY	ACRONYM
Agency for International Development	AID
Baptist Mission/Senegal	
Canadian Embassy/CIDA	
CARE	
CARITAS	
Catholic Development Fund	
Catholic Mission	
Catholic Relief Services	CRS
Christian Action for Development in Eastern Caribbean	CADEC
Dutch Embassy (Netherlands)	
Dutch Volunteer Service	
Ecuadorean Water Institute	IEOS
Eglises Chretiennes Zairoises	ECZ
European Economic Community	EEC
European Development Fund	FED

Executive Unit of Rural Aqueducts Program (Ministry of Public Health)	UNEPAR
Fed. Republic of Germany	
French Voluntaires Progres	
Fonds Assistance et Cooperation	FAC
Foundation of the Peoples of the South Pacific	FSP
German Volunteer Service	
Inter-American Development Bank	IDB
International Human Assistance	
Japanese Overseas Cooperation of Volunteers	JOCV
OXFAM (United Kingdom)	
Pan American Health Organization	PAHO
Servicio Nacional de Saneamiento Ambiental	SENASA
Save the Children	
Sweden/SIDA	
Unidad Technica Operaciones de Campo	UTOC
United Nations Children's Fund	UNICEF
United Nations Development Program	UNDP
United States Embassy Self Help Fund	
Voluntary Services Overseas (British)	VSO
World Ba. k	IBRD
World Health Organization	WHO

Regional and Overseas Staff Interviewed

Africa Region

- Anika McGee, CDO, Kenya, Malawi, Tanzania
- Kay Kennedy, CDO, Zaire
  Kattie Wheatley, CDA, Zaire
- David Browne, CDO, Botswana, Lesotho, Swaziland
  Norman Rush, PCD, Botswana
- Gary Laidig, CDO, Togo, Benin, Ghana
  Marcia Daigle, CDA, Togo, Benin, Ghana
  Don Boekelheide, PCV, Togo
  Phebe Prescott, PCV, Togo
- Steve Reid, ACDO, Mali, Niger, Upper Volta
- Ronnie Williams, ACDO, The Gambia, Liberia
  George Scharfenberger, PCD, The Gambia
  David Selby, RPCV, Liberia
- Elena Hughes, CDO, Senegal, Sierra Leone
- Leanora Orr, RPCV, Cameroon

Inter-America Region

- Dexter Katzman, CDO, Jamaica, Belize, Eastern Caribbean
- Eugene Rigler, CDO, Ecuador, Costa Rica
- Maria Lameiro, CDO, Honduras, Guatemala
- Noreen O'Meara, CDO, Paraguay, Dominican Republic
- Ray Victurine, Consultant, Paraguay, Guatemala

NANEAP Region

- Chris Ullrich, ACDO, Philippines
- Susan Belmont, ACDO, Thailand, Papau New Guinea
- Phyllis Jones, ACDO, Western Samoa, Fiji, Tuvalu
- Bill Dant, CDO, Morocco
- Martha Kichorowsky, ACDO, Nepal, Oman, Yemen

Office of Program Development

- Roger Palm, Fisheries Specialist
- Franklin Moore, Agriculture Specialist

PRINCIPAL ABBREVIATIONS AND ACRONYMS USED

ACDO	-	Acting Country Desk Officer
CDO	-	Country Desk Officer
CDA	-	Country Desk Assistant
NANEAP	-	North Africa, Near East, Asia and Pacific
PCD	-	Peace Corps Country Director
PCV	-	Peace Corps Volunteers
RPCV	-	Returned Peace Corps Volunteer

APPENDIX D

World Bank Estimate of Population with Access to Safe Water by Country with Peace Corps Programs

Inter-America Region

Country	Percentage
Belize	...
Costa Rica	77
Dominican Republic	55
Eastern Caribbean (Trinidad and Tobago)	...
Ecuador	42
Guatemala	40
Haiti	14
Honduras	46
Jamaica	86
Paraguay	13

NANEAP

Congo	17
Cook Islands	...
Fiji	...
Kiribati	...
Micronesia	...
Morocco	55
Nepal	9

Appendix D continued

Inter-America Region

Country	Percentage
Paupau New Guiena	20
Philippines	43
Solomon	...
Thailand	22
Tunisia	70
Tuvalu	...
W. Samoa	...
Yemen	4

Africa

Benin	21
Botswana	...
Burundi	...
Cameroon	26
Central African Republic	16
Gabon	...
Gambia	...
Ghana	35
Kenya	17
Lesotho	17
Liberia	20
Malawi	33

Appendix D continued

Inter-America Region

Country	Percentage
Mali	9
Mauritania	...
Niger	27
Rwanda	35
Senegal	37
Seychelles	...
Sierra Leone	...
Swaziland	...
Tanzania	39
Togo	16
Upper Volta	25
Zaire	16

APPENDIX E

U.S.AID* and Indian Health Service Contributions
to Peace Corps Water and Sanitation Sector (OPD)

* U.S. assistance to Peace Corps is through the Water and Sanitation Project (WASH). The WASH project is funded and managed by the Division of Water Supply and Sanitation, Office of Health, Science and Technology Bureau, Agency for International Development. The staff of this Division has also provided technical assistance to the Peace Corps Water and Sanitation Specialist.

PEACE CORPS

MEMORANDUM

December 21, 1982

To: Lon Randall, Associate Director for International Operations

Thru: Rick Abell, Director, Office of Program Development

From: Jim Bell, Water/Sanitation Specialist JB

Subject: Resource Leveraging for Water/Sanitation Sector

An important function of water/sanitation sectoral activities is the leveraging of outside resources for Peace Corps field projects. In 1982-1983 significant resources have been made available through the USAID funded Water and Sanitation for Health Project (WASH) and the Indian Health Service as listed below.

TITLE	Support Provided US $ Actual and Projected
A. USAID/WASH Project	
- Togo, ICT, Feb 1982 health educator/trainer	45,000
- Morocco, ICT, Jan/Feb 1982 sanitary engineer	31,000
- Handpump procurement, April 1982	2,000
- Botswana, Lesotho, Swaziland, Cameroon and Zaire; WASH liaison work, April 1982	5,000
- Peace Corps Washington, Aug/Sept 1982, two consultants	20,800
- Morocco, IST and program evaluation Sept 1982, sanitary engineer	34,000
- Zaire - IST spring capping Oct/Nov 1982, sanitary engineer	22,500

- TOT workshop, Dec 1982 training designer and sanitary engineer	16,800
- IST handpump design, Jan/Feb 1983, training designer and handpump expert	30,000
- IST sanitation design, Jan/Feb 1983, training designer and sanitary engineer	30,000
- Dominican Republic IST workshop (projected), Feb/March 1983, training designer and sanitary engineer	30,000
total	$267,100

B. Indian Health Service

- Water/sanitation SST, May/June 1982, engineer and sanitarian	10,000
- Water/sanitation SST, May/June 1983, (projected) engineer and sanitarian	10,000
- Water/sanitation SST, July/August 1983 (projected) engineer and sanitarian	10,000
- Water/sanitation ICT, Paraguay, July 1983 (projected), engineer and sanitarian	10,000
total	$40,000

cc: Loret Ruppe, Director
Ed Curran, Deputy Director
Gerald McIntosh, Regional Director, Africa
Luis del Rio, Regional Director, Inter-America
Jody Olsen, Regional Director, NANEAP
Chris Kielich, Director, Public Affairs
Rick Abell, Director, Office of Program Development