PD-ABJ-019
89347

RURAL WATER SUPPLY AND SANITATION

492-0401

PROJECT PAPER AMENDMENT NO. 1

USAID/Philippines
July 1990

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AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT DATA SHEET

1. TRANSACTION CODE: C (A = Add, C = Change, D = Delete) — Amendment Number: 1

DOCUMENT CODE: 3

2. COUNTRY/ENTITY: Philippines/USAID

3. PROJECT NUMBER: 492-0401

4. BUREAU/OFFICE: Asia, Near East and Europe — 04

5. PROJECT TITLE (maximum 40 characters): Rural Water Supply and Sanitation

6. PROJECT ASSISTANCE COMPLETION DATE (PACD): MM 09 DD 30 YY 90

7. ESTIMATED DATE OF OBLIGATION (Under 'B.' below, enter 1, 2, 3, or 4)

A. Initial FY 86 B. Quarter 4 C. Final FY 87

8. COSTS ($000 OR EQUIVALENT $1 =)

A. FUNDING SOURCE	FIRST FY B. FX	C. L/C	D. Total	LIFE OF PROJECT E. FX	F. L/C	G. Total
AID Appropriated Total	2,420	7,258	9,678	1,654.5	1,589.7	3,244.2
(Grant)	(2,420)	(7,258)	(9,678)	(1,654.5)	(1,589.7)	(3,244.2)
(Loan)	( )	( )	( )	( )	( )	( )
Other U.S. 1.						
Other U.S. 2.						
Host Country					1,200	1,200
Other Donor(s)						
TOTALS	2,420	7,258	9,678	1,654.5	2,789.7	4,444.2

9. SCHEDULE OF AID FUNDING ($000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE 1. Grant	2. Loan	D. OBLIGATIONS TO DATE 1. Grant	2. Loan	E. AMOUNT APPROVED THIS ACTION 1. Grant	2. Loan	F. LIFE OF PROJECT 1. Grant	2. Loan
(1) HE	243	250		13,453.1		(10,208.9)		3,244.2	
(2)									
(3)									
(4)									
TOTALS				13,453.1		(10,208.9)		3,244.2	

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each): 545 | 241 | 252 | 253 | 569

11. SECONDARY PURPOSE CODE: 580

12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)

A. Code

B. Amount

13. PROJECT PURPOSE (maximum 480 characters)

Develop an institutional framework and methodology for the development and enhancement of local government unit capabilities to plan, finance and construct self-sustaining water supply systems and related sanitary and health improvements for rural communities.

14. SCHEDULED EVALUATIONS

Interim MM YY MM YY Final MM YY

15. SOURCE/ORIGIN OF GOODS AND SERVICES

[X] 000 [ ] 941 [X] Local [ ] Other (Specify)

16. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of a ____ page PP Amendment.)

The purpose of the supplement is to revise the activities of the project by deleting the financing of the construction and rehabilitation of water systems and by focusing on training and technical assistance under the general technical assistance contract with Engineering Science Incorporated.

17. APPROVED BY

Signature: John A. Patterson

Title: Acting Director USAID/Philippines

Date Signed: MM 12 DD 20 YY 90

18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION: MM DD YY

AID 1330-4 (8-79)

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RURAL WATER SUPPLY AND SANITATION PROJECT

SUMMARY AND RECOMMENDATIONS

1. Grantee : The Government of the Philippines (GOP)

2. Implementing Entity : Department of Local Government (DLG)

3. Grant Amount : $3,244,157

4. Purpose : (1) Develop an institutional framework and methodology for the development and enhancement of local government unit (LGU) capabilities to plan, finance and construct self-sustaining water supply systems and related sanitary and health improvements for rural communities.

5. Project Description : The Project will provide training and technical assistance to the Project Management Office (PMO) of the Department of Local Government and participating LGUs to build their technical skill base so that they may establish more efficient and effective management systems for water system and sanitary facility design, construction, operation and maintenance.

6. Project Elements (US$000):

Grant

T.A. and Training	$2,945.7
Studies, Evaluations, Audits	298.4
TOTAL	$3,244.1

7. Total Project Cost : $4,444,157 of which A.I.D. will provide $3,244,157 in grant funds, and the GOP and anticipating local government units (LGUs), $1,200,000.

8. Application	:	The GOP's application is included as Annex A.
9. Statutory Requirements	:	All statutory requirements have been met. See Annex D.
10. Analyses	:	The analyses presenting overall feasibility considerations are included in Section II.E of this Project Paper.
11. Recommendation	:	That a revised level of $3,244,157 in grant funds be authorized.

LIST OF ABBREVIATIONS

A.I.D.	Agency for International Development
A & E	Architectural and Engineering
ADB	Asian Development Bank
BWP	Barangay Water Program
BWP I	Barangay Water Program I
BWP II	Barangay Water Program II
COA	Commission on Audit
DOH	Department of Health
DLG	Department of Local Government
DPWH	Department of Public Works and Highways
GOP	Government of the Philippines
IBRD	International Bank for Reconstruction and Development
LGU	Local Government Unit (provincial and city level)
LWUA	Local Water Utilities Administration
MOA	Memorandum of Agreement
MDF	Municipal Development Fund
MLG	Ministry of Local Government
NEDA	National Economic and Development Authority
NWRC	National Water Resources Council
OECF	Overseas Economic Cooperation Fund (Japanese)
PVO	Private Voluntary Organization
PMC	Project Management Consultant
PMT	Project Management Office
PDO	Provincial Development Office
PEO	Provincial Engineering Office
PHO	Provincial Health Office
RWSA	Rural Water and Sanitation Association
RWDC	Rural Water Development Corporation
T.A.	Technical Assistance
USAID	Philippines Mission of the Agency for International Development
W & S	Water and Sanitation
WSM	Water and Sanitation Manager
WSO	Water and Sanitation Office

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PROJECT AUTHORIZATION
AMENDMENT NO. 1

Philippines

Rural Water Supply and Sanitation
A.I.D. Project No. 492-0401

1. The Rural Water Supply and Sanitation Project was authorized on September 16, 1986. Pursuant to Section 104(c) of the Foreign Assistance Act of 1961, as amended, and in accordance with the authority delegated to me in Delegation of Authority No. 652, I hereby amend the Project Authorization as follows:

A. The level of planned obligations is decreased from $18,750,000 to $3,244,157 in grant funds.

B. The following activities are deleted from paragraph 2 of the Project Authorization: "(iii) financing the construction of rural water supply systems and the rehabilitation of water supply source facilities; and (iv) training and technical assistance to integrate improved water systems and improved health and sanitary practices."

2. The Project Authorization shall remain in full force and effect except as hereby amended.

By: _____
John A. Patterson
Acting Mission Director
USAID/Philippines

Date: 7/20/90

Clearances:

Name	Initial	Date
OCP:MDeMetre		7/16
PESO:BCornelio		7/2
OFFPVC:BGeorge		7/7
OPHN:KFarr (Actg.)		7/3/90
ORAD:HWahab (Actg.)		07/05/90
DRM:GMImhoff (Actg.)		07/13/90
OD/PE:PDeuster		7/9/90
OFM:JCStanford		7/2/90
CSO:SHeishman		7/2/90
OLA:LChiles		7/28/90
OD:JAPatterson (Actg.)		7/18/90

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I. PROJECT RATIONALE

A. Problem

Of the more than 33 million people in the Philippines who live outside of high density cities and municipalities two thirds lack safe household water supplies and must rely chiefly on the nearest sources of water, such as open wells, rain water cisterns, lakes, rivers and streams; and three quarters lack water-flushed or water seal latrines in their homes. Furthermore, while the GOP and a number of donor agencies are financing potable water supply systems and sanitation facilities, the rate at which they are being provided to this population is considerably less than the 1.92 percent per annum rate of net rural population growth.

In addition, many of the facilities that have been planned under the various rural water supply and sanitation development programs have not been completed satisfactorily or, once completed, have not been effectively used or maintained. There is little or no follow-up with communities provided sanitary facilities on the use of those facilities and no concerted education of the communities on how to use accessible water to change their health practices.

Lack of potable water is a major contributing factor in the incidence of waterborne and water related diseases in rural areas. Waterborne diseases are second only to respiratory system diseases in importance. The availability of safe household water supplies and sanitary facilities to the rural population and the adoption of improved hygiene practices would produce a dramatic improvement in the rate of survival of children under five who are the segment of the population most at risk from waterborne diseases. Also, generally better health for all age groups, and greater productivity will contribute to the perception of a greater quality of life for the participating communities.

The Philippines has abundant, although seasonal, waterfall and suitable aquifers whose location has been relatively well established. Furthermore, although the population is spread over many islands stretching for some 700 miles from north to south, the great majority of the rural population lives in clustered communities which facilitates the use of small, piped water systems. The central problem hindering the provision of safe water and sanitation facilities to the rural population is the lack of an effective system for organizing the efforts of the government and the communities in a program to construct, operate, and maintain the systems.

B. GOP Water Supply and Sanitation Program

The GOP has committed itself to an extensive program designed to install safe and dependable water supply and sanitary facilities within easy reach of the majority of the rural households in the shortest practicable time and in the most cost effective manner. In furtherance of these objectives, a "Rural Water Supply and Sanitation Master plan", covering the period 1982-2000, was prepared in 1982. Physical targets and investment requirements for rural water supply and rural sanitation are provided in Tables I-1 thru I-4.

In 1985 the GOP undertook an assessment and updating of that Program. Although there was a change in government before the effort was completed, the new government has maintained the basic precepts and objectives of that program. They are as follows:

1. Providing rural water and sanitation systems is a priority concern of the government;

2. The formation of the concerned rural communities into self-reliant water associations or districts is a pre-requisite to the selection of sites for water supply system construction, and funding of the operation and maintenance of the water supply systems is to be the responsibility of those associations;

3. Project identification and initiation are to be essentially the responsibility of the concerned rural communities and the local government units to which they belong;

4. Project feasibility studies, water system design and construction are the responsibility of the government organization assigned responsibility for the type of water system to be supported;

5. Cost recovery should be based on the following principles:

Level I - shallow wells handpumps. 90% of the cost is provided by the GOP on a grant basis. The association provides the remaining 10% and the full cost of operation and maintenance.

Level II - Deep wells, piped systems. Financing of the source costs is the same as for level I. Costs of the distribution system are met by at least a 10% contribution from the association and a loan from the GOP to the association for the remainder. Funds to pay the amortization of the loan and the costs of operation and maintenance are to be recovered through appropriate water fees charged to the user households.

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Level III - Piped systems with household connections. The full capital costs of the project are to be met through at least a 10% contribution from the association with the remainder being financed by a loan from the GOP. As in level II the amortization of the loan and the costs of operation and maintenance are to be recovered through appropriate water fees charged to the user households.

The GOP entities which have responsibility for rural water supply and sanitation programs include:

1. The Local Water Utilities Administration (LWUA): LWUA is a government corporation created in 1973 as a specialized lending institution for the promotion, development and financing of local water utilities in Water Districts formed by local governments of communities of at least 20,000 people. Although the chief concern of LWUA is financing, it also provides engineering services to the Water Districts. LWUA's original mandate was to build Level III systems only. However, in 1987 through Executive Order No. 124 it assumed the functions and responsibilities of the Rural Water Developmnet Corporation (RWDC) to provide financing for the construction of Level II systems in rural areas. The RWDC was a government corporation created in 1980 to assist Rural Waterworks and Sanitation Associations (RWSAs) formed by communities not covered by LWUA and BWP. Donor funding has played a major role in the funding of LWUA projects. By 1985 sixty-one projects were completed with USAID assistance, 23 with IBRD loans, 11 with ADB loans and 7 with funding from DANIDA (Denmark).

2. Department of Public Works and Highways (DPWH): DPWH is a line ministry. It is responsible for the development of integrated national water supply plans and programs; and undertakes the drilling of wells, development of springs, construction of communal faucet systems and the improvement and construction of water systems through its Project Management Office for Rural Water Supply and its 14 regional and 94 district engineering offices throughout the country. Originally the design and construction of all rural water supply and sanitation facilities came under the jurisdiction of DPWH. Through the end of 1983 DPWH had administered the construction of only 1,370 shallow wells and 1,588 deep wells as Level I sources, the rehabilitation of another 2,157 Level I sources, and the construction of 225 Level II and 5 Level III systems. DPWH currently concentrates its efforts on level I systems.

3. Department of Local Government. The Department of Local Government (DLG) was involved in the development of Barangay-level water programs between 1977 and 1988. These are described in Section I.C below. However, in 1989 the NEDA Board issued Resolution No. 5 which charged DLG with the responsibility for providing technical assistance and training related to the development of Rural Water Systems and which removed DLG as an implementing institution for water programs.

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C. Past AID Activity

In 1977 the GOP and A.I.D. agreed on the broad outline of a program to increase the proportion of the rural population having access to safe water supplies and adequate sanitation through developing a capacity at the national and local government level to plan, design and implement small scale water systems to be owned and managed by cooperatives of users at the barangay level. The program was divided into four phases:

Phase 1 - Pilot Effort (1977): The purpose was to develop an institutional structure and operational procedures and to obtain the core staff necessary for the program. It also would test the structure with a limited number of systems. The cost of this phase was born by the GOP.

Phase 2 - BWP I (1978-1980): The purpose was to refine the structure while expanding the number of systems to approximately 200 in provinces and cities already participating in the A.I.D. supported Provincial Development Assistance Program (PDAP) and the Rural Service Center (RSC) Projects . The cost of the program was to be shared equally by A.I.D. and the GOP. A.I.D. obligated $1.142 million in grant funds and $6.0 million in loan funds for the project.

Phase 3 - BWP II (1981-1988): The purpose was to expand the coverage of the program to provinces and cities which had not participated in the PDAP and RSC programs, to strengthen the institutionalization of the system and to develop strong enough local government units so that they would attract financing for their programs from such donors as the IBRD. The project was to be funded 67% by A.I.D. and 33% by the GOP. A.I.D. obligated $22.137 million in support of the program, but because of slow implementation deobligated $5.5 million and extended the time for completion of the project to December 1988.

As of December 31, 1988 A.I.D. expenditures totalled $16.01 million in support of this multi-year program. Project accomplishments include 390 Level 1 (handpumps), 179 Level II, and 25 Level III systems as well as 123 test wells. An additional 146 systems, 313 handpumps and 60 test wells were constructed under the Program financed solely with GOP funds.

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The approach that evolved under the program had the following major characteristics:

1. The implementing agency was the Department of Local Government (DLG) which discharged its responsibilities through a Special Project Management Office (PMO) in Manila of some 45 contract (year-to-year) employees. The PMO prepared the budgets; set the policies; performed the monitoring and evaluation tasks; approved projects for financing and the release of funds; and provided the technical and training assistance needed by the participating local government units (LGUs) and the associations of users (RWSAs).

2. The basic unit of the program was the barangay--the lowest level of government structure in the Philippines. Water and sanitation systems were built to fit the needs of the population of those units. Barangay vary in size and population, but on the average is composed of 200 families or about 1,400 persons.

3. The identification of the barangay level systems to be supported was the responsibility of the respective provincial and municipal governments although the central office of the MLG approved the choice and the analyses that supported the requests for support.

4. The center of attention for the training and technical assistance was the provincial and municipal governments (the LGUs) which are the institutions which are to carry on the work of fostering and supporting the participation of additional RWSAs in the barangays within their respective jurisdictions.

5. The program was nationwide with the participation of 76 provinces and cities in all 12 of the DLG's regions.

6. The program offered all the following levels of service with the choice depending on the desire of the particular users association and the results of the analyses performed in support of the application.

Level I - Provided well construction or rehabilitation and pump installation with each pump serving at least 10 households within a radius of 250 meters.

Level II - Provided wells or spring sources with storage facilities and pumps as well as distribution lines and public faucets and meters serving groups of ten households within a radius of 250 meters.

Level III - This is the same as Level II except that there are individual household connections and meters, and the distribution piping is larger to accommodate the greater water flow needed.

Level IIIA - This used household storage tanks in order to reduce the need for community storage and to permit the use of smaller distribution pipe since the capacity for flow at any one time is less.

7. The terms on which the program provided financing for the systems were:

a) the cost of level I systems and the source for level II and III systems was a grant from the project;

b) the installation cost of the distribution systems for levels II and III (including individual house connections and meters) was provided on a loan basis to the extent of an individual association's presumed ability to pay. The average percent of the costs provided under loan financing was 25% of the construction costs for both level II and level III systems.

In March 1985 an evaluation was made of the progress which had been achieved under the program in general and under BWP II in particular. It indicated that the program had been only partially successful, and that major modifications in the conduct of the effort should be made. The major findings of the evaluation were:

1. The lack of clarity as to the basic purpose of the program--whether it is an instrument to develop the institutional capacity of local governments at the provincial and barangay level or an instrument to build the maximum number of water systems--has led to a lack of focus and less than satisfactory progress on either purpose.

2. The functions of the Manila project office should be decentralized to the regional level beginning in three or four regions, and the size of the Manila office should be reduced substantially.

3. The method of disbursements for construction should be modified to correct the long delays suffered by LGUs and the contractors in receiving payment for funds spent on construction.

4. The project should devote more resources and attention to training and community development and to supplementing the existing technical capability of the participating entities probably through the use of consultants and local voluntary agencies.

5. The USAID Mission should become involved in monitoring the institutional building efforts not just the technical construction work.

6. More attention should be paid to developing sustainable maintenance systems including maintenance systems for water systems already in operation.

7. The process of site selection should be better insulated from political considerations and include greater attention to both technical and community considerations.

8. More attention should be paid to the introduction of improved sanitation practices.

9. The implementation and documentation processes of the project office should be reviewed to seek ways of simplifying them.

In the summer of 1985 a consultant team reviewed the status of the program in order to make recommendations concerning possible future support by A.I.D. of the rural water and sanitation program of the GOP. It concluded that there should be a new project designed along the lines of the recommendations of the evaluation, and made suggestions for the organization and components of such a project. The report focused on a project with new water and sanitation systems but recognized that there continued to be a major problem facing the continued operation of some systems already constructed under the program, and it warned that there was a need to achieve better cooperation among the donors working with the various sector entities for many reasons including how other programs would support systems that graduate from the A.I.D. assisted program. Finally, the report suggested that a series of data collections and surveys be conducted in preparation for the final design of the new project. They were:

1. a survey of the availability, experience, resources and probable effectiveness of PVOs and consultants in the regions to be the focus of the project;

2. socio-economic studies of several communities with existing systems to determine the income profiles and water fees actually paid and to verify the ability to pay assumptions which had been made for these communities;

3. profiles of socio-cultural and local leadership conditions in sample barangays in provinces likely to become enrolled in the new project.

Because of the political changes which took place in the country shortly thereafter and the hiatus in government planning and decision making which accompanied them, these recommended surveys and studies were not performed.

D. Other Donor Activities

The bilateral and multilateral donor agencies that have been and plan to continue assisting GOP activities in rural water and sanitation are A.I.D., the International Bank for Reconstruction and Development (IBRD), UNICEF, the Asian Development Bank (ADB) and the Japanese Overseas Economic Cooperation Fund (OECF). The IBRD and the ADB also have water projects in the urban areas of the Philippines. Table I-5 sets forth the major characteristics of the several projects that the above mentioned donor organizations are now implementing or planning to undertake in support of rural water facilities.

TABLE I-1

Grantor	Level of System Financed	Geographic Scope	Implementing Agency	Loan/Grant Implementation Period	Resources	Terms
1. AID/BWP I & II	I, II, & III	Nation-wide but towns less than 10,000	MLG	Loan and Grant 1978-1986	$16.64 Million ($10.39 Million disbursed)	Grant for Source Grant for 75% of distribution Loan for remainder at annual 4% interest, 20 years
2. World Bank First Rural Water Supply & Sanitation Project	I & II	Nation-wide	RWDC MPWH (local counterpart only) MOH	Loan 1983-1987	$10.854 Million	Grant for source 90% loan for remainder at 4% annual interest, 20 years
3. Asian Development Bank (ADB) Water Supply Sector		Nation-wide but towns less than 20,000	LWUA	Loan 1973-to present	$16.0 Million	10% Equity 90% Loan Repayment period: maximum of 30 yrs; Interest: average of 13%
4. Asian Development Bank (ADB)	Level I & II	Selected 16 provinces	MPWH	Loan 1987 - (proposed)	$29.44 Million	90% grant for source; 90% Loan for remainder 10% in cash or in kind equity by community; 4 % loan interest over 20 yrs. plus construction period

Grantor	Level of System Financed	Geographic Scope	Implementing Agency	Loan/Grant Implementation Period	Resources	Terms
5. Japanese Overseas Economic Corporation Fund	Level I; Limited Level II	Nation-wide	MPWH	Loan and Grant (1980-1985)	$30.416 Million	90% Grant) 10% Equity) Hand-pumps 90% Loan) 10% Equity) Systems interest for 20 years
6. UNICEF	Level I	Selected 10 provinces 6 cities	MPWH	Grant (1981-1987)	$4.320 Million	Grant but voluntary labor is encouraged

II. PROJECT GOAL, PURPOSE AND DESCRIPTION

A. Goal and Purpose

The goal of this Project is to assist the Government of the Philippines (GOP) achieve its objective of decentralizing the delivery of public services through building the technical and managerial capabilities of local government units (LGUs). The purpose of this Project is to develop an institutional framework and methodology for the development and enhancement of LGU capabilities to plan, finance, and construct self-sustaining water supply systems and related sanitary and health improvements for rural communities.

Progress toward the achievement of the purposes will be measured by:

1. Acceptance by the GOP and other donors of the concept of the planned development, enhancement and certification of LGU capabilities to manage rural water systems and sanitation and health improvements as indicated by the GOP's and donor programs being based on support for certified LGUs.

2. The graduation of pilot LGUs from the program with capabilities enabling them to manage the provision of rural water and sanitation services through RWSAs.

B. Project Description

1. Problem to be Addressed

The BWP evaluation highlighted a number of major institutional problems that inhibited the effectiveness of the BWP project. These problems were evident at all levels of project implementation for the PMO, LGUs and RWSAs and are discussed below.

a. PMO Management

In effect, the BWP PMO was mainly administrative. The PMO had little or no role in promoting the BWP and has no clear vision of the program's future. It was concerned with the paper work processes involved in executing program agreements with LGUs, in reviewing and approving feasibility studies, in reviewing and approving engineering designs, and in conducting some of the "training" before program and project agreements can be met. It relied heavily on consultants to perform programmatic tasks. For example, the A&E

consulting firms played a major role in supervising the engineering work done by the Provincial Engineering Office. A sub-contractor provided institutional consultancy services often directly to the barangay. For the most part these consultants were the implementing arm of the BWP and operate fairly autonomously of the PMO. The consultants defined their clients as the LGUs and barangay residents, not the PMO staff. Therefore very little skill transfer has occurred from consultants to PMO personnel. Therefore, there were few opportunities for professional development. Under BWP I and II no provisions were made for training at the PMO level. Some employees were assigned to positions for which they had little background or experience and no effort was made to upgrade the skills they needed in order to perform their tasks effectively. As a result, although lines of responsibility exist, there was no accountability; planning tools such as realistic work plans, schedules and budgets were not developed; there was no clear systematic method for disseminating information in areas such as policies and guidelines; the management of the various consultants mentioned above was virtually nonexistent; and personnel were often less qualified than those of the LGU.

b. LGU Management

The LGUs were the primary implementing arms for rural water supply and sanitation programs and their performance was relatively poor. They did not properly maintained their repair shops; they were slow in responding to requests for assistance from RWSAs; they did not coordinate water quality testing when needed; they had limited technical capacity in water system design and construction, all of which contributed to system failures and the need for their rehabilitation; and there was little or no coordination among the various LGU units (PDS, PEO, etc.) in implementing projects resulting in confusion as to who is responsible for project implementation. They had minimal success in community organization and development, effectively excluding barangay residents from the planning and implementation activities of the programs, and they had no training capacity in community development which resulted in their not being able to conduct training at the community level.

c. RWSA Management

The RWSAs are the cooperatives that legally own, manage, operate and maintain the water systems. It is the responsibility of the LGUs to assist in the organization of RWSAs and to train RWSA managers in system operation maintenance and management. However, because of the LGU's inability to carry out this responsibility, most RWSAs have untrained operators and/or operators that lack a sound understanding of operations; RWSA Board members and staff that are not trained and therefore are not skilled in budget planning; bookkeepers

that are not properly trained and monitored; and most are understaffed. All of these factors directly translate into RWSAs having difficulty in managing, operating and maintaining the water systems, as well as collecting monthly water fees sufficient for operating and maintaining the systems and amortizing the debt associated with the construction of the systems.

2. Design Strategy

The basic strategy of the project is to shift the role and function of the PMO from one of project administration to one in which the PMO will be converted into a technical assistance and training organization which will function as a trainer of trainers. The PMO will develop the capacity to teach local government units, primarily provincial governments, how to train RWSAs to organize and implement rural water projects. This is consistent with the overall mandate of DLG to strengthen the operations of local government units. DLG will develop this capacity through "learning by doing" with the assistance of a Project Management Consultant, a highly qualified consultant which will assist the PMO to develop the teaching methodology and the instructional materials. The PMO will work with selected, pilot LGUs to field test and calibrate materials which are developed. This will be done by the use of one or more sub-projects to be implemented by each targetted LGU as vehicles for action-training of their personnel.

The strategy of the project has similarities to that of the BWP II Project in that it would develop the capabilities of the LGUs to promote and support rural water systems and the formation and operation of Rural Water and Sanitation Associations (RWSAs) which will be owned and operated by the communities at the barangay level.

Key differences from the strategies of BWP I and II will be:

- The strongly focused approach on training of a limited number of LGUs and provision for qualification within and graduation from the program;
- The performance oriented, action training approach as opposed to an emphasis on systems construction;
- The introduction of improved management practices; and
- The emphasis on sustainability based on community participation with technical support as necessary.

3. Project Activities.

a. Institution Building Program

Training and technical assistance provided by a Project Management Consultant (PMC) will be the major thrust for institution building under this project. Training will be provided primarily at the PMO,as well as with pilot LGUs/RWSAs to build the necessary technical skills to enable individuals to perform the jobs to which they have been assigned. Skills training will occur in a range of areas including engineering design, groundwater hydrogeology and well development, training of trainers, financial management, sanitation and community development. Training will be based on a practical and systematic approach designed to provide relevant and directly useful training. Technical assistance will be provided to assist in developing: a more effective PMO management and administrative organization; comprehensive project management information systems; training strategy and plans; guidelines for community development and sanitation; training and technical manuals; technical standards and procedures; and preliminary and detailed water system designs.

In order to create and sustain the institution building process the approach of both the PMC will be a skills transfer process within the overall framework of training. This approach will involve a two step process whereby PMO staff obtain both technical skills and training and then subsequently function as trainers, transferring these technical skills to LGUs and who then in-turn transfer them to the local community. Accordingly, the primary client of the consultants is the DLG PMO staff. The success of the institution building process will depend heavily on the client-consultant/advisor relationships developed.

i. PMO

As an outcome of this project the PMO staff will play a vital, pro-active role in working more directly with the LGUs, not as administrators, but as developers of institutions. In order to fulfill this role, with the assistance of the PMC, improvements in performance will be made within all three of the existing DLG PMO units (Engineering, Training, Monitoring and Evaluation), across units and within the organization as a whole.

Improvements will be undertaken in the following areas:

- Gaining an understanding of and commitment to project goals. This will be accomplished through an "Implementation Planning Workshop" early in the project's start-up. This workshop will involve the PMO staff, DLG and USAID representatives, contractors and others critical to project implementation. The purpose of this Workshop will be to garner PMO staff commitment to project goals through reaching a shared understanding of the project, developing effective working relationships and acquiring a common set of management concepts for use throughout the project.

- PMO Staff Organization. A workable staffing plan will be developed that is responsive to the PMO's longer term requirements. The PMC and PMO will collaborate on this effort.

- PMO Staff Unit Implementation Planning. Each of the PMO staff units will undergo its own implementation planning based upon the framework developed in the planning workshop.

- Skill Training Workshops. The PMC will conduct practical workshops for the PMO to build job related skills in the areas of consulting, training/technology transfer, community development, construction supervision, operations and maintenance and test well design and construction.

- On-the-Job Training. This training will be primarily designed by the PMC around the need to accomplish certain project tasks (i.e. training provincial engineers in better construction management and LGU Project Development Teams on how to conduct feasibility studies).

- Team Building Workshops. The PMC will, together with the PMO, organize workshops to discuss problems affecting the PMO, adopt solutions to the problems and assess progress toward achieving project targets and make adjustments in the project as necessary.

In addition, technical assistance will be provided to the PMO in the development of:

- Training Materials
- Training and Technical Manuals
- Recordkeeping
- Reporting Systems and Documents
- Budget and Fiscal Procedures
- Administration Procedures

ii. LGUs

Under BWP the LGUs perceived their role to be primarily the implementors of water supply projects. Using this project's methodology the LGUs will emphasize the development of financially and technically viable user associations. They are to be the permanent vehicles for carrying forward the effort to expand the number of RWSAs which are providing water, sanitation and health services to the rural population. The centerpiece of the project strategy is to design and test an LGU Development and Certification Program that will enroll and graduate selected LGUs throughout the country by strengthening their capability to provide water to rural barangay residents. There are five essential phases to the LGU Development and Certification Program:

a) Phase One : Orientation
b) Phase Two : Needs Assessment
c) Phase Three: Core Curriculum On-the-Job Training
d) Phase Four : Follow-up Technical Assistance and Training
e) Phase Five : Certification/Graduation

The LGU will be an active partner during each phase of program implementation. The success of the institution building process will depend heavily on the collaborative relationship built between the PMO and the LGU. The task of the PMO will be to "work with" rather than "do for". The degree to which the LGU has control over analyzing its own needs and helping to develop a strategy to meet those needs is the degree to which effective learning will take place during the program.

iii. RWSA

The RWSAs and the populations will not be directly impacted by the projects but are the ultimate beneficiaries of the project. LGUs will work with the RWSAs to assure that the latter are part of the decision making process concerning future rural water projects and that they are fully aware of the responsibilities, both

financial and organizational, which they are assuming. Another derivative outcome of the project will be that RWSA management and technical capacities will be enhanced and RWSA managers will be helped to take a more pro-active problem-solving approach to situations as they occur. This will be encouraged by the LGU approach with the RWSA of fostering independence. Rather than trying to solve all of the management problems an RWSA faces, LGU personnel will promote in RWSA management an analytical ability and skills in decision making. Through the institution building process described above for the LGUs, the LGUs will transfer skills and technology to the RWSAs through training and technical assistance activities. As a result of the training they receive from DLG, the LGUs will be able to conduct community meetings, lead group discussions in problem solving and use non-formal education techniques to:

- Improve water system operations and maintenance skills; and

- Establish a firm link between water and health.

Training for barangay residents and RWSA officers/managers will be provided in but not necessarily limited to:

- The bidding and construction contractor selection process;

- Engineering design/layout of the water system;

- The monitoring of construction; and

- Budget planning and bookkeeping.

b. Water Supply Systems

The project will finance with counterpart funds the construction or rehabilitation of a limited number of rural water systems as a training tool for LGUs which participate in the program. Pilot Water supply system repair or construction will not be undertaken until community groups have been properly organized.

c. Financial Terms and Socio-Economic Study

The Feasibility Assessment and Preliminary Design for this Project prepared by WASH in August 1985 suggested that a series of data collections and surveys be conducted in preparation for its final design. However, as stated in Section I.C. above, because of the political changes which took place in the Philippines in February 1986

and the resulting hiatus in government planning, these recommended surveys and studies were not performed. A Financial Terms and Socio-Economic Study is a critical study for longer term development of rural water supply programs and will be undertaken as soon as possible after project obligation. This study is intended to establish guidelines for setting the user fee per unit of water consumption and for choosing the barangays to participate in the project. It will also develop practical techniques for using these guidelines when the project is operational.

Specific outputs of the study will include:

i. Measurement of the capacity to pay for water services. This will be based on recognition that capacity is a relative and not an absolute concept so capacity must be defined as a reasonably acceptable bill for the service;

ii. Identification of the willingness to pay for water services and steps that can be taken to enhance willingness to pay;

iii. Development of a mechanism for estimating the proportion of households that will choose to join an RWSA;

iv. Development of a mechanism for estimating the consumption of water per household for various water rates;

v. Estimation of the operating and maintenance (O&M) costs that are necessary for achieving the useful economic life of water systems;

vi. Estimation of the life for water system components and the fee per cubic meter of water that must be paid in the LGU Water System Repair fund to finance necessary repairs;

vii. Establishment of appropriate grant/loan mix.

D. Cost Estimate and Financial Plan

The project's total budget is $4,244,200 of which $3,244,200 million will be provided through grants from AID. The remaining funds will be provided by the Government of the Philippines (GOP), the Provincial Governments (LGUs) which are selected for participation in the project, and the RWSAs which are chosen to receive water systems through the project. The budget is set forth in Table II-1 below.

TABLE II-1

SUMMARY COST ESTIMATES AND FINANCIAL PLAN (ALL YEARS)
(U.S. $000)

ELEMENT	AID	GOP DLG	GOP LGU	TOTAL
A. T.A. & Training	2,945.7	50	10	3,005.7
B. Studies	298.5	-	-	298.5
C. Capital Costs		500	-	500
D. Project Mgmt./ Support	-	500	140	640
TOTAL	3,244.2	1,050	150	4,444.2

The GOP contribution is $1.2 million, including both cash and in-kind support. Salary and operation expenses for the MLG/PMO are expected to total $1.2 million for the life of the project. GOP funds for construction services have been estimated at $0.5 million. In addition, $0.3 million is included for project management expenses including travel to the LGUs and to the in-country conferences which will be a significant component of the training experience. Travel will be undertaken by the PMO and others as appropriate.

Each of the LGUs that are chosen to participate in the project will be required to make several types of contributions. The total value of these contributions is estimated to be $0.3 million. Each LGU will finance the salaries for approximately 0.5 person years per subproject of in-kind support for other engineers, training specialists, and community development experts to work with RWSAs. Also, LGUs will provide resources from their budgets for travel to assist RWSAs develop their water systems and allow the LGU staff to monitor the activities of RWSAs. Finally, the LGUs will provide the in-kind support of the time of individuals who attend conferences and seminars as well as cash contributions to pay for the travel.

Project financial support from the Rural Water and Sanitation Associations will consist of a fixed-fee per member which must be collected by each RWSA before its water system is constructed. Preliminary analysis indicates that this fee would be approximately @200 per member. This is the only effort by the RWSAs which appears in the budget. Of course, the RWSAs overall role is much greater than this. Significant in-kind contribution is given as the leaders and members of the associations help plan and implement the systems. However, we have not included these items in the budget because it is very difficult to make useful estimates of the community time involved.

E. Summary Analyses

1. Technical Feasibility

The Barangay Water Program was in operation and assisted by AID between 1978 and 1987. The experience gained in that time and the recommendations of the Evaluation Report on BWP II issued in 1985 have been used in designing the technical aspects of training programs developed under this project. The major technical problems which arose under the BWP projects are discussed below.

a. Level of Water Supply

A significant number of systems built as level II were later tapped for individual house connections by some users, thereby putting a strain on the system's capacity to provide water for all, and consumers did not accept the flow restrictions involved in the level III A approach. Efforts will be made to assure that the community understands the pros and cons of the level of service which it seeks.

b. Design and Construction Faults

Design and construction problems with systems installed under the BWP projects were reported in the 1985 Evaluation Report. These included well failures, failure to select the least costly systems, selection of inappropriate facility sites, use of inappropriate materials, failure to consider alternatives to electricity as the energy source and failure to test pipelines hydraulically after construction. Few of these problems involve unusual or highly sophisticated technology. They result in general from a failure to deliver available technologies to the locations where the problems can be anticipated and dealt with. There are persons and institutions in the Philippines having a full understanding of most of the technical problems the project will face. The solutions to the technical problems are therefore primarily procedural in nature. The training program which will be developed will focus on the need to achieve increased engineering support to the work of the LGUs and increased monitoring of the contractors by independent inspectors and for community members to be included in the implementation steps of water projects so that they can be informed observers (and monitors) of the construction.

c. Operation and Maintenance

There have been problems with operation and maintenance at both the LGU and the RWSA levels. The former did not properly maintain their repair shops; were slow in responding to requests for assistance from RWSAs; and did not see that water quality testing was performed when needed. The latter often did not collect the water service fees necessary to supply operation and repair funds, and shut down the systems for long periods to save on electric costs thereby leading to consumer discontent and technical problems. The training modules developed in this project will help generate solutions to overcome those problems. Among those steps are increasing the effort at achieving community participation so that RWSAs know what is expected of them and how to meet those expectations; requiring advance payments from the RWSAs to an operating fund and having part of the water use fees go into a trust fund to cover major repairs; and having the LGUs assume responsibility for arranging water source testing and treatment standards prior to construction.

2. Financial Feasibility

a. Interest Rates and Subsidies

Although the project does not fund construction of water systems (other than as teaching tools), LGUs will be encouraged to "sell" water systems which may be developed as a result of the project to RWSAs, although at a price below construction costs. This decision is based on the conclusions that: (1) in general, people should pay for the costs of water

services they consume and (ii) the GOP does not have the resources to completely subsidize water systems across the country, and it would be inequitable to do so only for a limited number of systems. At the same time it is understood that few areas can afford water systems without some subsidy to capital, so the need for a partial subsidy is recognized. Important factors in determining the particular subsidy will be the capacity of people to pay for water, the eventual GOP policy on capital subsidies for water, and the policies of other external donors.

b. Sustainability

Sustainability of the project needs to be gauged both in terms of the ability of the DLG to incorporate the staff of the Project Management Office as a permanent "Project Design Unit" which would continue to work with local governments to develop their outreach capacity to Rural Water Supply Associations and the abilith of LGUs to mobilize financial resources to implement projects. .

i. Recurrent costs

- Department of Local Government (DLG)

The DLG will have a PMO staff. The major function of this PMO staff will be to insure that the LGUs are prepared to assist RWSAs deliver water services. Adjusted for inflation, the budget for the DLG/PMO staff is projected to be the same as in 1984, so there is no increase in real GOP resources to be devoted to this purpose. In any event, expenditures for this purpose will remain very small as a percentage of the national or even DLG overall budget, and will not place any significant burden on the GOP.

There will remain a need for the DLG project staff even after the project is completed because training at the local level will be an ongoing process as employees of the LGUs turn over, and because many LGUs will remain to be trained and developed. Therefore, the functions and staff of the PMO will be incorporated into the Office of Project Development Services. However, the fiscal demand on the GOP of maintaining the DLG staff after the project's completion is of no real significance given the very modest employment budget which is involved. Of course, the DLG/PMO also will experience normal difficulties in government operations budgets.

- Local Government Units (LGUs)

LGUs are responsible for working with new RWSAs to insure that they have adequate skills to operate and maintain water systems and for monitoring the activities of existing RWSAs. Additional local resources must be found to provide for the new employees required to implement the project's approach and for certain overhead costs. Of course, resources at the local level are limited; but the project will not put a strain on them during its operation. The average LGU had an annual budget of @82.6 million in 1986, which means that the three new salaries will amount to only about one tenth of one percent of existing local budgets.

ii. Capital Expenditures

It is more difficult to judge the capacity of the overall system to finance new capital expenditures after the project's completion. Clearly the question is not whether the GOP can finance any new water projects, but whether it will choose to spend scarce resources on rural water systems. Whether such funds are forthcoming from the GOP depends on the economic conditions in the country at that time and priorities within the government. The magnitude of current budget deficits would suggest that the GOP is unlikely to be able to provide new capital infusions from growth in current revenue sources. However, the GOP is negotiating loans from the IBRD and bi-lateral donors for rural water systems.

3. Economic Feasibility

The project is intended to build institutions, but the direct benefits include many which accrue immediately to individuals. The four main benefits are institutional development gains for LGUs, value of more easily accessed water, health benefits, and enhanced economic development.

Institutional development of DLG and of LGUs is the primary project benefit. Successful LGUs are expected to have the capacity to plan, organize, develop, and to a limited extent finance water systems when the project is finished. Institution building should provide benefits for delivery of services other than water since many skills obtained through the project should be equally useful for other development projects. The benefits are greater efficiency in delivering water services from existing systems, building new water systems, and delivering other services where the skills are transferable.

Time savings benefits from more easily accessed water can be measured in two ways, people's willingness-to pay-for such benefits and the opportunity cost of time used for gathering water. The price paid for water is a measure of willingness to pay, though it is a lower bound on willingness. That is, it can be presumed that people will only buy each unit of water at a certain price if they receive at least as much benefits from the water as the cost (price). Payment of the price is most likely to reflect time savings benefits, but may also include other benefits which consumers perceive when they make their consumption decisions. Price understates the total benefits per unit of water consumed because of externalities in consumption, lack of information about benefits from consumption (as may be the case with health benefits), and the existence of consumer surplus. Benefits exceed costs for building and operating a subproject if the sum of benefits measured through the price and the other benefits which are not measured by price (such as economic and institutional development) exceed the economic costs of producing water.

A brief survey of RWSAs suggests that consumers in some RWSAs are paying up to 80 percent of the economic production cost of water, meaning they directly value the benefits of water at least equal to 80 percent of cost. In certain areas which are not served by a water system, some people are reported to pay one peso for delivery of an 18.9 liter can of water, and this represents significantly more than the production cost of the same quantity from a water system. When combined with the substantial benefits that would not be measured by price, it is reasonable to presume that benefits as described here exceed the costs for which the subprojects will be built.

Another way to value benefits is directly in terms of the shadow wage of time savings from carrying water shorter distances. The economic cost of water from a rural system appears to be @0.07 per 18.9 liter can. This means the time savings need be only 1.03 minutes per can at the shadow wage of @33.6 per day in order for the opportunity cost of time to equal the production cost of the water. This requirement means that for benefits to equal costs the carrying distance must be approximately 45 yards in each direction. Whenever the time saved from carrying water is greater than 1.03 minutes, the economy would have greater output if the consumer bought produced water and used the saved time in other productive enterprises.

Health benefits from a combination of improved quantity and quality of water and better sanitation practices are expected to be significant. One benefit is increased consumer satisfaction from feeling better. The benefit is equal to the additional amount consumers are willing to pay to achieve the same amount of health benefits from water, a preventive method of health care, as from curative medical methods.

The most important health benefit is expected to be the opportunity cost of those work days which are gained because of reduced sickness and mortality. A reasonable estimate is that the average worker must be available for 2.3 more work days per year after water and sanitation services are available in order to return the capital costs for a representative subproject. Perhaps 30 to 50 percent of those work days could be saved from reduced diarrheal diseases. Though the data are unavailable for analysis of other diseases, the opportunity cost benefits arising from better health would appear to be large enough to have a value at least equal to a substantial part of the capital investment in a water system.

The final benefit is enhanced opportunity for economic development. Major benefits include reduced costs for small business enterprises and farmers and the value of produce grown in new gardens. No data exists on the reduced costs for businesses, but having infrastructure in place is generally regarded as vital for allowing significant economic development.

This brief description of benefits versus costs reasonably leads to the conclusion that benefits in terms of the opportunity cost of time used to carry water exceed the production costs of water for most subprojects that would be built. Based on information currently available about willingness-to-pay for water, i.e., presently paid prices cover up to 80 percent of economic costs - additional benefits are needed to demonstrating clearly that benefits or rural water supply projects will exceed costs. Such other benefits have been described including health effects and institutional development gains. These other benefits, though not quantifiable, appear to be sizeable.

4. Environmental Analysis

The project is a technical assistance/training project and as such does not generate adverse environmental impacts. However, rural water supply projects do have environmental impacts. The training modules will include development of a methodology to prepare an environmental assessment of rural water projects

The following table summarizes the environmental impacts expected and the mitigating measures appropriate for inclusion in rural water projects.

	IMPACT	MITIGATING MEASURES AVAILABLE
(a)	Water Supply Impacts Due to Facilities	
1.	Visual impacts	Community consent Operating funds, including for repainting
2.	Noise impacts	Locate any diesel engines outside community
3.	Obstruction of activity	Community involvement in facility location
4.	Injury to persons or animals	Review standard designs for safety provisions Conduct foundation soils analyses for water tanks

5.	Damage to property	Locate public faucets out of traffic ways
		Conduct foundation soils analyses for water tanks
6.	Cost, including complementary cost	Ensure that costs are known before level of service decided
		Ensure that probable water consumption is understood before level of service is decided
7.	Impact of water source upon existing users	Ensure that any current users of source continue to receive adequate supply or otherwise provided for
	<u>Impacts Due to Water Supplied</u>	
1.	Direct health impacts	Perform environmental evaluation, including sanitary survey, of each subproject
		Locate wells clear of existing and likely future latrines and of chemical factories and dump sites. Analyze water quality at test well stage, after construction, and in use
		Treat surface waters
		Chlorinate all, including groundwater, supplies

		Flush and chlorinate new and repaired mains before putting into service
		Chlorinate and flush wells before final sampling and putting into service
		Review all well designs
		Specify and check that watermains are not laid in drains or sewer trenches
		Ensure that watermains are pressure tested after laying
2.	Indirect impacts	Environmental evaluations to check drainage of spilled and wasted water and include in design

<u>Impacts Due to Water Supply Induced Behaviors</u>

1.	Wastage	Community involvement and self-monitoring
2.	Impacts due to economic activity	Education of community to understand that system capacity is limited and decisions will be needed from time to time on uses permitted
3.	Impacts due to high water rates	Provide automatic control to shut off pump when tank is full
		Educate users on health risks of part time system operation

(b) Sanitation Impacts:

Impacts Due to Sanitary Facilities Provided

1.	Need for water	Provide level I service to any part of community not reached by level II
2.	Health impact	Locate wells clear of existing and likely future latrines

Impacts Due to Sanitation Induced Behaviors

Lack of familiarity	Hygiene education

(c) Construction Impacts

1.	Disruption of activity	Limit time for construction in contracts
		Provide for more expeditious contractor payments
		Limit length of trench that can be kept open in advance of laying and testing pipelines
2.	Injury/damage to persons, animals and property	Limit open trench length
		Evaluate insurance and contractor liability aspects of use of specified or volunteer community labor

5. Social Soundness Analysis

Built-into the project are activities which could enhance the sociocultural feasibility and increase the potential of long-term sustainability of the project. The project will finance a Financial Terms and Socioeconomic Study to be conducted during the first year of the project. The study will establish guidelines for setting the user fee per unit of water consumption and for choosing beneficiary barangays, and is, therefore in the best position to determine socioculturally acceptable alternative approaches for implementing the project at the barangay level. In addition, the study will develop the institutional mechanisms to increase potential of long-term sustainability appropriate for different types of barangays.

6. Institutional Analysis

a. Introduction

The Department of Local Government, the implementing agency of the BWP I and II, will be the central implementing agency for this Project. DLG's objective has been and will continue to be to develop the capability of local government units (LGUs) to provide user associations (RWSAs) with point-source and piped rural water supply systems and to prepare those associations to operate and maintain them while introducing improved health and sanitation practices which take advantage of the water systems.

In the summer of 1985, USAID/Manila contracted with the WASH Project to help determine what measures to take concerning BWP II in response to the BWP II evaluation and whether the Mission should plan for another AID assisted project concerned with rural water supply in the Philippines. The team concluded that there can and should be a project which has the primary purpose of developing the ability of local institutions to provide water supply and sanitation services to rural barangays. Based on an analysis of the relative strengths and weaknesses of all the GOP agencies in the sector and given the perceived need for an institutional development focus, the DLG was considered the most suitable agency to use. This was ratified by the NEDA Board Resolution No. 5 dated May 10, 1989, which gave this role to DLG.

b. The Project Organization, Structure and Roles

The staff of BWP was in some cases underqualified to carry out the tasks needed to implement the new project. As mentioned in Section III.B.1.a.(i), it relied heavily on consultants to perform its programmatic tasks and for the most part they were the implementing arm of the BWP. Therefore very little skill transfer occurred from consultants to PMO personnel. Given this situation, the institutionalization of a capacity within DLG to carry on work with the LGUs did not occur.

In this project the PMO will remain at approximately the same level of staffing as under BWP II. However, through a training thrust, a major shift in its role will occur from a largely administrative body to a training and technical assistance unit the aim of which is to improve the performance of LGUs. The PMO under the project will be run by a Project Manager who will make most of the decisions for it on behalf of the DLG. Thus, the PMO as in the BWP project will largely be an autonomous unit as far as programmatic decision-making is concerned. Initially, the current BWP PMO organization of three divisions - the Monitoring, Research and Evaluation Division, the Engineering Review and Supervision Division and the Training and Organization - will be utilized. However, during the project the PMO will re-organize to better carry out its functions--particularly the provision of technical assistance and training to the LGUs. It will consider the option of adding a new unit for community participation given the major emphasis of the project on developing more effective community participation approaches. The functions of this unit would be to provide technical assistance to LGUs in community organization and RWSA formation, and to train and assist the Project Development Teams at the LGU in community organization. The major task of the PMC will be to upgrade the skills needed by the PMO to fulfill its role. A PMO staff development effort will be undertaken after mobilization of the consultant. A needs assessment will be conducted covering all PMO positions and a specific training plan designed and conducted.

The PMO will also consider the formation of multi-disciplinary training teams made up of personnel from each unit. The team would be managed by a team leader responsible to a number of LGUs throughout their enrollment in and graduation from the LGU Development and Certification Program.

F. Relation to USAID CDSS AND INTERIM STRATEGY

The FY 1987 CDSS prepared by the Mission in March 1985 asserted the continued importance of achieving effective local government and the devolution of power from Manila to local government entities. Achieving those goals is important both to increasing rural productivity through the more expeditious provision of infrastructure and the ability of the political/administrative system to respond to the needs expressed by the population and especially of the population in the rural areas. The CDSS mentions the various projects underway and planned which would improve the local government units' ability to plan, construct and maintain rural infrastructure. Since this Rural Water Supply and Sanitation Project has its principal focus the improvement of the ability of local government units to carry out programs to introduce and sustain water and sanitation systems in rural areas it serves this CDSS goal.

Furthermore, the CDSS includes providing funds to local communities for rural water and sanitation programs as part of its strategy for health which focuses on improving the quality of life, avoiding resource wastage and improving labor force productivity. The project does this by increasing the convenience of obtaining and using safe water which is readily seen by the beneficiaries as an improvement in their daily life. It also makes more likely their use of appropriate sanitation and water use measures which will improve the productivity of the workforce by reducing the loss of work-time due to the need to obtain water from remote locations and from illnesses preventable by the improved measures. The project also serves the purposes of the Agency's focus on interventions to support child survival by supporting the introduction of health practices important to young children such as hand washing and the proper disposal of feces and training local health personnel in the barangays in techniques of water related hygiene.

Since the CDSS was written, a revolution occurred in the Philippines, and a new government came into power. USAID has prepared an interim program strategy. This new government currently is developing a new constitution and considering what should be its approach to such fundamental questions as the reorganization of the government and the nature and degree of decentralization of power which should be sought. Although these circumstances may require the preparation of a modified CDSS as the decisions from this debate become clearer, it is likely that the Mission's strategy for supporting the increased role of local government units in the political and development efforts will not change. In any event, the preparation and testing phase of the project will given time for clarification of these issues.

G. Relation to A.I.D. Policies

This project directly supports AID's stated policies for "Health Assistance" and "Domestic Water and Sanitation". The project addresses one of AIDs Four Pillars to development--Institution Building. It also will augment the USAID's new efforts in the area of "Child Survival".

A key element that runs through the Agency's Health as well as Water and Sanitation policies is the need to develop the institutional framework to not only implement the project but to put in place a mechanism that can be replicated and expanded to other geographic areas of the host country. This project focuses heavily an improving the national government coordinating operations while moving most of the operations, training and health factor integration down to the local government unit (LGU). With this change in emphasis from previous AID efforts in the sector, the delivery of the assistance will function much closer to the end users thus enhancing the prospects for attaining the health objectives on a sustainable basis. The LGU's at the Provincial Government level have proven in most instances to be a viable level of government at which donor assistance can be delivered to beneficiaries.

As such, strengthening their operations in the design, construction, maintenance, and most importantly the integration of sanitary systems through hygiene education should create a LGU capability to apply this methodology to similar efforts they are managing.

AID has in draft a new policy document that addresses "Child Survival". The USAID is developing a host country program to encompass these policy concerns and this project will augment the USAID efforts in this field.

III. PROJECT IMPLEMENTATION AND MONITORING

A. Responsibilities of Implementing Entities

The PMO created in the DLG to administer the BWP will implement this project. It will contract for the PMC and any other services which are not contracted directly by A.I.D. or through subcontracts to the PMC. It will be responsible for managing the work of the various contractors. It will introduce modifications in its administration and operations as suggested in the analysis supporting the project, and as will be refined by the PMO in cooperation with the PMC . Its personnel will receive training in all aspects covered by the project; and, in turn, will be expected to become trainers of the personnel of the participating LGUs.

The PMO, with the help of the PMC, will analyze further the possibility of decentralizing responsibility for the conduct of the project to offices outside Manila. It also will participate with representatives of other GOP agencies active in the rural water and sanitation sector in the government's review of the organization of the sector and of the standards which are appropriate to given activities in the sector.

B. Implementation Process

1. Training, Technical Assistance, and Studies/Surveys

Training and technical assistance, provided by a Project Management Consultant (PMC) will be the major thrust for institution building under this project. The approach of the PMC will be a skills transfer process within training framework and will involve a two-step process whereby PMO staff obtain both technical skills and training and then subsequently function as trainers, transferring these technical skills to pilot LGUs and who then in-turn transfer then to the local community.

More specifically the PMC firm will be responsible for planning and executing the institutional building efforts across all components of the project at both the national and the provincial level. The PMC will assist and advise the PMO in all the key implementation steps, including: (i) development of the overall staffing plan of the PMO; (ii) changes in the staffing patterns or organization and administrative arrangements; (iii) modifications in the fiscal and administrative procedures of the PMO; (iv) preparation of annual work plans and budgets of the PMO; (v) development of the standards for participating in the program by individual LGUs and RWSAs; (vi) evaluation of the LGUs for admission to the program and graduation from it; (vii) annual review of the participation in the project of each LGU and its proposed program for the coming year;(viii) regular report to the DLG Deputy Secretary for Special Projects and USAID on the progress of the project and preparing material for quarterly review meetings.

The Financial Terms and Socio-Economic Study will be performed independently of the PMC and A&E services. However, the results of this effort will be critical input for the tasks to be accomplished by the PMC.

The PMC will be contracted under AID Handbook 11- Chapter 1 Host Country Contracting procedures. AID will contract directly for the Financial Terms and Socio-Economic Study and the Health, Social and Economic Survey and Analyses. In accordance with the implementation schedule for the project, the first consultants to start work will be the Financial Terms and Socio-Economic Study consultants. They are scheduled to start at the beginning of the first quarter of FY 1987. The PMC are scheduled to begin work at the beginning of the third quarter of FY 1987.

2. Implementation Plan

A detailed implementation plan for the Project will be developed by the PMO with the assistance of the PMC. This plan may include, but not necessarily be limited to:

a. The delineation of the sequence of activities, responsibilities and the interrelationships of the various institutions involved in project implementation, and the mechanics of disbursing project funds;

b. A plan for utilizing the recommendations of the Financial Terms and Socio-Economic Study final report;

C. Implementation Schedule

Annex F sets forth the detailed explanation of the major steps to be taken in implementing the project. A summary table of these actions and their relevant dates is contained at the end of Annex F. This schedule will be reviewed and refined with the PMC once it starts work.

The following is a schedule of key events that are deemed critical to the timely and efficient implementation of the project:

Description	Approximate Date	Action Agent
FY 1986		
Authorization of Project	Sept. 1986	USAID
Sign Project Agreement	Sept. 1986	GOP-AID
FY 1987		
Participate In Sector Evaluation	Oct. 1986	USAID
Initial Conditions Precedent Met	Nov. 1986	MLG
Financial Terms-Socio/Economic Study Undertaken	Nov. 1986	USAID
FY 1989		
Prepare 1989 Annual Work Plans	Nov. 1988	PMO-PMC
Last LGU Enrolled	Nov. 1988	PMO-PMC
Interim Evaluation Undertaken	Dec. 1988	USAID-PMO
FY 1990		
Prepare Final Work Plan for Orderly Project Completion	Nov. 1989	PMO-PMC
Certify First LGUs	July 1990	PMO-PMC
Final Evaluation Undertaken	Aug. 1990	USAID-PMO
Financial Audit Performed	Aug. 1990	USAID
Project Assistance Completion Date	Sept. 1990	

D. Financing Mechanisms and Disbursements

Grant funds will be used for all USAID financed project costs. Direct payments by USAID to contractors and suppliers will be used for disbursements. The applicability of these approaches to each category of expenditure is summarized in Table III-1.

1. AID Direct Payments

The PMC and commodities will be procured through host country contracts, with direct payment to the contractors from USAID.

The Financial Terms and Socio-Economic Study services will be procured through AID direct contracts with the firm or individuals supplying the services.

E. Monitoring Mechanisms Including Audit

The PMO will send AID quarterly progress reports. The coverage of those reports will include all program activities. The funds provided to the project by the GOP will be subject to audit by the GOP's Commission on Audit (COA).

F. USAID Project Management Staff

Within USAID, the project will be monitored by a committee consisting of a full time Project Officer in the Office of Capital Projects with representatives from the other key mission offices, such as Office of Population, Health and Nutrition, Office of Rural and Agricultural Development; and the Office of the Controller. The Project Officer will be supported by the engineering expertise available within the Office of Capital Development to assure the water system plans meet minimal acceptable standards, the projected subproject costs are reasonable and that the completed water systems comply with the approved engineering plans.

G. Procurement Plan

1. Consultants and Technical Services

The proposed consultancy services are:

a. A Project Management Consultant consortium of U.S. and Philippine professionals to provide overall project guidance and

assistance in institutional, training and technical areas. The services will include provision of about 125 U.S. and 206 Philippine professional person-months. The following is the list of key personnel:

POSITION	PERSON - MONTHS US Prof/Tech In USA	In Phil	Phil Prof	Total
Management Consultant (Team Leader)		36		36
Budgeting & Financial Systems Advisor			9	9
Hydrogeologist/G.W. Dev' Engineer		12		12
Rural Water Supply & Sanitary Specialist		12		12
Mis. Specialists (incl. mgmt. systems specialist, mech. engr, rehab. specialist, leak detector advisor, alt. energy systems specialist, water quality/test specialist, etc.)			9	9
Training Coordinator		36		36
Training Materials Dev't Specialist		24		24
Community Dev't Coordinators			24	24
Community Dev't Specialists			82	82
Trainers			82	82
Consultant Principals & H/O Support	3	2		5
TOTAL	3	122	206	331

b. A study of Financial Terms and Socio-Economic Conditions of selected barangays will be provided by a consultant firm or individuals using 8 expatriate person months and 4 Philippine person months. Startup should be as soon as possible after obligation of the project.

c. A general program evaluation will be performed with the assistance of consultant services. The services will be needed in late 1990.

IV. PROJECT EVALUATION

There will be one evaluation conducted during the course of the Project. The purpose of the evaluation would be to record the extent to which the project met its targets and achieved the end of project objectives. It is thought that it could be performed by the AID Mission perhaps with the participation of representatives of AID/W.

V. CONDITIONS PRECEDENT AND COVENANTS

The following are conditions precedent and covenants A.I.D. intends to negotiate in the Project Agreement. Their substance is not expected to change during agreement negotiations.

A. Conditions Precedent to First Disbursement

Prior to the first disbursement under the Grant, or to the issuance by A.I.D. of documentation pursuant to which disbursement will be made, the Grantee shall, except as A.I.D. may otherwise agree in writing, furnish to A.I.D., in form and substance satisfactory to A.I.D.:

1. An opinion of counsel acceptable to A.I.D. that this Agreement has been duly authorized and/or ratified by, and executed on behalf of, the Grantee and that it constitutes a valid and legally binding obligation of the Grantee in accordance with its terms;

2. Statement of the name of the person holding or acting in the office of the Grantee that will represent the GOP for purposes of the Project, and of any additional representatives, together with a specimen signature of each person specified in such statement;

E. Special Covenants

1. Project Evaluation

The Parties agree to establish an evaluation program as part of the Project. Except as the Parties otherwise agree in writing, the program will include, during the implementation of the Project and at one or more points thereafter:

a. Evaluation of progress toward attainment of the objectives of the Project;

b. Identification and evaluation of problem areas or constraints which may inhibit such attainment;

c. Assessment of how such information may be used to help overcome such problems; and

d. Evaluation, to the degree feasible, of the overall development impact of the Project.

PROJECT IMPLEMENTATION SCHEDULE

ACTIVITY	U.S. Fiscal Years 1987				1988				1989				1990			
Quarters	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
A. MANAGEMENT	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
A1. Prepare Scopes of Work and Hire Consultants	x	x	x	x												
A2. Conduct Financial Terms & Socio-Economic Study	x	x	x													
A3. Project Implementation Workshop			x													
A4. Develop Mission Statement			x													
A5. Participate in Sector Evaluation	x	x	x	x												
B. INSTITUTION BUILDING	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
B1. Review PMO Staff Roles/Functions		x	x													
B2. Prepare Key PMO Job Descriptions			x	x												
B3. Develop/Implement PMO Restaffing Plan				x												
B4. Develop Planning Process			x	x												
B5. Prepare Annual Plan			x	x					x				x			
B6. Prepare Budget			x	x					x				x			
B7. Develop PMO Unit/Individual Work Plans			x	x					x				x			
B8. Review/Develop Project Mngt. Systems			x	x	x											
B9. Develop/Implement Evaluation Plan				x	x	x										
B10. Review/Implement Administrative Proc.					x	x	x	x								
B11. Review/Implement Budget/Fiscal Proc.					x	x	x	x								
B12. Plan/Conduct Training Needs Assessment of PMO			x													
B13. Revise Overall Training Strategy & Plan					x	x										
B14. Design Specific Training Workshops and O-J-T for PMO			x	x												
B15. Refine Structure/Mechanics for LGU Development & Certification Program			x	x												
B16. Select/Recruit Target LGUs					x		x		x		x					
B17. Hold Workshops for PMO					x	x		x		x		x		x		
B18. Conduct O-J-T for PMO					x	x	x	x	x	x	x	x	x	x	x	x
B19. Revise/Develop Training & Tech. Manuals						x	x	x	x	x	x	x	x			
B20. Design/Conduct Orientation for LGUs						x		x		x		x				
B21. Design/Conduct LGU Needs Assessment						x		x		x		x				
B22. Develop LGU Development Plan						x		x		x		x				

		U.S. Fiscal Years															
		1987				1988				1989				1990			
	Quarters	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
	ACTIVITY																
B23.	Develop/Implement Training Monitoring/ Evaluation System		x	x	x												
B24.	Develop/Sign MOAs with LGUs		x			x			x			x					
B25.	Design/Conduct Core Curriculum LGU Training			x	x	x	x	x	x	x	x	x	x	x	x	x	x
B26.	Evaluate Core Curriculum Training			x	x	x	x	x	x	x	x	x	x	x	x	x	x
B27.	Revise Core Curriculum							x	x	x	x						
B28.	Assess LGU Progress/Develop Follow-up Training + T.A. Plan							x	x	x	x	x	x	x	x	x	x
B29.	Provide Computer and Maint. Van Training		x				x							x	x	x	x
B30.	Review Tech. Standards & Procedures		x	x	x	x											
B31.	Prepare & Implement Tech. Montrg. Plan		x	x	x												
B32.	Prepare TOR/HIRE 2 A&E Consultants		x	x													
B33.	Develop Standard Contract Documents		x	x													
B34.	Provide Technical Assistance to LGUs	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
B35.	Review & Summarize Monthly Const. Rep.		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

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4. The Project Management Consultant (PMC)

The PMC firm will be responsible for planning and executing the institutional building efforts at both the national and the provincial level. It will subcontract the services of the social marketing firm and the community development PVOs, and will monitor the performance of the A and E firms. The PMC will participate in all the key implementation steps such as: (i) reviewing the overall staffing plan of the PMO; (ii) recommending changes in the staffing patterns or organization and administrative arrangement previously agreed to by USAID; (iii) recommending modifications in the fiscal and administrative procedures of the PMO; (iv) assisting in the preparation of annual work plans and budgets of the PMO; (v) developing the standards for participating in the program by individual LGUs and RWSAs; (vi) evaluating which LGUs to admit to the program and to graduate from it; (vii) reviewing annually the participation in the program of each LGU and the conclusions as to the nature of its program for the coming year; (viii) reviewing the specifications and cost estimates for commodity procurement and engineering plans, terms and costs of the construction and technical services contracts to be financed by USAID and determining their appropriateness and applicability in this project; (ix) certifying payments to various suppliers including construction contractors; and (x) Reporting regularly to the PMO and USAID on the projects progress and prepare the material for the quarterly review meetings.

5. Architectural and Engineering Consultants

The A and E consultants will work with the LGUs under the supervision of the PMO and in coordination with the PMC. They will assist the LGUs develop plans and specifications for the subprojects and select the firms to provide the construction services. The A and E consultants will also provide technical assistance and training in the conduct of the subproject feasibility studies; environmental impact studies; and site selection for monitoring of construction activities.

B. Implementation Process

This project is structured to enhance the prospects for attaining the improved institution building and health/sanitation objectives in the construction of potable water systems. The institutions discussed in the previous section will be the principal organizations through which these results will be accomplished. As in the delivery of any public service, the approaches taken and methodologies employed become key factors in assuring the effective delivery of the potable water to the barangay recipients.

To this end, the project is focusing upon a bottom up water development process that emphasizes the active early involvement of the LGUs in the prioritization of areas to be served by the project using two primary selection criteria. The first major indicator will be the demonstrated need by the LGU for good potable water systems over what they currently possess and documenting that no other donor or government program is available to meet their identifiable need. The second major indicator will be the demonstrated capability, based on past performance, of the LGU to effectively and efficiently carry out programs similar to those to be provided under this project.

This same participatory approach to development will be followed in all subsequent activities of the project. The barangay population will be involved in the early design of the water system to be employed so that they will be fully appraised of the level (type) of water system to be installed and their related responsibilities. The real key to this project's success is the level of local commitment to meet the financial obligations that goes with a good potable water system and to employ the improved health and sanitation practices that have been presented.

The technical assistance and training provided by the project will be the primary means by which the local participation is nurtured and the participating institutions are brought together to effectively implement the project and foster the capacities to replicate these efforts on a continuing basis.

The institution development and health/sanitation linkages in this project will be fostered thru the training and technical assistance teams that will be formed and trained at the PMO level with the assistance of the PMC. These teams in turn will train and provide technical assistance to the LGUs to organize their efforts at the barangay's (RWSAs). The PMO will enter into a support agreement with the MOH to assure their active involvement at the national and LGU levels. The MOH representatives at the LGUs will be brought into the training efforts to be provided to the RWSA participants.

The water systems will be developed by the LGUs with the assistance of the A&E firms. The plans will be reviewed and approved by the PMO and USAID based on a pre-approved standard design. Construction contracts will be let on a competitive basis by the LGU. The LGU, with assistance from the A & E firm, will supervise water system construction and the PMO and USAID will monitor the construction. All entities involved will conduct a final inspection before the system is accepted and turned over to the RWSA for operations and maintenance.

At this time of turnover of the system to the RWSA, it is most critical to assure that the other support operations (institution development, community involvement, and health education) are in place to assure that the health benefits that are to be derived from the new water system can be realized.

In order to make the review of project activities more systematic there will be quarterly meetings of representatives of the PMO and the USAID Mission. MOH will be invited to send an observer. The meetings will be chaired by the Deputy Minister of the MLG who has responsibility for the PMO. Preparation of the material for the meetings will be the responsibility of the PMO in collaboration with the PMC and will be based upon the performance achieved against the annual work plans. Conclusions and recommendations from the meeting will be set forth in writing, noting the status of activities, outstanding issues, the actions needed to be taken and by which organization in a specific timeframe.

Two formal evaluations will be carried out to determine the extent to which the project is meeting in planned objectives. The first such indepth evaluation will take place in the last quarter FY 1988 at the key point the project's implementation. The final evaluation would take place in the fourth quarter of FY 1990 at the time of the projects completion.

Due to possible adjustments that may be needed in the project once the GOP decides on the new structure for the potable water sector in the Philippines, an assessment of the project would be undertaken at the opportune time tied to the GOP decision.

A. Conditions Precedent to Initial Disbursement

Prior to first disbursement of A.I.D. project assistance, or the issuance by A.I.D. of documentation pursuant to which the first disbursement will be made, the GOP shall furnish to A.I.D., except as A.I.D. may otherwise agree in writing, in form and substance satisfactory to A.I.D.:

1. An opinion of counsel acceptable to A.I.D. that this Agreement has been duly authorized and/or ratified by and executed on behalf of the Grantee and that it constitutes a valid and legally binding obligation of the Grantee in accordance with all of its terms;

2. A statement of the names of the persons authorized to represent the GOP for implementation of the project and any additional representatives together with a specimen signature of each person;

3. Evidence of the formal establishment of the Project Management Office (PMO) and designation of the PMO Director.

4. An A.I.D. Project Implementation Order for Technical Services (PIO/T) duly approved by the GOP and A.I.D. authorizing A.I.D. to procure the services of a contractor to conduct a "Financial Terms and Socio-Economic" study.

B. Additional Conditions Precedent

1. Conditions Precedent to Disbursement for Project Management Consulting Services

Prior to the disbursement of A.I.D. project assistance or the issuance by A.I.D. of documentation pursuant to which disbursement will be made for the procurement of Project Management Consulting services, the GOP shall furnish to A.I.D., except as A.I.D. may otherwise agree in writing, in form and substance satisfactory to A.I.D. an executed contract for project management consulting services with a firm acceptable to A.I.D.

2. Conditions Precedent to Disbursement for Construction Services

Prior to the disbursement of A.I.D. project assistance or the issuance by A.I.D. of documentation pursuant to which disbursement will be made for the procurement of Construction Services, the GOP shall furnish to A.I.D., except as A.I.D. may otherwise agree in writing, in form and substance satisfactory to A.I.D.

a. An executed contract for Project Management Consulting Services;

b. Executed contract for Architectural and Engineering services;

c. An A.I.D. PIO/T duly approved by the GOP and A.I.D. authorizing A.I.D. to procure the services of a contractor to conduct a "Health, Economic and Social Impact Survey and Analysis";

d. A detailed implementation plan for the project which will include, but not necessarily be limited to:

- Delineation of the sequence of activities, responsibilities and the interrelationships of the various institutions involved in project implementation, and the mechanics of disbursing project funds;

- A plan for utilizing the recommendations of the Financial Terms and Socio-Economic Study final report;

- The criteria for the enrollment, development and graduation of local government units (LGUs) from the project including the standards for selecting the participating LGUs and Rural Water and Sanitation Associations;

- A detailed budget for the implementation of the project fully delineating the sources and uses of funds and the year of expenditure.

e. An executed Memorandum of Agreement (MOA) between the MLG and MOH delineating the responsibilities of each party for and the interrelationship among the entities participating in implementing the Health and Sanitation Component of the Project;

f. Executed MOAs between the MLG and eligible LGUs delineating the responsibilities of each party for and the interrelationship among the entities participating in the implementation of the Project.

g. Evidence that the GOP has created the Capital Expansion Fund.

C. Covenants

The General Covenants in the Project Grant Standard Provisions Annex as prescribed by AID Handbook 3 will be included in the Project Grant Agreement. In addition, the following covenants shall be included:

1. A.I.D. and the GOP agree to establish an evaluation program as an integral part of the Project. Except as the Parties may otherwise agree in writing, the program will include, during the implementation of the Project and at one or more points thereafter:

a. Evaluation of progress towards attainment of the objectives of the Project;

b. Identification and evaluation of problem areas or constraints which may inhibit such attainment;

c. Evaluation of the extent to which the project met its targets and achieved the end of project objectives and to the degree feasible, of the overall development impact of the Project.

2. The GOP agrees to consult with A.I.D. during its deliberations and prior to reaching final policy decisions on the GOP's assignment of responsibilities for rural water and sanitation facility development and the standards which will govern the financing provided in support of such activities and to the extent as may be modified by the mutual agreement of the GOP and A.I.D. take such measures as may be necessary to permit the orderly completion of this project.

3. The GOP agrees to establish trust accounts at the LGU level for the Major Repair and Capital Expansion Funds and to use these funds, as necessary, solely for the purposes intended.

TABLE I-1

PHYSICAL TARGETS FOR RURAL WATER SUPPLY
(1982-2000)
(Sources/Systems)

Level of Water Service	Stage I (1982-1985)	Stage II (1986-1990)	Stage III (1991-2000)	Total (1982-2000)
LEVEL I	55,490	50,135	70,885	176,510
Construction	45,290	45,635	67,885	158,810
Shallow Wells	29,500	34,000	45,100	108,600
Deep Wells	14,300	10,700	18,000	43,000
Springs	1,315	470	2,700	4,485
Others*	175	465	2,085	2,725
Rehabilitation	10,200	4,500	3,000	17,700
LEVEL II	8,000	7,750	11,300	27,050
LEVEL III	1,300	2,000	4,000	7,300

*Others include rainwater collectors, infiltration galleries.

Source: "Rural Water Supply and Sanitation Master Plan, 1982-2000 - December 1982:, prepared under the MPWH with participation of representatives from MH, MLG, RWDC, LWUA, MWSS, and NWRC, with the financial assistance of the IBRD (World Bank).

TABLE I-2

INVESTMENT REQUIREMENTS FOR RURAL WATER SUPPLY
(1982-2000)
(millions of pesos)

Level of Water Service	Stage I (1982-1985)	Stage II (1986-1990)	Stage III (1990-2000)	Total (1982-2000)
LEVEL I	416.64	317.84	642.06	1,376.54
Construction	375.84	299.84	630.06	1,305.74
Shallow Wells	61.95	71.41	94.71	228.07
Deep Wells	245.96	184.03	309.60	739.59
Springs	59.18	21.15	121.50	201.83
Others	8.75	23.25	104.25	136.25
Rehabilitation	40.80	18.00	12.00	70.80
LEVEL II	999.32	968.22	1,411.41	3,378.95
Source Development	199.32	193.22	281.41	673.95
Distribution	800.00	775.00	1,130.00	2,705.00
LEVEL III	1,338.29	2,108.89	4,117.82	7,565.00
Source Development	38.29	108.89	117.82	265.00
Distribution	1,300.00	2,000.00	4,000.00	7,300.00
TOTAL	2,754.25	3,394.95	6,171.29	12,320.49

TABLE I-3

PHYSICAL TARGETS FOR RURAL SANITATION
(1983-1990)

CLASSIFICATION	STAGE I (1983-1986)	STAGE II (1987-1990)	TOTAL
Sanitary Toilets			
New Construction	134,900	236,100	371,000
Rehabilitation	1,246,700	2,151,600	3,398,300
Water Laboratories			
Improvement of Regional Laboratories	12	0	12
Establishment of Provincial Laboratories	64	0	64
Water Disinfection			
Deep Wells	225,400	363,600	589,000
Shallow Wells	603,000	764,000	1,367,000
Springs	39,000	108,000	147,000
Waterworks	9,871	17,400	27,271
Open Dug Wells	17,400	0	17,400
Stabilization Ponds	85	1,250	1,335

NOTE: The number of water supply facilities to be disinfected is more than the number of existing water supply systems, since most systems will be disinfected more than once.

ANNEXES

REPUBLIC OF THE PHILIPPINES
NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY
NEDA sa Pasig, Amber Avenue
Pasig, Metro Manila

ANNEX A-1

12 September 1986

Cable Address: NEDAPHIL
P.O. Box 419, Greenhills
Tels. 673-50-31 to 50

Mr. John S. Blackton
Acting Mission Director
USAID, Manila

Attention: Mr. William T. Oliver
Acting Deputy Director

Dear Director Blackton,

We are pleased to endorse the request of the Ministry of Local Government (MLG), through Minister Aquilino Q. Pimentel, Jr.'s letter of 2 September 1986, copy attached, for USAID grant assistance in the amount of $18.75 million to finance the implementation of the Rural Water Supply and Sanitation (RWSS) Project for the period 1986-1990.

The RWSS Project aims to develop an institutional framework and methodology for the development and enhancement of Local Government Units' (LGUs) capabilities to plan, finance and construct self-sustaining water supply systems and related sanitary and health improvements for rural communities.

Responsibility for project implementation will rest on the MLG, through its Project Management Office, with participation by LGUs and Rural Water Supply Associations (RWSAs). The Provincial Offices of the Ministry of Health (MOH) will also coordinate their training and sanitation outreach efforts with RWSS' Project activities.

Project implementation will also involve the active participation of Regional Development Councils (RDCs) in the ranking of LGUs eligible to participate in the project.

As counterpart contribution to the project cost, a total of $6.25 million will be provided by the MLG ($4.252 million), LGUs ($1.603 million) and the RWSAs ($.395 million).

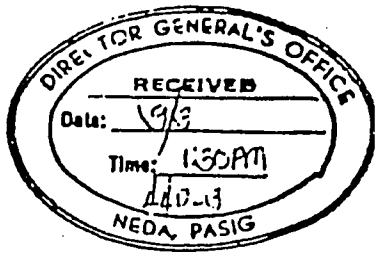
Thank you for your continued support.

Sincerely yours,

SOLITA COLLAS-MONSOD
Minister of Economic Planning &
Director-General

Attachment: a/s

ANNEX A-2



REPUBLIC OF THE PHILIPPINES

MINISTRY OF LOCAL GOVERNMENT

Quezon City

OFFICE OF THE MINISTER

02 September 1986

HON. SOLITA COLLAS-MONSOD
Minister of Economic Planning and
Director-General
National Economic and Development Authority
P.O. Box 419, Greenhills
Metro Manila

Dear Minister Monsod:

Based on discussions with your staff, I hereby endorse for your consideration the proposed Rural Water Supply and Sanitation Project, which involves the provision of adequate and safe water supply and sanitation to selected rural communities including essential institutional development activities as a continuation of the efforts started under the Barangay Water Program. A short summary on the project is attached for your reference.

My staff and I have been involved in negotiations with representatives from the United States Agency for International Development (USAID) in connection with defining the objectives, scope, planned outputs and other features of the project. The four year life of project cost is estimated to be US $25,000,000 of which USAID would provide grant funding of US $18,750,000 and the Government of the Philippines would provide the balance through a peso or in-kind contribution. Since the Ministry of Local Government (MLG) will be responsible for implementing the project, I am endorsing the project to your office for approval and request that you in turn advise USAID of our desire to proceed with the proposed

activity. It is understood that the terms of the project agreement will be finalized during subsequent negotiations between MLG and USAID.

We look forward to your timely approval and endorsement of the project to USAID.

Sincerely,

AQUILINO Q. PIMENTEL, JR.
Minister of Local Government

ANNEX B-1

//HS//
ACT: AID-6 INFO: AMB DCM AA ECON DB AGR CHRON/12

VZCZCML0597
PP RUEHML
DE RUEHC #5305/01 2260203
ZNR UUUUU ZZH
P 140203Z AUG 86
FM SECSTATE WASHDC
TO AMEMBASSY MANILA PRIORITY 9224 —9225----------
BT
UNCLAS SECTION 01 OF 02 STATE 255305

LOC: 10 436
14 AUG 86 0328
CN: 21365
CHRG: AID
DIST: AID

ACTION COPY

Action Taken:
No action necessary: ✓
Date: 9/15/86 Inits: AF
Comments being addressed in preparing the PP.

AIDAC

E.O. 12356: N/A
TAGS: N/A
SUBJECT: RURAL WATER SUPPLY AND SANITATION PROJECT (492-0401): PID ANPAC REVIEW

1. ON JULY 22 THE BUREAJ PROJECT ADVISORY COMMITTEE (ANPAC) REVIEWED AND APPROVED SUBJECT PID AT THE MODIFIED SCOPE AND LEVEL OF DOLS 9.678 MILLION. MISSION SHOULD PROCEED TO DESIGN AND AUTHORIZE THE PP AT THAT LEVEL. THE ANPAC RAISED ONE PRINCIPAL ISSUE AND VARIOUS CONCERNS. COMMENTS AND GUIDANCE FOR PROJECT PAPER PREPARATION FOLLOW.

2. ISSUE: THE ANPAC QUESTIONED WHETHER THIS PROJECT IS AN APPROPRIATE COMPONENT OF THE MISSION DEVELOPMENT ASSISTANCE PORTFOLIO AT THIS TIME IN VIEW OF THE ECONOMIC SITUATION IN THE COUNTRY AND THE POTENTIAL LACK OF INDIGENOUS RESOURCES, THE RELATIVE INEFFECTIVENESS OF THE TWO PRECEDING PROJECTS, THE LACK OF A RATIONALE IN THE PID TO INDICATE WHY THIS PROJECT WILL SUCCEED WHERE OTHERS DID NOT, THE UNCERTAINTY REGARDING LOCAL GOVERNMENT AND LOCAL AUTONOMY, AND THE ABSENCE OF LINKAGES TO AGENCY HEALTH PRIORITIES, PARTICULARLY CHILD SURVIVAL.

WE NOTED THAT THE EVALUATION OF THE BARANGAY WATER PROJECT (BWP II) REVEALED SERIOUS INSTITUTIONAL, FINANCIAL AND TECHNICAL PROBLEMS AND THAT THE MISSION UNDERTOOK A FEASIBILITY STUDY TO PROVIDE RECOMMENDATIONS FOR A FOLLOW-ON ACTIVITY. HOWEVER, THE PID DOES NOT CONVINCINGLY ADDRESS THE APPROPRIATENESS OF THE PROPOSED DESIGN TO DEVELOP IMPROVED WATER SYSTEMS OR TO PROVIDE THE INSTITUTIONAL SUPPORT NECESSARY FOR MANAGING, MAINTAINING AND FINANCING THE WATER SYSTEMS UNDER THE CURRENT ECONOMIC SITUATION. NOR DOES THE PID ADDRESS HEALTH AND CHILD SURVIVAL INTERVENTIONS SUCH AS IMMUNIZATION, ORAL REHYDRATION THERAPY AND VITAMIN A, AS REQUIRED BY THE AGENCY POLICY STATEMENT (IN DRAFT) FOR PROJECTS FUNDED UNDER THE HEALTH ACCOUNT.

WITHOUT A TESTED INSTITUTIONAL APPROACH THAT COULD BE REPLICATED ON A LARGER SCALE AND WITHOUT ESTABLISHING HOW THE WATER AND SANITATION EFFORTS WILL IMPACT ON

DIV	ACT	INF
OD		✓
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PE		
RIA		✓
PD		
TD		
ED		
PER		
CSL		
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C		
[illegible]		✓
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C		
C		
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RIG/A		
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DUE DATE		
9/19/87		

62

HEALTH IN GENERAL AND CHILD SURVIVAL IN PARTICULAR, THE BUREAU IS RELUCTANT TO APPROVE THE PID AT THE REQUESTED FUNDING LEVEL AND SCOPE. RECOGNIZING THE POTENTIAL OF DEVISING A WORKABLE MODEL BASED ON LESSONS LEARNED AND THE MISSION DESIRE TO USE THE AVAILABLE DEOBLIGATED HEALTH FUNDS, THE BUREAU APPROVES THE PID AT THE LEVEL OF THE DEOBLIGATED FUNDING (DOLS 9.678 MILLION) UNTIL SUCH TIME AS THE MISSION CAN VERIFY THAT A VIABLE APPROACH EXISTS FOR REPLICATION. WHEN AND IF THE MISSION BELIEVES SUCH AN APPROACH CAN BE DEMONSTRATED, THE BUREAU IS WILLING TO REVIEW SUCH FINDINGS AND CONSIDER A REQUEST FOR APPROVAL OF THE PROJECT AT AN EXPANDED LEVEL. THE ANPAC SUPPORTED THE PROJECT COMMITTEE (PC) RECOMMENDATION THAT THE FOLLOWING GUIDANCE BE PROVIDED FOR PP PREPARATION:

- FINANCIAL RESOURCES: IN ADDITION TO THE PLANNED ECONOMIC AND FINANCIAL ANALYSES, THE PROJECT SHOULD PROVIDE FOR A MEANS TO VERIFY LOCAL COMMUNITY COMMITMENT AND CAPACITY TO FINANCE RECURRING COSTS FOR OPERATIONS AND MAINTENANCE (OM) OF SYSTEMS. SIZE OF SYSTEM SHOULD REFLECT CAPACITY TO SUSTAIN OM.

- INSTITUTIONAL FEASIBILITY: THE PROJECT SHOULD ENSURE THAT THE INSTITUTIONAL DEVELOPMENT PROPOSED IS FEASIBLE IN THE CURRENT POLITICAL ENVIRONMENT AND THAT INSTITUTIONS DEVELOPED ARE SUSTAINABLE AND REPLICABLE. THE PROJECT SHOULD DEVELOP AND TEST AN INSTITUTIONAL MODEL, INCLUDING APPROPRIATE INCENTIVES AND OM MANAGEMENT SYSTEMS, BEFORE WIDESPREAD REPLICATION. BY PROJECT END, THE INSTITUTION(S) AND PROCESSES SHOULD BE

IN PLACE TO SUSTAIN EFFECTIVE WATER AND SANITATION SERVICES AND OM.

- PROJECT DESIGN SHOULD INCORPORATE TECHNICAL AND INSTITUTIONAL LESSONS LEARNED IN BWP I AND II.

- CHILD SURVIVAL: THE PROJECT PAPER SHOULD SPECIFY WHAT SUPPORTIVE MEASURES WILL BE UNDERTAKEN IN AREAS OF PROPER HYGIENIC PRACTICES, USE OF SANITARY FACILITIES IN AND AROUND THE HOUSE, PROPER WATER HANDLING PRACTICES AND USE OF WATER TO IMPROVE CHILDREN'S DIETS. THE PC NOTED THAT THE 1984 BUREAU OF CENSUS EVALUATION REPORT OF THE PROVINCIAL WATER PROJECT IN THE PHILIPPINES PROVIDES USEFUL SUGGESTIONS FOR PROJECT AND EVALUATION DESIGN IN THIS AREA.

- SIZE AND SCOPE OF PROJECT SHOULD REFLECT WHAT CAN REASONABLY BE IMPLEMENTED AND INSTITUTIONALIZED, AND THE CONSTRUCTION COMPONENT SHOULD BE LIMITED TO THOSE INITIATIVES AND SUB-PROJECTS THAT WILL SUPPORT

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INSTITUTIONALIZATION OVER THE LONG TERM.

3. CONCERNS: THE ANPAC ALSO REVIEWED THE FOLLOWING CONCERNS AND APPROVED THIS GUIDANCE FOR PP PREPARATION:

A. OM: THE PID EMPHASIZES TRAINING AS THE PRINCIPAL MEANS TO ENSURE EFFECTIVE SYSTEM OM, MINIMIZING THE IMPORTANT ROLE OF MANAGEMENT. THE PROJECT SHOULD PLAN, DEVELOP AND TEST A MANAGEMENT SYSTEM ON A SMALL SCALE, DEVELOPING CRITERIA FOR OM SYSTEMS THAT PROVIDE ADEQUATE LEDERSHIP, HUMAN RESOURCES, INFORMATION AND FINANCIAL RESOURCES.

B. FINANCING CONSTRUCTION COSTS: THE PC RAISED THE CONCERN THAT A REVISED SYSTEM PASSING FUNDING THROUGH THE CENTRAL GOVERNMENT MAY RESULT IN FUNDING DELAYS SIMILAR TO THOSE EXPERIENCED BY THE PREVIOUS PROJECT. THE MISSIONSHOULD CONSIDER DIRECT DISBURSEMENT TO CONTRACTORS AND LOCAL COMMUNITIES.

C. WASTE WATER MANAGEMENT AND DRAINAGE: THE PID DOES NOT ADDRESS IMPORTANT ISSUES OF WASTE WATER MANAGEMENT AND DRAINAGE ASSOCIATED WITH INCREASED WATER SUPPLY MADE AVAILABLE BY THE PROJECT. THE PP SHOULD SPECIFY HOW THESE PROBLEMS WILL BE RESOLVED.

D. ENVIRONMENTAL ASSESSMENT: THE BUREAU ENVIRONMENTAL COORDINATOR APPROVES THE ENVIRONMENTAL ASSESSMENT APPROACH SPECIFIED IN THE PID. THE MISSION SHOULD

PROVIDE INFORMATION COPIES OF ALL ENVIRONMENTAL STUDIES AND GOVERNMENT OF PHILIPPINES CLEARANCES TO THE ANE/PD/ENV OFFICE.

E. MONITORING AND EVALUATION (ME): THE PP SHOULD INCLUDE A MANAGEMENT-ORIENTED ME SYSTEM (SUCH AS THAT DEVELOPED FOR THE SRI LANKA WATER SUPPLY AND SANITATION SECTOR PROJECT) THAT PROVIDES RAPID FEEDBACK TO MANAGERS ON INSTITUTIONAL AND SERVICE DELIVERY PERFORMANCE. APPROPRIATE ME MATERIALS ARE AVAILABLE FROM ANE/DP/E IF NEEDED.

F. LATRINE INSTALLATION: THE PC QUESTIONED WHY LATRINE INSTALLATION WAS INCLUDED ONLY FOR INDIVIDUAL HOME SYSTEMS AND WHY ALTERNATIVE TOILETS/LATRINES WERE NOT SUGGESTED FOR OTHER SYSTEMS. AS APPROPRIATE, THE PP SHOULD INDICATE THE RATIONALE FOR THIS DECISION.

G. COMPLEMENTARY HEALTH MEASURES: THE PC CITED THE 1984 CENSUS BUREAU EVALUATION OF THE PROVINCIAL WATER PROJECT AND THE IMPORTANCE OF FACTORS COMPLEMENTARY TO IMPROVED WATER QUALITY (E.G., HYGIENIC PRACTICES, SANITARY FACILITIES, GARDENS OR THE LIKE FOR IMPROVED DIET) IN EFFECTING HEALTH IMPACT. THE MISSION MAY WANT TO CONSIDER FOLLOW-UP SUPPORT AT THE PROVINCIAL LEVEL AS PART OF THIS PROJECT, IF THAT IS APPROPRIATE.

H. OTHER DONOR INVOLVEMENT: THE ANPAC RAISED THE

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CONCERN OF THE PTENTIAL DIVERGENCY BETWEEN THE WORLD BANK AND USAID APPROACHES TO WATER SUPPLY AND SANITATION DEVELOPMENT, PARTICULARLY IN THE USE OF IMPLEMENTING AGENCIES. PRESUMABLY, THE PP WILL ADDRESS IBRD AND OTHER DONOR INVOLVEMENT, DRAWING UPON THE PP TEAM LEADER'S VISIT WITH IBRD OFFICIALS PRIOR TO DEPARTURE FOR THE PHILIPPINES.

4. THE CONGRESSIONAL NOTIFICATION FOR SUBJECT PROJECT HAS BEEN SUBMITTED TO CONGRESS. SHULTZ
BT
#5305

NNNN

ANNEX B-2

UNCLASSIFIED STATE 264342

RECEIVED

ACT: AID-6 INFO: AMB DCM AA ECON ADB AGR CHRON/12/GG

VZCZCML0359
OO RUEHML
DE RUEHC #4342 2340150
ZNR UUUUU ZZH
O 220150Z AUG 86 ZDK CTG SVC 0119
FM SECSTATE WASHDC
TO AMEMBASSY MANILA IMMEDIATE 9641<----------
BT
UNCLAS STATE 264342

LOC: 26 43
22 AUG 86 2308
CN: 23842
CHRG: AID
DIST: AID

AIDAC FOR DIRECTOR SCHIECK

E.O. 12356: N/A
TAGS: N/A
SUBJECT: RURAL WATER SUPPLY AND SANITATION PROJECT (492-0401)

REF: A. MANILA 26520, B. STATE 255305

1. WE ARE SYMPATHETIC TO MISSION CONCERNS EXPRESSED REF A AND ACCORDINGLY APPROVE AUTHORIZATION AT DOLS 18.75 MILLION PER YOUR REQUEST, WITH FY 86 OBLIGATION LIMITED TO DOLS 9.678 MILLION.

2. ARRANGEMENTS BEING INVESTIGATED TO ALLOW AGREEMENT TO BE SIGNED AT THE MINISTERIAL LEVEL IN WASHINGTON DURING PRESIDENT AQUINO'S VISIT IF SCHEDULE CAN BE WORKED OUT. WILL KEEP YOU ADVISED.

3. WE LOOK FORWARD TO RESULTS OF YOUR PROPOSED REVIEW DEMONSTRATING APPROPRIATENESS OF SUBJECT PROJECT'S DESIGN PRIOR TO NEXT OBLIGATION. EVIDENCE THAT REF B INSTITUTIONAL, FINANCIAL AND TECHNICAL CONCERNS ARE BEING ADEQUATELY ADDRESSED AND THAT A SUSTAINABLE, REPLICABLE MODEL FOR WATER SYSTEM DEVELOPMENT, OPERATION AND MAINTENANCE HAS BEEN DEVELOPED WOULD PROVIDE VERY GOOD BASIS FOR FURTHER OBLIGATIONS.

4. PLEASE NOTE THAT ANY FUTURE YEAR OBLIGATIONS ABOVE PROPOSED DOLS 9.678 MILLION FY 86 OBLIGATION WILL REQUIRE NEW CN WHITEHEAD
BT
#4342

NNNN

UNCLASSIFIED STATE 264342

ACTION COPY
Action Taken
No action necessary
Date ____ Initials ____

DIV	ACT	INF
OD		✓
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CSD		
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DMD		
OCD	✓	
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OSEHWC		
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DUE DATE 8-26-86		

ANNEX C

OCD

UNCLASSIFIED STATE 263859

//HS//
ACT: AID-6 INFO: AMB DCM AA ECON ADB AGR CHRON/12

VZCZCML0901
OO RUEHML
DE RUEHC #3859 2332119
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O 212118Z AUG 86
FM SECSTATE WASHDC
TO AMEMBASSY MANILA IMMEDIATE 9619 ----------
BT
UNCLAS STATE 263859

Called _____

LOC: 23 659
22 AUG 86 0253
CN: 23462
CHRG: AID
DIST: AID

AIDAC

E.O. 12356: N/A
TAGS:
SUBJECT: CONGRESSIONAL NOTIFICATION EXPIRATION- PHILIPPINES

THE CONGRESSIONAL NOTIFICATION HAS EXPIRED WITHOUT OBJECTION FOR PROJECT 492-0401, RURAL WATER AND SANITATION. HEALTH LOAN DEOBLIGATIONS CONVERTED TO GRANT FOR FY 85 DOLS. 9,619,993 AND FY 86 DOLS. 58,092. WHITEHEAD
BT
#3859

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UNCLASSIFIED STATE 263859

DIV	ACT	INF
OD		✓
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PE		✓
RLA	✓	✓
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EO		
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DUE DATE		

ANNEX D

RURAL WATER SUPPLY AND SANITATION PROJECT

STATUTORY CHECKLIST

IS COUNTRY CHECKLIST UP TO DATE?	Yes
HAS STANDARD ITEM CHECKLIST BEEN REVIEWED FOR THIS PROJECT?	Yes

A. GENERAL CRITERIA FOR PROJECT

1. FY 1986 Continuing Resolution Sec. 524; FAA Sec. 634A.	
Describe how authorizing and appropriations committees of Senate and House have been or will be notified concerning the project.	Congressional Notification period expired without comment per State 263859.
2. FAA Sec. 611(a)(1). Prior to obligation in excess of $500,000, will there be (a) engineering, financial or other plans necessary to carry out the assistance and (b) a reasonably firm estimte of the cost to the U.S. of the assistance?	(a) Yes (b) Yes
3. FAA Sec. 611(a)(2). If further legislative action is required within recipient country, what is basis for reasonable expectation that such action will be completed in time to permit orderly accomplishment of purpose of the assistance?	N/A

4.	FAA Sec. 611(b); FY 1986 Continuing Resolution Sec. 501. If for water or water-related land resource construction, has project met the principles, standards, and procedures established pursuant to the Water Resources Planning Act (42 U.S.C. 1962, et seq.)? (See AID Handbook 3 for new guidelines.)	Yes
5.	FAA Sec. 611(e). If project is capital assistance (e.g., construction), and all U.S. assistance for it will exceed $1 million, has Mission Director certified and Regional Assistant Administrator taken into consideration the country's capability effectively to maintain and utilize the project?	Yes
6.	FAA Sec. 209. Is project susceptible to execution as part of regional or multilateral project? If so, why is project not so executed? Information and conclusion whether assistance will encourage regional development programs.	No
7.	FAA Sec. 601(a). Information and conclusions whether projects will encourage efforts of the country to: (a) Increase the flow of international trade; (b) foster private initiative and competition; and (c) encourage development and use of cooperatives, and credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry agriculture and commerce; and (f) strengthen free labor unions.	(a) N/A (b) Will involve private voluntary organizations in local organizing efforts and provide impetus for development of supporting industries - pumps, pipes and equipment. (c) Local water service coops are crucial component of the project. (d) Monopolistic practices of rural water vendors discouraged. (e) Increases productivity of water users through improved health from quality water systems. (f) N/A

8.	FAA Sec. 601(b). Information and conclusions on how project will encourage U.S. private trade and investment abroad and encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise).	N/A
9.	FAA Sec. 612(b), 636(h); FY 1986 Continuing Resolution Sec. 507. Describe steps taken to assure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services, and foreign currencies owned by the U.S. are utilized in lieu of dollars.	All local contractual and related services will be financed from the total currencies contributed by the GOP or USAID. The level and types of local currency costs to be financed by the GOP has been identified in the project paper.
10.	FAA Sec. 612(d). Does the U.S. own excess foreign currency of the country and, if so, what arrangements have been made for its release?	No
11.	FAA Sec. 601(e). Will the project utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise?	Yes
12.	FY 1986 Continuing Resolution Sec. 522. If assistance is for the production of any commodity for export, is the commodity likely to be in surplus on world markets at the time the resulting productive capacity becomes operative, and is such assistance likely to cause substantial injury to U.S. producers of the same, similar or competing commodity?	N/A

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13.	FAA 118(c) and (d). Does the project comply with the environomental procedures set forth in AID Regulation 16.	Yes
	Does the project or program take into consideration the problem of the destruction of tropical forests?	N/A
14.	FAA 121(d). If a Sahel project, has a determination been made that the host government has an adequate sysem for accounting for and controlling receipt and expenditure of project funds (dollars or local currency generated therefrom)?	N/A
15.	FY 1986 Continuing Resolution Sec. 533. Is disbursement of the assistance conditioned solely on the basis of the policies of any multilateral institution?	No
16.	ISDCA of 1985 Sec. 310. For development assistance projects, how much of the funds will be available only for activities of economically and socially disadvantaged enterprises, historically black colleges and universities, and private and voluntary organizations which are controlled by individuals who are black Americans, Hispanic Americans, or Native Americans, or who are economically or socially disadvantaged (including women)?	None

B. FUNDING CRITERIA FOR PROJECT

1. Development Assistance Project Criteria

a. FAA Sec. 102(a), 111, 113, 281(a). Extent to which activity will (a) effectively involve the poor in development, by extending access to economy at local level, increasing labor-intensive production and the use of appropriate technology, spreading investment out from cities to small towns and rural areas, and insuring wide participation of the poor in the benefits of development on a sustained basis, using the appropriate U.S. institutions; (b) help develop cooperatives, especially by technical assistance, to assist rural and urban poor to help themselves toward better life, and otherwise encourage democratic private and local governmental institutions; (c) support the self-help efforts of developing countries; (d) promote the participation of women in the national economies of developing countries and the improvement of women's status, (e) utilize and encourage regional cooperation by developing countries?

(a) The project will establish self-sustaining, appropriate capacity for local level development of water systems which will improve the productivity of the poor.

The project promotes broad local participation of the poor through coops which carry out such labor intensive work as laying pipes. Therefore, investment is spread out to both users and implementors of the system in the targeted small rural villages.

(b) The water coops are entrusted with a staple community resource which provides a catalyst for democratic organization and procedures. Most members of the coops are poor.

(c) The central and local government administering agencies and coops are managing the main components of the project.

(d) Productivity of women will be increased by greater accessibility to water supply for household use which may free time for outside employment. Also cleaner water will improve and maintain their health.

(e) N/A

b.	FAA Sec. 103, 103A, 104, 105, 106. Does the project fit the criteria for the type of funds (functional account) being used?	Yes
c.	FAA Sec. 107. Is emphasis on use of appropriate technology (relatively smaller, cost-saving, labor-using technologies that are generally most appropriate for the small farms, small businesses, and small incomes of the poor)?	Yes
d.	FAA Sec. 110(a). Will the recipient country provide at least 25% of the costs of the program, project, or activity with respect to which the assistance is to be furnished (or is the latter cost-sharing requirement being waived for a "relatively least developed country)?	Yes
e.	FAA Sec. 122(b). Does the activity give reasonable promise of contributing to the development of economic resources, or to the increase of productive capacities and self-sustaining economic growth?	Yes

f.	FAA Sec. 128(b). If the activity attempts to increase the institutional capabilities of private organizations or the government of the country, or if it attempts to stimulate scientific and technological research, has it been designed and will it be monitored to ensure that the ultimate beneficiaries are the poor majority?	Yes
g.	FAA Sec. 281(b). Describe extent to which program recognizes the particular needs, desires, and capacities of the people of the country; utilizes the country's intellectual resources to encourage institutional development; and supports civil education and training in skills required for effective participation in governmental processes essential to self-government.	The project requires local government to request assistance for those potable water needs expressed by the represented communities and self-prioritized by income level. The project will use village-level technology and train water coops in proper use and construction of their systems. Host-country professionals in economics, engineering and public management are drawn on to train water coops. The experience gained from the water coops will support civic education and training in skills required for effective participation in the government processes essential to self-government.

5C(3) - STANDARD ITEM CHECKLIST

A. Procurement

1.	FAA Sec. 602. Are there arrangements to permit U.S. small business to participate equitably in the furnishing of commodities and services financed?	Yes
2.	FAA Sec. 604(a). Will all procurement be from the U.S. except as otherwise determined by the President or under delegation from him??	Yes
3.	FAA Sec. 604(d). If the cooperating country discriminates against marine insurance companies authorized to do business in the U.S., will commodities be insured in the United States against marine risk with such a company?	N/A
4.	FAA Sec. 604(e); ISDCA of 1980 Sec. 705(a). If offshore procurement of agricultural commodity or product is to be financed, is there provision against such procurement when the domestic price of such commodity is less than parity? (Exception where commodity financed could not reasonably be procured in U.S.)	N/A

5.	FAA Sec. 604(g). Will construction or engineering services be procured from firms of countries which receive direct economic assistance under the FAA and which are otherwise eligible under Code 941, but which have attained a competitive capability in international markets in one of these areas? Do these countries permit United States firms to compete for construction or engineering services financed from assistance programs of these countries?	No N/A
6.	FAA Sec. 603. Is the shipping excluded from compliance with requirement in section 901(b) of the Merchant Marine Act of 1936, as amended, that at least 50 per centum of the gross tonnage of commodities (computed separately for dry bulk carriers, dry cargo liners, and tankers) financed shall be transported on privately owned U.S. flag commercial vessels to the extent such vessels are available at fair and reasonable rates?	Project complies.
7	FAA Sec. 621. If technical assistance is financed, will such assistance be furnished by private enterprise on a contract basis to the fullest extent practicable? If the facilities of other Federal agencies will be utilized, are they particularly suitable, not competitive with private enterprise, and made available without undue interference with domestic programs?	Yes N/A

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8.	International Air Transportation Fair Competitive Practices Act, 1974. If air transportation of persons or property is financed on grant basis, will U.S. carriers be used to the extent such service is available?	Yes
9.	FY 1986 Continuing Resolution Sec. 504. If the U.S. Government is a party to a contract for procurement, does the contract contain a provision authorizing termination of such contract for the convenience of the United States?	Yes

B. Construction

1	FAA Sec. 601(d). If capital (e.g., construction) project, will U.S. engineering and professional services be used?	1. The U.S. Project Management Consultant will have one water supply and sanitation engineer on its staff. However, Philippine Architectural and Engineering firms will be the primary source of technical services for the construction of the water supply systems and the rehabilitation of water source facilities.
2.	FAA Sec. 611(c). If contracts for construction are to be financed, will they be let on a competitive basis to maximum extent practicable?	2. Yes
3.	FAA Sec. 620(k). If for construction of productive enterprise, will aggregate value of assistance to be furnished by the U.S. not exceed $100 million (except for productive enterprises in Egypt that were described in the CP)?	3. N/A

C. Other Restrictions

1. FAA Sec. 122(b). If development loan, is interest rate at least 2% per annum during grace period and at least 3% per annum thereafter? N/A

2. FAA Sec. 301(d). If fund is established solely by U.S. contributions and administered by an international organization, does Comptroller General have audit rights? N/A

3. FAA Sec. 620(h). Do arrangements exist to insure that United States foreign aid is not used in a manner which, contrary to the best interests of the United States, promotes or assists the foreign aid projects or activities of the Communist-bloc countries? Yes

4. Will arrangements preclude use of financing:

   a. FAA Sec. 104(f); FY 1986 Continuing Resolution Sec. 526. (1) To pay for performance of abortions as a method of family planning or to motivate or coerce persons to practice abortions; (2) to pay for performance of involuntary sterilization as method of family planning, or to coerce or provide financial incentive to any person to undergo N/A

	sterilization; (3) to pay for any biomedical research which relates, in whole or part, to methods or the performance of abortions or involuntary sterilizations as a means of family planning; (4) to lobby for abortion?	
b.	FAA Sec. 488. To reimburse persons, in the form of cash payments, whose illicit drug crops are eradicated?	N/A
c.	FAA Sec. 620(g). To compensate owners for expropriated nationalized property?	N/A
d.	FAA Sec. 660. To provide training or advice or provide any financial support for police, prisons, or other law enforcement forces, except for narcotics programs?	N/A
e.	FAA Sec. 662. For CIA activities?	N/A
f.	FAA Sec. 636(i). For purchase, sale, long-term lease, exchange or guaranty of the sale of motor vehicles manufactured outside U.S., unless a waiver is obtained?	Yes

g. FY 1986 Continuing Resolution, Sec. 503. To pay pensions, annuities, retirement pay, or adjusted service compensation for military personnel? N/A

h. FY 1986 Continuing Resolution, Sec. 505. To pay U.N. assessments, arrearages or dues? N/A

i. FY 1986 Continuing Resolution, Sec. 506. To carry out provisions of FAA section 209(d) (Transfer of FAA funds to multilateral organizations for lending)? N/A

j. FY 1986 Continuing Resolution, Sec. 510. To finance the export of nuclear equipment, fuel, or technology? N/A

k. FY 1986 Continuing Resolution, Sec. 511. For the purpose of aiding the efforts of the government of such country to repress the legitimate rights of the population of such country contrary to the Universal Declaration of Human Rights? N/A

l. FY 1986 Continuing Resolution, Sec. 516. To be used for publicity or propaganda purposes within U.S. not authorized by Congress? N/A

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AID 1020-28 (1-73)

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project:
From FY 1986 to FY 1990
Total U. S. Funding $18,750,000
Date Prepared: 11 September 1986

Project Title & Number: RURAL WATER SUPPLY AND SANITATION (492-0401)

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Program or Sector Goal: The broader objective to which this project contributes: (A-1) Assist the Government of the Philippines (GOP) achieve its objective of decentralizing the delivery of public services through building the technical and managerial capabilities of local government units (LGU).	**Measures of Goal Achievement: (A-2)** 1. The GOP will have rationalized the water supply and sanitation sector. 2. The GOP will have established the LGUs and Barangays as the governmental units responsible for initiating, designing, constructing, operating and maintaining rural water systems. 3. Support of GOP and other donors towards continuing approach initiated by this project.	**(A-3)** 1. Periodic and final project evaluation. 2. Consultations with GOP and other donors.	**Assumptions for achieving goal targets: (A-4)** 1. The GOP will continue to have a strong commitment to the decentralization of the delivery of public services. 2. The institutional development efforts of the project will be successful. 3. Providing potable water to rural areas will continue to be given high priority by the GOP and supported by international donor agencies.
Project Purpose: (B-1) To develop an institutional framework and methodology for the development and enhancement of LGU capabilities to plan, finance, and construct self-sustaining water supply systems and related sanitary and health improvements for rural communities.	**Conditions that will indicate purpose has been achieved: End-of-Project status. (B-2)** 1. GOP and other donors accept the concept of delegating responsibility to execute rural water supply and sanitation projects to LGUs. 2. The existence of a GOP program that is able to provide technical and developmental support for LGUs not participating in this project. 3. The majority of the 130 RWSAs will be functioning satisfactorily and be financially viable. 4. Improved coordination with LGUs health staff has led to improved sanitation.	**(B-3)** 1. Periodict project reviews and evaluations that measure autonomy, financial status, technical capability, degree of decentralization, and management situations in place. 2. Monthly and quarterly project reports. 3. Field reviews of training and operations of LGUs and RWSAs.	**Assumptions for achieving purpose: (B-4)** 1. GOP policy continues to support the implementation of rural water systems by the LGUs. 2. Financial terms to RWSAs for the construction of water supply systems are reasonable. 3. RWSAs members accept the concept of paying water user fees for repayment of capital investments and operations and maintenance of the water supply systems. 4. LGUs establish and RWSAs sufficiently fund and utilize maintenance trust funds.
Project Outputs: (C-1) 1. LGUs capable of planning, designing, financing and managing the construction of rural water systems. 2. Constructed and rehabilitated water systems. 3. LGUs capable of supporting and assisting RWSAs operate and maintain rural water systems. 4. RWSAs capable of managing, operating and maintaining their systems on a self-sustaining basis. 5. Improved sanitation in barangays where water systems have been constructed.	**Magnitude of outputs: (C-2)** 1. Approx 26 LGU enrolled in program of which at least 19 will have the technical capability to continue on their own or graduate. 2. Approx 130 new water systems constructed (predominately Level II systems) and approx 12 existing water source facilities rehabilitated. 3. Approx 19 LGUs will have operating mobile maintenance vans and staff to assist RWSAs with major maintenance and a staff to oversee/monitor the operations of RWSAs. 4. Approx 130 functioning RWSAs. All RWSAs will not have progressed to full maturity before PACD.	**(C-3)** 1. Monthly and quarterly project reports. 2. Field observations: USAID, PMO, PMC and A&E. 3. Certification inspections of completed subprojects. 4. Quarterly project reviews. 5. Evaluations and audits. ---------- Cont. of C-2 5. Improved sanitation practices are not quantifiable but can be evaluated subjectively. Most of the Barangays in the program will have improved sanitation due to the availability of potable water and health education.	**Assumptions for achieving outputs: (C-4)** 1. PMO can be expeditiously staffed with qualified, motivated personnel. 2. LGUs enrolled in program provide adequate resources and staff and have commitment to continue their oversight and assistance to the RWSAs. 3. LGU's health staff is assigned to barangays participating in program to provide health/sanitation training.
Project Inputs: (D-1) A. USAID 1. Project Management Consultants (PMC) 2. A&E technical services 3. Capital cost for water supply systems and the rehabilitation of water supply source facilities 4. Studies 5. Evaluations and audits (E&A) B. GOP 1. MLG: a. Project management staff & support (PMO) b. Commodities c. Other 2. LGUs: staff, training, support of RWSAs 3. RWSAs: Organization, staff, O&M	**Implementation Target (Type and Quantity) (D-2)** ($000) A. USAID 1. PMC & A&E: '87 720, '88 1,444, '89 1,308, '90 867, Total 4,339 2. Water Systems: '87 195, '88 2,339, '89 4,502, '90 5,134, Total 12,170 3. Commodities: '87 194, '88 243, '89 197, '90 -, Total 634 4. Studies/Eval./Audits: '87 283, '88 117, '89 58, '90 158, Total 616 Sub-Total: '87 1,392, '88 4,143, '89 6,065, '90 6,159, Total 17,759 B. Host Country 1. MLG: '87 714, '88 1,044, '89 1,298, '90 1,053, Total 4,109 2. LGU: '87 135, '88 448, '89 517, '90 430, Total 1,530 3. RWSA: '87 21, '88 97, '89 138, '90 126, Total 382 C. Contingency: '87 118, '88 311, '89 400, '90 391, Total 1,220 Total: '87 2,380, '88 6,043, '89 8,418, '90 8,159, Total 25,000	**(D-3)** 1. Quarterly project reports 2. USAID financial reports 3. GOP Budgets 4. Audits 5. Evaluations	**Assumptions for providing inputs: (D-4)** 1. First project evaluation substantiates that project is having impact on institutional development. 2. GOP and LGUs have the financial capacity to provide inputs. 3. Balance of AID funding will be made available.

Annex E

ANNEX F

DETAILED IMPLEMENTATION PLAN

The following are explanations of the actions indicated in the Implementation Schedule contained in Section III of the Project Paper.

A. Management Activities

A1. Prepare Scopes of Work and Hire Consultants

Scopes of Work will be prepared by the PMO and USAID for the project management consultant (PMC) and the consultants to conduct the financial terms and socio-cultural study.

The first consultants to start work will be the financial terms and socio-cultural study consultants. They will start at the beginning of the first quarter of FY 1987. The PMC will begin work at the beginning of the third quarter of FY 1987. The first advisors under that contract will be the Team Leader, Community Development subcontractor and Budgeting Financial Advisors. The Social Marketing Consultants (Subcontractor to the PMC) will begin their work at the beginning of fourth quarter of FY 1987.

A2. Conduct Financial Terms and Socio-Economic Study

This study will be the initial activity under the project to provide data on community willingness and ability to pay for water as well as gather data on related socio-cultural variables. This data should be available by the end of the 3rd quarter of FY 87 in order to be useful for decision making by the PMO and LGUs. The studies will be conducted pursuant to the scope developed under A1.

A3. Project Implementation Workshop

As soon as possible after mobilization and familiarization of the consultant team in the Philippines, a one-week project planning workshop will be held involving relevant MLG, MOH, USAID Mission and consultant personnel. Other senior GOP officials will also be invited to participate as appropriate. The purpose will be to reach agreement on project goals, strategies and methods within the design of the project, to define roles and responsibilities for project tasks, to develop work plans and schedules, and to develop on-going mechanisms to monitor and coordinate task execution.

A4. Develop Mission Statement

A mission statement will be developed that embodies the project role of the PMO based on agreements reached and products produced during Project Implementation Workshop.

A5. Participate in Sector Evaluation

USAID and MLG/PMO will participate in the current evaluation and reorganization efforts occuring in the water sector.

B. Institution Building

B1. Review PMO Staff Roles/Functions

Based on agreements reached during the project implementation workshop, PMO roles and functions will be reviewed and clarified in light of project requirements and determine revisions needed.

B2. Prepare Key PMO Job Descriptions

Functional job descriptions with qualifications and standards of performance will be developed.

B3. Develop/Implement PMO Re-staffing Plan

A re-staffing plan for the PMO will be developed and implemented based on the project requirements. The plan will include the need for additional staff as well as re-organization of current staff, units and teams.

B4. Develop Planning Process

Based on agreements reached during the project implementation workshop, a bottom-up planning process that provides mechanisms for involvement of LGUs and PMO units in the development of planning targets, strategies and implementation plans will be designed. The process should feed into the annual plan as well as long range strategic plans.

B5. Prepare Annual Plan

Annual plans with goals, objectives, targets and implementation schedules will be developed. The first planning effort starts one month after the PMC arrives in country, then each succeeding November the planning effort is repeated for the following year's efforts.

B6. Prepare Budget

A budget to support the annual plan will be developed.

B7. Develop PMO Unit and Individual Work Plans

Each unit will develop a unit work plan based on its role in implementing the annual plan. Each individual will develop a work plan based on his/her function within the unit and the unit work plan.

B8. Review/Develop Project Management Systems

Based on agreements reached and products developed during the implementation planning workshop, performance indicators for the PMO will be developed. Systems for information and control (including use of computerized record keeping and reporting) that enable the project to be monitored will be instituted. Reporting systems and documents will be reviewed and revised if necessary. Implementation scheduling and coordination procedures will be developed. A process for communicating new project management systems to LGUs and other key actors will be developed and implemented.

B9. Develop/Implement Evaluation Plan

A plan based on performance standards and indicators will be developed and implemented to evaluate the PMO and LGUs on achieving project specific results.

B10. Review/Implement Administrative Procedures

Administrative procedures required by the MLG and needed by the PMO in order to accomplish its work will be reviewed and implemented with an eye towards streamlining. A process for communicating revisions in procedures to LGUs and others will be developed and implemented. Based on progress and performance indicators, on-going monitoring will occur.

B11. Review/Implement Budget and Fiscal Procedures

Current budget and fiscal procedures will be reviewed and to the degree possible streamlined.

B12. Plan/Conduct Training Needs Assessment of PMO

An assessment of the training needs of the PMO staff will take place in order to design skill training workshops and on the job training.

B13. Revise Overall Training Strategy and Plan

The PMC and PMO will adjust the overall training strategy and plan. They will develop plans and a timetable for PMO staff training, and revise the timetable and strategy for the design and implementation of the LGU Development and Certification Program including the orientation and start-up of the PVO and trainers/consultants.

B14. Design Specific Training Workshops and On-The-Job-Training for the PMO Involving Technical Assistance Contractors.

Based on needs assessment data, the PMC will design the specific skill training workshops for the PMO and involving T.A. contractors.

B15. Refine Structure/Mechanics for LGU Development and Certification Program

This activity includes establishing criteria for selection of the target LGUs developing the requirements for enrollment and graduation, and refining the program phases and steps from orientation through graduation.

B16. Select/Recruit Target LGUs

LGUs will be selected and recruited according to the established criteria. This activity will occur most intensively in the quarter preceeding the entry of each new group of LGUs.

B17. Hold Workshops for PMO

During the 3rd and 4th quarters, workshops will be held for PMO staff on training of trainers, technology transfer, consulting skills, community development approaches and sanitation. In addition, planning workshops will be held with the PMO and Philippine consultants (trainers + PVO) to organize and implement the LGU training and technical assistance efforts. Skill training will also occur every six months through FY 1989. Topics likely to be covered include engineering design, groundwater hydro-geology and well development, construction management, operations and maintenance, training needs assessment, design, and evaluation. The specific training needs of the PMO will be identified during the needs assessment (activity B12.)

B18. Conduct On-The-Job Training for PMO

On-the-job training is a vital part of the overall training strategy. (See Annex M). It will be carefully structured and planned to be an on-going effort throughout the project.

B19. Revise/Develop Training and Technical Manuals and Materials

This activity will begin in the fourth quarter of FY 1987 and will be on-going through the third quarter of FY 1989. Engineering manuals, training of trainers manuals and other instructional material for the PMO, LGU and RWSA levels will be revised/developed.

B20. Design/Conduct Orientation for LGUs

A two day orientation program will be designed and conducted for each group of potential enrollees three months prior to actual enrollment (See Annex M).

B21. Design/Conduct LGU Needs Assessment

A needs assessment of each LGU which shows interest in participating in the program will be conducted (See Annex M).

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B28. Assess LGU Progress/Develop Follow-up Training and T.A. Plans

After an LGU has completed the core curriculum training, its progress will be assessed against performance standards and a plan for further training and technical assistance will be developed.

B29. Provide Computer and Maintenance Van Training

Near graduation from the program, each LGU will receive a personal computer and a maintenance van and training in how to use them.

B30. Review Technical Standards and Procedures

The existing manuals, guidelines, standard designs, specifications and technical procedures of MLG and other GOP agencies in relation to water supply and sanitation will be reviewed. Their actual use under BWP and potential use under the project will be evaluated, including possible use as training guides. Necessary amendments, additions, deletions and procedural changes will be developed and implemented.

B31. Prepare and Implement a Technical Monitoring Plan

A plan will be prepared for the collection, reporting, compilation and summarizing of data on the technical status of subprojects under and following construction, and on technical aspects of MLG, LGU and subproject activities, facilities and problems under the project. The roles of the A & E consultants and LGUs will be identified. All elements will be related to the intended end use of each information item.

B32. Prepare Terms of Reference and Hire Two Project A & E Consultants

RFP will be prepared with the assistance of the Project Management Consultant. Proposals will be invited, and two Philippine consulting firms will be retained by the PMO to provide A & E services for the project. The timing will be such that services will be provided to enroll LGUs, wherever located.

B33. Develop Standard Contract Documents

Taking into account the procurement regulations of the GOP and USAID, typical and standard contract documents used by BWP, LGUs, LWUA, RWDC and other agencies will be reviewed and appropriate project standard documents prepared.

B34. Provide Technical Assistance to LGUs

Assistance will be provided to enrolled LGUs in performing their reconnaisances, preliminary and detailed designs, construction suervision and inspection and other technical activities. This will be done largely, but not entirely through the A & E consultants. Assistance will also be provided in relation to specialized or unusual problems. Particular attention will be given to groundwater development.

B22. Develop LGU Development Plan

At the end of the needs assessment and before signing a memorandum of agreement, a plan for each LGU will be developed including the number of subprojects to be developed and the initial training and technical assistance plan (See Annex M).

B23. Develop/Implement Training Monitoring and Evaluation System

Every training intervention both at the PMO and the LGU must be monitored and evaluated. This activity involves the design and implementation of the system.

B24. Develop/Sign MOA with LGUs

- By the end of the 3rd quarter of FY 1987, 6 LGUs.
- By the end of the 1st quarter of FY 1988, a further 8 LGUs.
- By the end of the 3rd quarter of FY 1988, a further 7 LGUs.
- By the end of the 1st quarter of FY 1989, a further 5 LGUs.

B25. Design/Conduct Core Curriculum LGU Training

This activity involves designing the core curriculum modules and delivering the training. Each enrolled LGU will participate in a core curriculum on-the-job training program during the planning and implementation of its first subproject under the program. The core curriculum will include skill training for all PDT members (engineer, waterworks technician, fiscal analyst, waterworks analyst, training officer, subproject managers) community organizers, barangay captain, and community representatives) in skills needed to perform project tasks. During the core curriculum training all the tasks normally performed in the development of a subproject will take place. In addition, specific community development approaches will be identified and tried out and the sanitation component for a particular LGU will be developed and implemented in the subprojects developed (See Annex M.)

B26. Evaluate Core Curriculum Training

This will be an on-going activity at the end of each module of the core curriculum training for a particular LGU as well as at the end of the entire curriculum.

B27. Revise Core Curriculum

Based on feedback from LGU participants and the PMO's experience with the first rounds of delivery of a particular module and of the entire curriculum, necessary revisions will be made.

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B35. Review and Summarize Monthly Construction Reports

Monthly technical reports will be prepared on the status of project. These will be based primarily on monthly reports on subproject progress submitted by the A & E consultants, which will be so prepared as to facilitate the preparation of overall summaries of status of project under preparation and construction. Technical aspects will also be part of the quarterly project reviews to be held jointly by the MLG, and A.I.D.

C. Health, Sanitation and Community Development

C1. Develop Guidelines for Community Development and Sanitation

The PMO with assistance from the PVO Community Development Coordinator will develop overall guidelines for the community development and sanitation aspects of the project at the barangay level. Specifically, they will identify important intervention points in the planning, implementing and managing of water systems during which community decisions and/or participants are essential. General strategies for planning and implementing health projects and health education related to water and sanitation will be defined.

C2. Develop/Implement Social Marketing Effort

This will include setting-up a mechanism for LGUs to consult with the social marketing firm regarding health education strategies related to water and sanitation, developing an implementation plan and shedule of interventions.

C3. Develop Instruments/Implement Health Evaluation

The major early activity is the structuring of a data collection plan that will become a part of the feasibility study done by the LGU Project Development Team of targeted Barangays.

C4. Develop Sanitation Improvement Plan

A plan for the implementation of the proposed sanitation improvements in target communities and LGUs will be developed.

C5. Project Management Consultant Tasks

Consultants in communications, market research and community work will be sub-contracted by the PMC for specific tasks, including: (1) Preparation of community profiles of practices in water use and sanitation; (2) Compilation of accurate data on water related diseases; and (3) Assistance to the LGUs in developing messages related to sanitation and community participation.

D. Water System Design/Construction

D1. Enroll LGUs and Start Design Work

The scheduling of the enrollment of LGUs is such as to provide for an orderly progression with time for training and development activities for each. Each LGU aided by an A&E firm will prepare the detailed engineering designs for each of their proposed water systems.

D2. LGUs Contract for Water System Construction

Through local tenders called by the LGUs, contracts are awarded to the lowest responsive responsible bidders to construct each water system.

D3. Complete Water Systems

Each water system's construction effort will be managed by the responsible LGU with assistance provided by the A&E firms. Final inspection with USAID participation will be made before a system is accepted and final payment made.

E. Monitoring and Evaluation

E1. Evaluate Decentralization Options

The timing of this action assumes that the GOP has decided to continue MLG's role in rural water and sanitation efforts.

E2. Prepare Decentralization Plan

A plan for implementing decentralization will be developed including new role and functions of the PMO and decentralized offices, institutional arrangements, and proposed project management systems.

E3. Staff Decentralized Offices

This activity includes developing a staff plan and job descriptions, recruiting, hiring or out-stationing staff, locating and setting up offices, developing new budgets and work plans.

E4. Train Decentralized Staff

After decentralized offices have been set-up, staff will be trained in skills needed for job performance.

E5. Certify LGUs

This activity begins during the first quarter of 1990 and is on-going throughout the last year of the project. After being certified, each LGU will graduate. Some early start LGUs may graduate earlier.

E6. Monitor Project Performance, and Management/Financial Performance.

Continues throughout project. Basic tool is the joint quarterly review by MLG and A.I.D.

E7. Evaluate and Audit

The project will be evaluated internally at the end of each fiscal year. In addition external evaluations and audits will occur at mid point and at the end of the project.

E8. Audit Completed Projects

A randomly selected sample of completed projects will be audited technically to verify the validity of the regular reporting process.

PROJECT IMPLEMENTATION SCHEDULE

	ACTIVITY	U.S. Fiscal Years 1987				1988				1989				1990			
	Quarters	1.	2.	3.	4.	1.	2.	3.	4.	1.	2.	3.	4.	1.	2.	3.	4.
A.	MANAGEMENT																
A1.	Prepare Scopes of Work and Hire Consultants	x	x	x	x												
A2.	Conduct Financial Terms & Socio-Economic Study	x	x	x													
A3.	Project Implementation Workshop			x													
A4.	Develop Mission Statement			x													
A5.	Participate in Sector Evaluation	x	x	x	x												
B.	INSTITUTION BUILDING																
B1.	Review PMO Staff Roles/Functions		x	x													
B2.	Prepare Key PMO Job Descriptions		x	x													
B3.	Develop/Implement PMO Restaffing Plan			x													
B4.	Develop Planning Process		x	x													
B5.	Prepare Annual Plan		x	x					x				x				
B6.	Prepare Budget		x	x					x				x				
B7.	Develop PMO Unit/Individual Work Plans		x	x					x				x				
B8.	Review/Develop Project Mngt. Systems		x	x	x												
B9.	Develop/Implement Evaluation Plan			x	x	x											
B10.	Review/Implement Administrative Proc.		x	x	x	x											
B11.	Review/Implement Budget/Fiscal Proc.		x	x	x	x											
B12.	Plan/Conduct Training Needs Assessment of PMO		x														
B13.	Revise Overall Training Strategy & Plan		x	x													
B14.	Design Specific Training Workshops and O-J-T for PMO		x	x													
B15.	Refine Structure/Mechanics for LGU Development & Certification Program		x	x													
B16.	Select/Recruit Target LGUs		x		x		x		x								
B17.	Hold Workshops for PMO		x	x		x		x		x		x					
B18.	Conduct O-J-T for PMO		x	x	x	x	x	x	x	x	x	x	x	x			
B19.	Revise/Develop Training & Tech. Manuals			x	x	x	x	x	x	x	x						
B20.	Design/Conduct Orientation for LGUs			x		x		x		x							
B21.	Design/Conduct LGU Needs Assessment			x		x		x		x							
B22.	Develop LGU Development Plan			x		x		x		x							
B23.	Develop/Implement Training Monitoring/ Evaluation System			x	x	x											
B24.	Develop/Sign MOAs with LGUs		x		x		x		x								
B25.	Design/Conduct Core Curriculum LGU Training			x	x	x	x	x	x	x	x	x	x	x	x	x	x
B26.	Evaluate Core Curriculum Training			x	x	x	x	x	x	x	x	x	x	x	x	x	x
B27.	Revise Core Curriculum							x	x	x	x						
B28.	Assess LGU Progress/Develop Follow-up Training + T.A. Plan							x	x	x	x	x	x	x	x	x	

	ACTIVITY	U.S. Fiscal Years 1987				1988				1989				1990			
	Quarters	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
B29.	Provide Computer and Maint. Van Training	x				x								x	x	x	x
B30.	Review Tech. Standards & Procedures	x	x	x	x												
B31.	Prepare & Implement Tech. Montrg. Plan	x	x	x													
B32.	Prepare TOR/HIRE 2 A&E Consultants	x	x														
B33.	Develop Standard Contract Documents	x	x														
B34.	Provide Technical Assistance to LGUs	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
B35.	Review & Summarize Monthly Const. Rep.	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
C.	HEALTH, SANITATION & COMMUNITY DEVELOPMENT	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
C1.	Reach Agreement/Develop Plan	x															
C2.	Develop Guidelines for Community Development and Sanitation	x	x	x													
C3.	Develop/Implement Social Mktg. Effort		x	x	x	x	x	x	x	x							
C4.	Develop Instruments/Implement Health Evaluation	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
C5.	Develop Sanitation Improvement Plan	x	x	x													
C6.	Project Management Consultant Tasks	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
D.	WATER SYSTEM DESIGN/CONSTRUCTION	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
D1.	Enroll LGUs and Start Design Work:																
a.	Project Group A (Total 6)	3				2			1								
b.	Project Group B (Total 8)	3				2			2		1						
c.	Project Group C (Total 6)					2			2		2						
d.	Project Group D (Total 6)					2			2		2						
	(Total enrolled 26), comprising:	6				8			7		5						
D2.	LGUs Contract for Water System Const.			x	x	x	x	x	x	x	x	x	x	x	x		
D3.	Complete Water Systems																
a.	Project Group A (Total 33)					3			8		7		7		6		2
b.	Project Group B (Total 41)					3			7		7		8		9		7
c.	Project Group C (Total 28)											4		8		10	6
d.	Project Group D (Total 28)											2		6		10	10
	(Total Subprojects 130), by fiscal year:								21				49				60
E.	MONITORING AND EVALUATION	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
E1.	Evaluate Decentralization Options			x	x												
E2.	Prepare Decentralization Plan							x	x								
E3.	Staff New Zonal or Req. Centers										x	x					
E4.	Train De-centralized Staff										x	x	x	x	x	x	
E5.	Certify LGUs														x	x	x
E6.	Monitor Project/Mgt./Financial Perf.	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
E7.	Evaluate/Audit								x								x
E8.	Audit Completed Projects						x		x		x		x		x		x

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ANNEX G

INSTITUTIONAL ANALYSIS

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ANNEX G

INSTITUTIONAL ANALYSIS

I. Background

The Ministry of Local Government has been the implementing agency of the BWP I and II since 1977, and will be the central implementing agency for this Rural Water and Sanitation Project. It is one of four GOP agencies active in rural water supply and sanitation. It's objective has been and will continue to be to develop the capability of local government units (LGUs) to provide user associations (RWSAs) with point-source and piped rural water supply systems and to prepare those associations to operate and maintain them while introducing improved health and sanitation practices which take advantage of the water systems.

In the summer of 1985, USAID/Manila contracted with the WASH Project to provide a team to help determine what measures to take concerning BWP II and whether the Mission should plan for another AID assisted project concerned with rural water supply in the Philippines. The team concluded that there can and should be a project which has the primary purpose of developing the ability of local institutions to provide water supply and sanitation services to rural barangays. Based on an analysis of the relative strengths and weaknesses of all the GOP agencies in the sector and given the perceived need for an institutional development focus, the MLG was considered the most suitable agency to use. The design team reaffirmed that conclusion after taking into account the current state of the GOP's consideration of the organizational issues facing the sector. (See Part I of this Project Paper).

The 1985 Feasibility Assessment recommended that the implementation of the project be decentralized through the use of MLG's regional offices. However, the design team for the project decided not to seek to achieve much decentralization until the sector organizational decisions have been reached by the GOP. In addition, the team came to the conclusion that the use of MLG regional offices as the major approach for decentralization may have serious drawbacks such as the expanded staff needed at the regional level if the approach were adopted nationwide. Therefore, the project proposes that once the GOP has had time to rationalize the institutional framework of the sector, a careful analysis of various decentralization options be done with the help of the management consultant and the feasibility of each approach will be determined before any actual steps are taken. In the meantime, this analysis assumes that the organizational structure of the project will remain as it is.

II. The Project Organization, Structure and Roles

A. Central Level

The MLG operates as a line ministry. (Attachment 1 gives its current organizational chart). A Deputy Minister for Special Projects manages and coordinates the AID funded BWP-project. This arrangement will remain the

same under this project. The Project Management Office (PMO) under the project is run by a Project Manager who makes most of the decisions for it on behalf of the MLG. Thus, the PMO is largely an autonomous unit as far as programmatic decision-making is concerned, and yet it was tied closely to MLG in terms of having to utilize its administrative systems and procedures.

The current PMO is organized into three divisions - the Monitoring, Research and Evaluation Division, the Engineering Review and Supervision Division and the Training and Organization Division. (Attachment 2 sets forth the organization of the office by positions.) Each division is headed by a supervisor who reports to the assistant project manager who in turn reports to the project manager. The number of employees fell from 53 to 45 during the last year, and continues to fall as contracts are not renewed or are terminated either by the organization or the employee. The morale of the staff is very low. This is probably due to the turmoil involved in the installation of the new government and to the uncertainty concerning the future role of the MLG in work in rural water and sanitation.

In this project the PMO will remain at approximately the same level of staffing as under BWP II. However, a major shift in its role will occur from a largely administrative body to a training and technical assistance unit the aim of which is to improve the performance of LGUs. In the past the PMO relied heavily on consultants to perform its programmatic tasks. For the most part these consultants were the implementing arm of the BWP. They operated rather autonomously as the PMO did not view its role as being that of a manager of consultants. In return the consultants defined their clients as the LGUs and barangay residents not the PMO staff. Therefore, very little skill transfer occurred from consultants to PMO personnel. Given this situation and the absence of a pro-active and programmatically involved office directly within the line ministry, the institutionalization of a capacity within MLG to carry on work with the LGUs was not occurring.

In this project the PMO will carry out the following functions in its role as the institutional strengthener of LGUs:

- Coordinate and manage the consultant (external and local) inputs to LGUs for technical assistance in the full range of needs (engineering, community development, training, planning, auditing) from the project management consultant consortium and local consultants

- Provide technical assistance and training to LGUs in engineering, training, community organization, project development and project management, annual planning for budgeting and program development, sanitation, RWSA formation and maintenance, equipment repair, well drilling and contract supervision

- Review bid documents

- Approve subprojects

- Manage overall project information systems, and reporting to USAID and GOP on project progress
- Monitor for adherence to GOP rules and regulations
- Coordinate link and information with other interested and related agencies (such as RWDC, MOH, NEDA, LWUA, MPWH, MOF)
- Conduct program, technical and financial audits by using and managing consultant resources
- Coordinate a management information system, and a project planning and budgeting function
- Manage the transfer of information and technology, and "lessons learned" between and among LGU operations.

During the start-up of the project the PMO will re-organize to better carry out its functions--particularly the provision of technical assistance and training to the LGUs. It will consider the option of adding a new unit for community participation given the major emphasis of the project on developing more effective community participation approaches. The functions of this unit would be to provide technical assistance to LGUs in community organization and RWSA formation, and to train and assist the Project Development Teams at the LGU in community organization.

The PMO will also consider the formation of multi-disciplinary training teams made up of personnel from each unit. The team would be managed by a team leader responsible to a number of LGUs throughout their enrollment in, and graduation from, the LGU Development and Certification Program.

Finally, with the help of the Project Management Consultant, the PMO will introduce a series of administrative reforms. These reforms, together with the use of direct reimbursement by A.I.D. of construction contractors and the use of the MDF for transfers of funds, should result in substantial improvement in the administrative performance of the PMO.

B. LGU Level

Attachment 3 is an explanation of the local government system of the GOP. This system is currently under review by the Constitutional Assembly and the Commission on Government Reorganization.

The local government unit (LGU) is the primary implementation arm of the project for developing local water and sanitation subprojects. The LGU will conduct all of the necessary community organization and project promotion, feasibility studies, preliminary and final engineering design, and project construction through local contractors; it will prepare the RWSA for operating and maintaining the systems. In order to accomplish this, the LGU will use existing local structures. Because of the efforts of the Provincial

Development Assistance Project, most LGUs contain a provincial engineers' office (PEO) with a number of technical staff (provincial engineer (PE), assistant PEs and other staff dealing with design, construction, maintenance, and administration). Each LGU also has a provincial development office (PDO) headed by a provincial development coordinator (PDC) with a staff for planning, statistics, administration, finance and training.

The BWP has required that LGUs form a provincial development task force with representatives from the PDO, the PEO and representatives from other governmental units. This task force was to develop the subprojects and then promote the overall program. The result has been considerable confusion as to which office is responsible for the activities. All of the members have other responsibilities to meet, and usually gave preferences to them. No one below the level of the provincial governor has overall responsibility, and the governor cannot devote a lot of time to this particular program. To meet this problem the project proposes the following changes:

Water and Sanitation Manager. A full time water and sanitation manager (WSM) position will be created in each participating LGU to be responsible for all project implementation management. The WSM will work with the authority of the governor to ensure that all project decisions are made. He will be responsible for coordinating the efforts of all offices acting in support of the program.

Subproject Managers. Under the WSM, there will be a permanent staff of full time subproject managers while the number per province will vary; it is thought that at least two will be required per LGU. It will be the job of each subproject manager to oversee all phases of subproject development and to coordinate the inputs from the LGU resource pool (PEO/PDS/health staff/community organizer/training staff). It also will be the responsibility of the subproject managers to maintain continuity with each RWSA, and to ensure that in-service training for staff and board members takes place.

Project Development Team. The primary implementation and training mechanism will be the project development team (PDT) for each subproject. The team will be organized under the leadership of one of the subproject managers. It will consist of the necessary community organization, engineering and training personnel from the LGU resource pool. In addition, a representative of the provincial health office (in most cases the midwife who has geographic responsibility for the target barangay) and two community representatives from the target community (appointed by the barangay captain) will serve on the team. The selected community members should be primary candidates for the future RWSA staff. It is especially important that the systems operator be involved in all stages of systems construction, in order to receive on-the-job training, and to understand the system as it is constructed.

During the course of the project, the participating LGUs are to institutionalize these arrangements into a permanently staffed office.

C. Barangay Level.

At the community level, an RWSA is formed by the community and trained by the PDT. Once formed, it is registered with RWDC. The RWSA provides technical and administrative management, and health/sanitation educational services to RWSA members--i.e. the water system subscribers. The RWSA is organized as a community owned and operated business. It is set up with a board of directors who compensate the RWSA staff and formulate policy. Day-to-day operation is carried out by the RWSA employees. Depending upon the size of the system, two or three employees will be required--a general manager, bookkeeper/cashier, and an operator/bill collector. The RWSA is a non-stock corporation which derives its funds from members by contribution and/or fees for providing water and possibly sanitary services.

III. Feasibility Risks

A. Central Level

1. Question on Continued Role of MLG

There is a major risk that the MLG may be removed from the rural water supply sector, and that the project as designed may not be easily transferred to another host agency. However, the project has built into its implementation plan the need for continued dialogue between USAID, MLG and the other relevant sector organizations concerning re-organization decisions and steps. The project will become more proactive in communicating its unique role. Furthermore, although it would not be easy, the function assigned to the PMO under the project's design could be relocated in whatever agency might replace MLG's activities in rural water. However, should the GOP follow the suggestions made by some not to work with LGUs, but to work directly with RWSAs from the central level, this project would no longer be feasible.

2. Need for Institutionalization of PMO in MLG

It will take effort on the part of USAID, the PMO and the PMC to institutionalize the project within MLG. New expectations must be set with the Deputy Minister's office and new working relationships established. The first major activity after the consultant's mobilization will be the planning and conducting of a two week implementation planning and workshop for all key actors (including the office of the Deputy Minister). During this time the project's mission, goals, roles and responsibilities of key actors, coordinating mechanisms, and other important issues for project implementation will be agreed to. The workshop also will explore the viability of setting up a project advisory committee consisting of representatives of the various central organizations having an interest in rural water and sanitation activities. Finally, plans must be made to have the staff of the PMO become permanent employees of the MLG.

3. Need to Improve Staff of PMO

The current staff of BWP is in some cases underqualified to carry out the tasks needed to implement the new project. Over the last month a number of staff who have had long term experience under BWP I and II have been dismissed because of budgetary problems and actions associated with the installation of the new government's political leadership. The remaining staff is demoralized, unfocused and non-productive. The major task of the PMC will be to upgrade the skills needed by the PMO to fulfill its role. A PMO staff development effort will be undertaken almost immediately after mobilization of the consultant. A needs assessment will be conducted, covering all PMO positions, and a specific training plan will also be designed and conducted. All consultants working on this project will have excellent qualifications, not only in his/her technical area, but equally important in technology transfer. A structured and focused on-the-job training effort will be implemented.

B. The LGU Level

1. Institutionalization of LGU Staffing

The provincial Governor is an elected official who heads a staff which varies in size from province to province. The staff is organized into several offices--the Provincial Budget Office, the Office of Provincial Planning and Development Coordinator (OPD), the Office of the Provincial Assessor, the Office of the Provincial Treasurer, the Office of the Provincial Engineer (OPE) and the Office of the Provincial Agriculturist. The Governor is also responsible for coordinating the efforts of his office with the local representation of ministries and any other national offices there may be.

At present the LGUs do not have offices devoted to water and sanitation programs. In carrying out the BWP, the LGUs have used personnel from their various offices--and especially from the OPE--on a part time basis. No one person, except the Governor, has been charged with responsibility for the conduct of the program. This has contributed to the problems that arose under BWP. It is unlikely that that staffing arrangement would be able to handle the more complex program proposed under this program, or achieve the interagency coordination (principally with the MOH) and interaction with participating PVOs, which is called for in this project. Therefore, this project will require that any LGU that wishes to participate in the program will assign someone to be a full time Water and Sanitation Manager and two assistant managers to share responsibility for the subprojects that are to be financed. There is a danger that even with these additional full time employees the use of technical people, with responsibilities for activities other than water and sanitation, will mean that proper attention to the program will be difficult to achieve. Therefore, the project also will encourage the GOP to consider the possibility of establishing permanent offices of water and sanitation in each LGU, which then becomes active in the program, so that the office would have its own engineering and training staff. In the meantime, the staff of the LGU will receive both training and guidance from the staff of the PMO and the PMC.

2. Turnover of Personnel

The positions at the LGU are, for practical purposes, political. Thus, there can be a significant turnover of personnel when the Governor changes. Furthermore, the salary level for the positions is not good, and people usually leave for better paying positions when they have gained experience. The project has no solution to this problem, and does not propose to pay salary supplements or provide other monetary incentives to keep people at the LGUs because it is doubtful that these payments could be sustained by the LGUs after the project is complete. However, the project will provide training for the staff which should improve their morale. Furthermore, the project will create a capability at the MLG level to provide training in the future to new personnel of the LGUs as they may come into the program to replace departing staff. The cost of such continuing training would have to be met by the GOP from the general budget of the MLG.

3. Disincentive to Graduate

The center of the project's design is to support and develop the capacity of the LGUs to carry out water and sanitation projects in cooperation with the RWSAs. After an LGU has completed three to six of these projects successfully, it should be able to continue by itself to work with other communities in its jurisdiction. At that point it is to graduate from the program so that there is room for another LGU to enter. However, there is a disincentive for an LGU to graduate since it will then not continue to receive support from the project--either the technical assistance and training advice, funds for the construction of additional subprojects, or the five percent payment from the GOP. (The payments could continue, but the project does not require that they be made for subprojects not financed with project funds.) The project does provide LGUs with computers and software and with a repair van and equipment as they approach graduation; but those items will be under the control of the LGU before graduation in any event, and hardly offset the loss of access to project funds for construction.

Thus, the project assumes that "graduation" will not be something an LGU asks for, but rather something achieved in the process of carrying out its responsibilities under the program and then recognized and acted on by the MLG. Tactically, it probably would be wise for the MLG and the PMC to stress at the beginning that each LGU has only a limited time to obtain the benefits of working in the program, so as to encourage them not to assume that support will be available indefinitely. However, the project will not impose any standard limit of the time during which an LGU may participate; that will be based on the individual circumstances of the LGU.

C. The Barangay Level

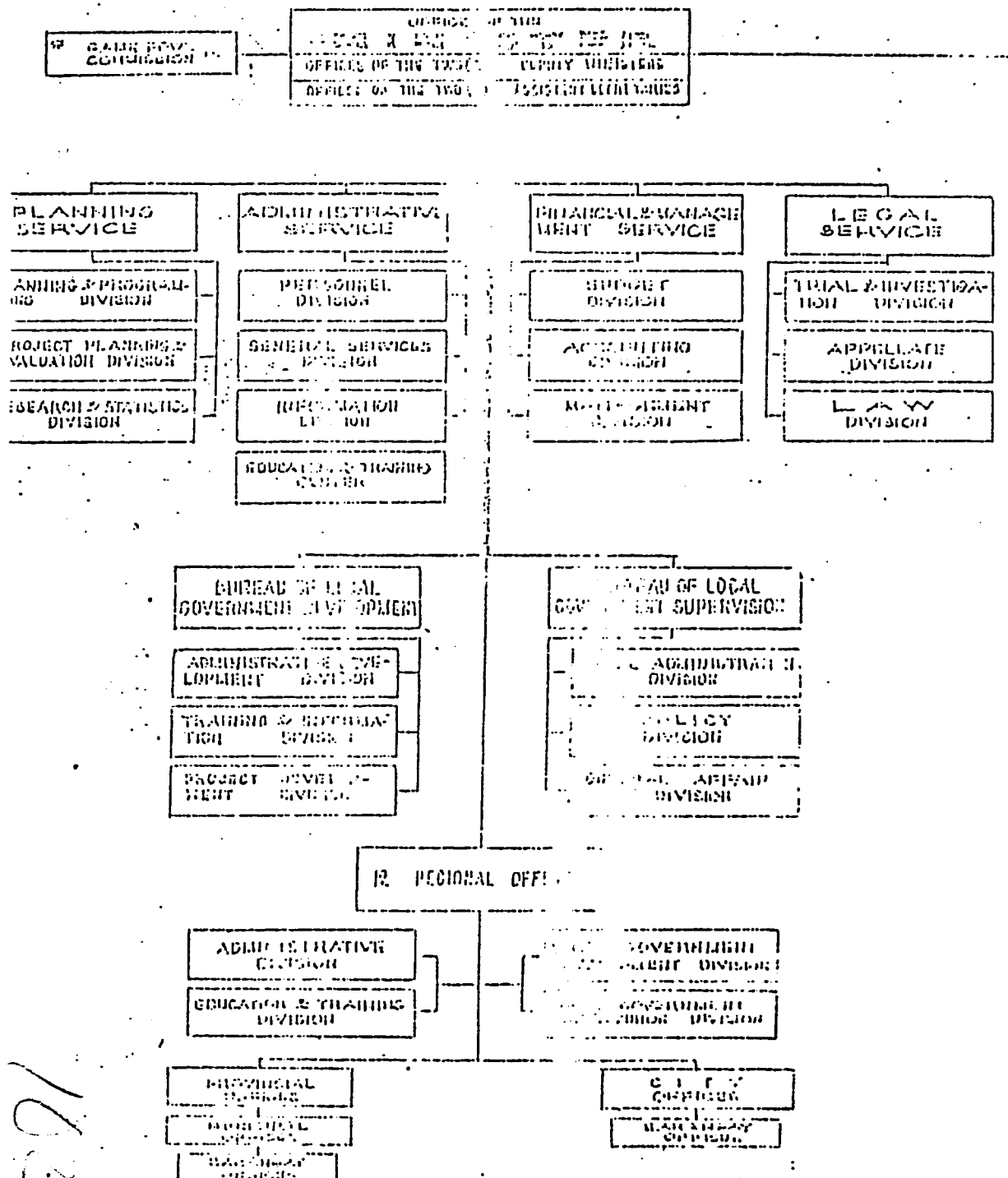
1. Since the project seeks to have a greater community involvement in the planning amd implementing of the water system, and to achieve coordinated action with health and sanitation activities at the barangay level, it will need the support of the political leaders of the community.

However, experience under the BWP shows that although the RWSAs often are dominated by the more economically well-off in the community the officers of these associations usually have not been the political leaders of the community. Thus, other ways must be used to engage those political leaders. The interest of the Provincial Governor should lead the local leaders also to take the program seriously. The planning for each subproject will include consultation with the barangay captain to assure that he becomes identified with the activity, and that his support for it is clear to the community. That may require permitting him to make some political use of the activity.

2. Quality of Staff

The project requires that a community which wants a water system demonstrate that it is willing to appoint a full time manager for the system to be constructed, and that that manager participate in the planning and construction of the system. The project also requires that the community fully pays the operation and maintenance of the system--including compensation to the full time manager and any other employees which are needed. However, the project has not sought to decide what should be the exact organization of the RWSA or the size of its staff or the level of their compensation. Those questions have been left for decision on a comunity-by-community basis. However, the project through its work on community participation will seek to influence the way in which the community reaches decisions on these aspects. Employment by the association may not be particularly attractive to qualified people. This could arise because of the level of salary or from the fear that the RWSA may not be able to collect the water service fees. To help counteract this fear and to give the managers confidence the project will provide them training so that they are improving their own marketability for the future and technical and other support for the RWSA so that it is apparent that the sustainability of the water systems is a key purpose of the project.

Organizational Chart
MINISTRY OF LOCAL GOVERNMENT



ADMINISTRATIVE SUPERVISION

- BARANGAY BRIGADES DEVELOPMENT PROGRAM OFFICE
- BARANGAY ROADS DEVELOPMENT PROGRAM OFFICE
- BARANGAY WATER PROGRAM
- INTER-AGENCY COMMITTEE FOR NATIONAL GOVERNMENT AID TO LOCAL GOV'
- JOINT COMMISSION ON LOCAL GOVERNMENT PERSONNEL ADMINISTRATION
- KATIPUNAN NG MGA SANGGUNIAN NATIONAL SECRETARIAT AND THE PAN BANSANG KATIPUNAN NG MGA PUNONG BAYAN SA PILIPINAS OFFICE
- LUPONG TAGAPAGPAGANAP SECRETARIAT
- MANAGEMENT INFORMATION SYSTEMS OFFICE
- MAGALANG ARAYAT TASK FORCE
- NATIONAL BARANGAY OPERATIONS OFFICE
- NATIONAL SECRETARIAT PAGLILINGKOD SA BAGONG LIPUNAN
- RURAL SERVICE CENTER
- RURAL ROADS IMPROVEMENT PROGRAM
- RURAL ROADS PROGRAM

BEST AVAILABLE COPY

- SPECIAL ATTACHED OFFICE
- UNDER AD[illegible]TIVE SUPERVISION OF MLG REGIONAL

ATTACHMENT 2

BARANGAY WATER PROGRAM
PROPOSED ORGANIZATIONAL CHART

PROJECT MANAGER

ASST. PROJECT MANAGER

MONITORING, RESEARCH AND EVALUATION DIVISION	ENGINEERING REVIEW AND SUPERVISION DIVISION	TRAINING AND ORGANIZATION DIVISION
Supv'g. Dev't. Mgt. Officer	Supv'g. Dev't. Mgt. Officer	Sr. Dev't. Mgt. Officer
Sr. Dev't. Mgt. Officer	Sr. Dev't. Mgt. Officer	Dev't. Project Evaluator
Dev't. Mgt. Officer I	Sr. Dev't. Mgt. Officer	Sr. Training Officer
Dev't. Proj. Evaluator	Sr. Mechanical Engineer	Dev't Mgt. Researcher
Dev't. Mgt. Researcher	Sr. Civil Engineer	Dev't. Mgt. Researcher
Dev't. Mgt. Researcher	Sr. Civil Engineer	Dev't. Mgt. Researcher
Dev't. Mgt. Researcher	Civil Engineer	Training Officer
Dev't. Mgt. Researcher	Civil Engineer	Training Officer
Fiscal Analyst I	Civil Engineer	Training Assistant
Jr. Statistician	Chemical Engineer	Training Assistant
Clerk II	Jr. Dev't. Mgt. Officer	Training Assistant
Clerk II	Jr. Dev't. Mgt. Officer	Statistician I
	Fiscal Analyst II	Jr. Statistician
	Dev't. Mgt. Researcher	
	Dev't. Mgt. Researcher	
	Dev't. Mgt. Researcher	
	Jr. Statistician	
	Clerk II	

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form of aids, loans and share from national taxes (national allotment under PD 144; specific tax allotment under PD 436; and aid from the Highway Special Fund under RA 917, as amended). From local sources, they derive income from real property taxes, local taxes, fees and charges and receipts from municipal operations (PD 231, as amended and PD 464).

To provide for a more equitable system of classifying provinces, cities and municipalities that is commensurate with their respective revenue-raising capacities, PD 465 adopted and fixed the following income classifications:

a) Provinces and cities (except Manila and Quezon City which are special class cities) are divided into 5 main classes, according to their average annual income during the last four fiscal years, as follows:

1st Class	—	P 3M or more
2nd Class	—	P 1M or more but less than P 3M
3rd Class	—	P 1M or more but less than P1.5M
4th Class	—	P .5M or more but less than P 1M
5th Class	—	less than P .5M

b) Sub-classification of first class provinces and cities according to their average annual income during the last 2 fiscal years, as follows:

1st Class A	—	P 7M or more
1st Class B	—	P 5M or more but less than P 7M
1st Class C	—	P 3M or more but less than P 5M

c) Municipalities are divided into 6 main classes according to their average annual income during the last 4 fiscal years, as follows:

1st Class	—	P1.5M or more
2nd Class	—	P 1M or more but less than P1.5M
3rd Class	—	P .5M or more but less than P 1M
4th Class	—	P 300,000 or more but less than P .5M
5th Class	—	P 100,000 or more but less than P300,000
6th Class	—	less than P 100,000

The 73 provinces are the intermediate tiers of government and represent the biggest territorial subdivisions of the country. A province, comprising municipalities and component cities, has primary responsibility for general supervision over such units within its territorial jurisdiction. The Provincial Governor ensures that the acts of these component units are within the scope of their assigned powers and functions (Sec. 203 (k), LGC). The *sangguniang panlalawigan* reviews ordinances approved by the *sanggunian* of component cities and municipalities within the authority granted by law, (Sec. 208 (e), LGC).

The cities which were created by special charters are relatively more urbanized and developed communities. They are either component or highly urbanized. Classified as highly urbanized cities are those with a minimum population of 150,000 and with the latest annual income of P30M. (Sec. 166, LGC). A component city may become a highly urbanized city if it meets the above criteria (Sec. 167, LGC). It is the duty of the Minister of Local Government to declare a city highly urbanized within 30 days after such city meets the minimum requirements. (Sec. 168, LGC). While component cities are under provincial supervision, highly urbanized cities are independent of the province.

The municipalities, constituting the second largest grouping of local government units, comprise both rural and urban areas. Like cities, municipalities are also subdivided into barangays.

Barangays are the basic political units with a population of at least 1,000 inhabitants. The chief officials and offices in a barangay are: a *punong barangay*, 6 elective *sangguniang barangay* members, the *kabataang barangay* chairman, a barangay secretary and a barangay treasurer. The *sangguniang barangay*, subject to the availability of funds and the needs of public service, may create the positions of executive officers of barangay brigades or other positions or offices deemed necessary to carry out the purpose of the barangay government, (Sec. 86, LGC)

Three special units of local government also exist in the country. These are the two autonomous regions in the predominantly Muslim areas in southern Philippines and the Metropolitan Manila. Autonomous Regions IX and XII have each a *sangguniang pampook* (regional council) which exercises legislative powers and a *lupong tagapagpaganap ng pook* (regional executive committee) which supervises the implementation of regional policies, programs and legislation, (Batas Pambansa Blg. 20).

Metropolitan Manila comprises the 4 cities and 13 municipalities in the greater Manila Area. It is governed by the Metropolitan Manila Commission which acts as central government exercising both legislative and executive functions. The commission is composed of a Governor, a Vice-Governor, and 3 Commissioners, one for planning, another for finance and a third one for operations, (P.D. 824).

The following is an organizational chart of the organization of the provincial government.

THE LOCAL GOVERNMENT SYSTEM

Philippine local governments are political and administrative subdivisions of the national government undertaking responsibilities as extension arms of the national government and providing services on their own behalf. They are bodies politic and corporate endowed with powers to be exercised by and through their governments. As bodies politic, every local unit exercises the powers expressly granted, those necessarily implied therefrom, as well as powers necessary and proper for governance such as to promote health and safety, enhance prosperity, improve morals and maintain peace and order in the local government unit and preserve the comfort and convenience of the inhabitants (Sec. 7, LGC). As corporations, local government units exercise such powers as granted to corporations subject to limitations provided in the Local Government Code and other laws. (Sec. 12, LGC). Articles II and XI of the 1973 Constitution are most significant to local governments in that the former guarantees the autonomy of local governments and the latter defines the present and future of local governments in the Philippines.

Provinces, cities and municipalities may be created, named and their boundaries defined, altered or modified by an Act of the Batasang Pambansa, subject to the approval by a majority of the votes cast in a plebiscite to be held in the unit or units affected. (Sec. 134, 163, 196, LGC). Barangays are created by an ordinance of the *Sangguniang Panlalawigan* or *Sangguniang Panlungsod*, as the case may be, with the creation subject also to the approval in a plebiscite to be held in the unit or units affected. (Sec. 82, LGC).

The President of the Philippines exercises supervision over local governments to ensure that local affairs are administered according to law. General supervision, exercised primarily through the Ministry of Local Government includes the power to order an investigation of the conduct of local government officials. All other ministries having to do with local governments are confined to the setting of uniform standards and guidelines to obviate the need for requiring prior approval or preclearance on regular and recurring transaction and other activities normal to local governments, (Sec. 14, LGC).

The local government system is made up of 73 provinces, 60 cities, 1,531 municipalities and about 41,657 barangays. The provinces are intermediate tiers serving as effective mechanism in the development process and assuming basically area-wide functions, roles and activities. The cities and municipalities serve as general purpose government for the coordination and delivery of basic, regular and direct services within their respective jurisdictions. The barangays are the primary planning and implementing units of government programs, projects and activities (Sec. 81, 133, 162, 195, LGC)

Every local government unit has an executive and a legislative body. The local chief executives are the provincial governors, the city and municipal mayors and the *punong barangay*. The local councils are the *sangguniang panlalawigan* for the province, *sangguniang panlungsod* for the city, *sangguniang bayan* for the municipality and *sangguniang barangay* for the barangay. Generally, local officials are elected at large in their respective units for a term of six years, (Sec. 44, LGC). Any local official, once during his term of office, may be recalled by the registered voters of his local unit for loss of confidence, (Sec. 54 to 59 LGC).

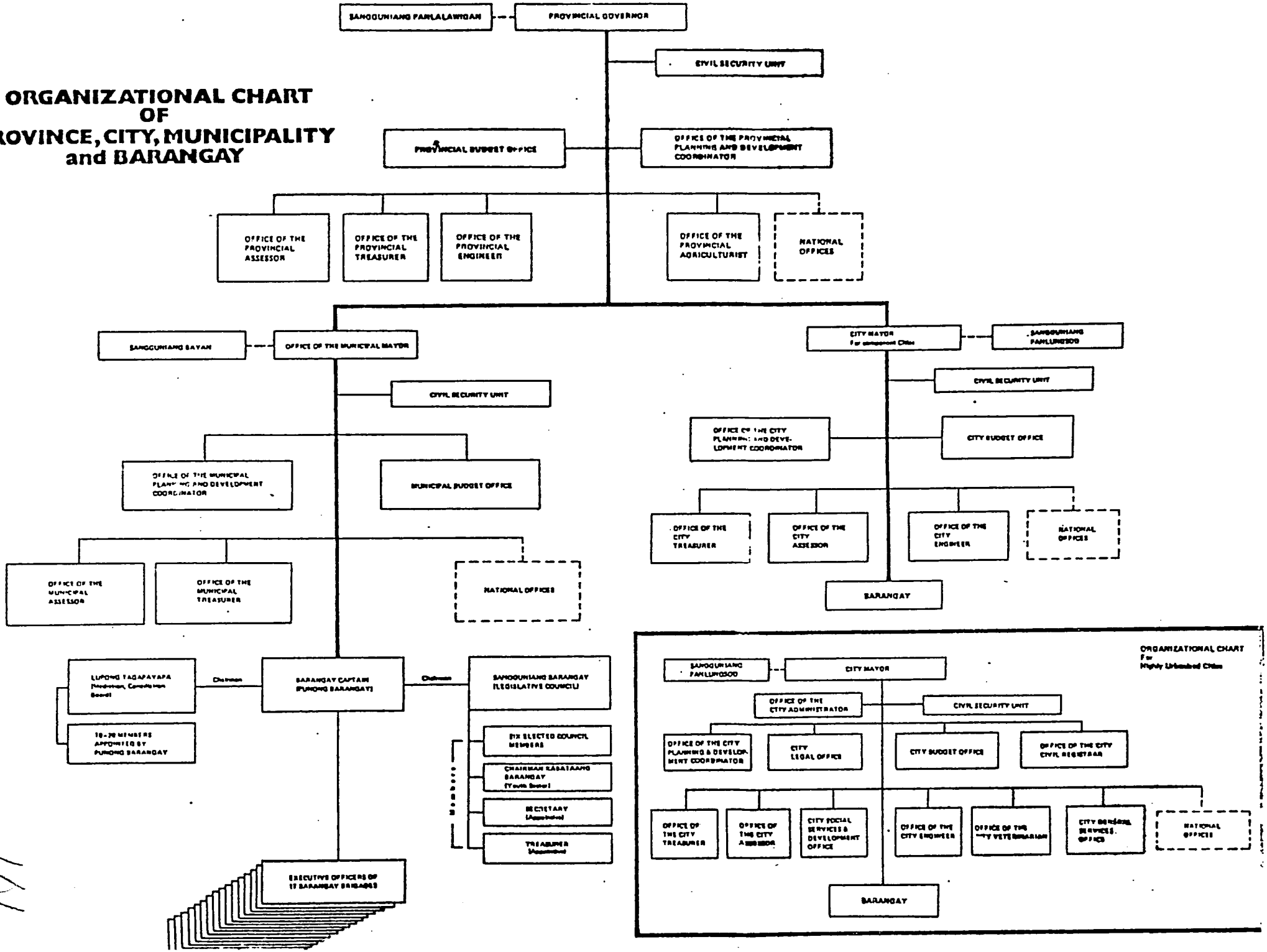
The principal offices and officers of the local bureaucracy are specified in the Local Government Code. The Minister of Local Government prescribes minimum standards and guidelines with respect to the organizational structure, staffing pattern and other relevant operational aspects of the governance of provinces, cities, municipalities, and barangays, (Sec. 199, 169 and 137, 86, LGC). (Please see backcover for the organizational structure of the local government system.)

The local legislative bodies have elected as well as appointed members. The number of elective members vary according to population. In the case of the province, the elective members are: 4 for provinces with less than 100,000 population; 6 for provinces with 100,000 to 1,000,000 population, and 8 for provinces with over 1,000,000 population. The appointive members are the presidents of the *katipunang panlalawigan* and the *kabataang barangay* provincial federation who are appointed by the President of the Philippines, (Sec. 205, LGC). In the case of the city, the elective members are: 8 for cities with 100,000 to 200,000 population; 10 for cities with over 200,000 to 300,000 population and 12 for cities with over 300,000 population. The members who may be appointed by the President of the Philippines are the presidents of the *katipunan panlungsod ng mga barangay* and the *kabataang barangay* city federation. (Sec. 173, LGC). All municipalities have 8 elective members and the members who may be appointed by the President are the presidents of the *katipunang bayan* and the *kabataang barangay* municipal federation. (Sec. 146, LGC).

Local legislative mesures are in the form of ordinances and resolutions relating to local appropriations, local taxes and impositions, the regulation of business and exercise of profession, and those necessary and proper to provide for the health, safety, comfort and convenience, maintain peace and order, improve public morals, promote the prosperity and general welfare of the locality and inhabitants thereof and insure the protection of property therein, (Sec. 91, 149, 177, 208, LGC).

All local government units have the power to raise revenues and impose taxes in accordance with law. Income of local units are derived from both national and local sources. From national sources, they come in the

ORGANIZATIONAL CHART OF PROVINCE, CITY, MUNICIPALITY and BARANGAY



ANNEX H

TECHNICAL ANALYSIS

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ANNEX H

TECHNICAL ANALYSIS

1. EXISTING CONDITIONS AND NEEDS

(a) Rural Population and Administrative Units

Approximately 68 percent of the population of the Philippines reside in the 31,710 barangays classified as rural. This population in 1986 is approximately 34 million. There are, in addition, according to World Bank studies, approximately 3 million rural residents of municipalities classified as urban (Republic of the Philippines: Water Supply and Sanitation Sector Study, WHO/World Bank, 1982).

The distribution of reported rural population and barangays between areas for which the three central water agencies have nominal responsibility in 1985 was approximately as follows:

	MWSS	LWUA	RWDC	TOTAL
Barangays (1)	-	18,808	12,902	31,710
Population (million)(2)	-	26	7	33
Population (%)	-	79	21	100

Sources: (1) Rural Water Supply and Sanitation Master Plan, MOH, MHS and MPWH, July 1982

(2) 1985 draft updating of the Integrated Water Supply Program 1980-2000

(b) Rural Water and Sanitation Facilities

The most recent census was performed in 1980, and the results were published in May 1983. It included both population and household data, including water supply and sanitation data extrapolated from a 20 percent sample. Key rural water supply information from this census is presented by region in Table E/1.

Table E/1 shows that in 1980 14 percent of the rural population of the Philippines were reported to have piped water supply and a further 48 percent to have tube wells or some other "improved" source (such as public, private or other tubed deep well; improved dug well; or improved spring).

It was estimated in 1980 by a Government Task Force that only 33 percent of the rural population had safe water supplies. This suggests either that over half of the non-piped "kitchen" supplies shown in the 1980 census as tubed wells or otherwise improved sources may not be hygienically safe, or that the task force data may have been based on a

smaller, less typical, sample than the census data. Under the World Bank funded First Rural Water Supply and Sanitation Project (FRWSSP), MPWH has conducted a survey of 112 rural barangays in six regions as a basis for selecting 100 pilot level I water supply and four flush latrine improvement subprojects. In these unimproved barangays, there was an average of 7.55 households per existing water source (tubewell, dug well or spring).

The combined efforts of the BWP I and BWP II programs, the World Bank funded FRWSSP, and the OECF and UNICEF assisted programs, are understood to have served an additional population since 1980 of the order of 2 million. This suggests that at the present time about 5 million persons in rural barangays have piped water supply and between 7 and 16 million have other improved or reasonably safe supplies.

TABLE E/1
1980 DATA ON RURAL WATER SUPPLY AND SANITATION

		Percentage of Rural Households with "Kitchen" Water Sources as Shown			
REGION	(1) Rural Population (000)	(2) Public Piped Water Supply	(3) Tube Well or other Improved Source	(4) Unimproved	(5) Rural Households Without Water Seal Toilet or Septic Tank (Percent)
I	2,698	17	68	15	53
II	1,871	5	69	26	53
III	2,795	12	85	3	68
IV	3,861	18	35	29	82
V	2,731	15	40	45	79
VI	3,244	6	40	54	90
VII	2,513	17	38	45	66
VIII	2,191	22	37	41	65
IX	2,097	11	28	61	81
X	1,984	20	34	46	69
XI	2,222	8	43	49	76
XII	1,844	11	40	49	85
TOTAL	30,155	14	48	38	73

Source: 1980 Census of Population and Housing: Philippines, National Economic and Development Authority, National Census and Statistics Office, May 1983.

The rural population of the Philippines increased by 21 percent between 1970 and 1980. On the basis of a continuing rural population growth rate of 1.92 percent per annum, the rural population in 1986 is estimated from Table E/1 to be 33,800,000. While the actual population at need is not

known accurately, the above considerations suggest that there is a current rural population without safe water supplies of at least 12 million and possibly 21 million. The five-year World Bank-assisted FRWSSP targets a total water supply beneficiary population of less than 1.2 million from 1985 forward. A third possible OECF assisted project is understood to be intended to provide level II service to about 300 villages in addition to level I services to others. Such efforts will not keep pace with rural population growth. The needs will therefore still be immense through the remainder of this decade.

From Table E/1, rural households without either waterborne systems or water flushed or water seal toilets comprise almost three quarters of the total, representing an unserved population of about 24 million. The FRWSSP study of 112 rural barangays showed the existence of an average of 55 percent of households having flush or pour flush toilets. The range of values was: on a regional basis, 21 to 94 percent; and on a barangay basis, zero to 100 percent.

In 1980, infant deaths averaged 45 per 1000 live births in the Philippines. Unofficial 1984 morbidity data on waterborne and water-related diseases include:

Diarrhea	512,000	(959 per 100,000 pop.)
Cholera	988	(1.85 " " ")
Typhoid/paratyphoid	1,300	(2.43 " " ")
Dysentery	9,000	(16.8 " " ")
Food Poisoning	1,500	
Schistosomiasis	6,400	
Malaria	110,000	

Regional data show no significant correlation with either the rural water supply or rural sanitation data presented in Table E/1. (Source of infant death data: Vital Statistics Report 1980, National Census and Statistics Office, November 1983.) However, they indicate that rural environmental health conditions are poor and the need for improved disposal of human excreta very great.

(c) Geographical Priorities for Improvement

Conditions within each region and province are very varied. There is a moderately significant correlation between the rural water supply and sanitation needs data in columns (4) and (5) of Table E/1. The province by province percentages of households without improved water supply service (i.e. without public piped systems, tube wells or other improved sources) are presented, together with percentages of households with electric light (as a possible economic capability indicator) in Table E/2. There is a moderately significant negative correlation between the figures in columns (2) and (3) of Table E/2, possibly reflecting the influence of such factors as income and accessibility on both water supply improvement and provision of electric power in rural areas. Needy barangays exist in every province and region.

Also shown in Table E/2 are the LGUs which have developed significant rural water supply implementation capability under BWP I and II. If the combination of needs and capability were to govern, the highest priority for further activity (subject to expressed interest by these LGUs in participating) would be in those LGUs having A/A, A/B, B/A and C/A indications in columns (5) and (6) in Table E/2. They are:

Abra
Aklan
Batangas
Bulacan
Cavite
Cebu
Davao
Iloilo
La Union
Misamis Oriental
Pangasinan
South Cotabato

For selection, a range of capabilities should be included but preference should be given to LGUs that are close to Group A or B LGUs having experienced personnel who can participate in training activities and systems which can be observed for demonstration purposes.

TABLE E/2
PROVINCE BY PROVINCE RURAL WATER NEEDS AND ELECTRICITY USE

	(1) Rural Pop'n Rural (000)	(2) Percent Rural Households w/o Improved Source of Kitchen Water	(3) Percent Rural Households with Electric Light	(4) Sum of (2) plus (3)	(5) Tentative Priority Classification See footnote #1)	(6) Technical Capability Classification (See footnote #2)
Region I - Ilocos						
Ilocos Norte (incl. Laoag City)	287	27	43	70	A	-
Ilocos Sur	365	14	38	52	B	-
Abra	133	23	34	57	A	B
La Union	380	20	41	61	A	B
Benguet (incl. Baguio City)	232	21	39	60	A	-
Mt. Province	99	28	2	30	C	-
Pangasinan (incl. Dagupan and San Carlos Cities)	1202	8	25	33	C	A
TOTAL REGION I	2698	15	32			

	(1) Rural Pop'n (000)	(2) Percent Rural Households w/o Improved Source of Kitchen Water	(3) Percent Rural Households with Electric Light	(4) Sum of (2) plus (3)	(5) Tentative Priority Classification (See footnote #1	(6) Technical Capability Classification (See footnote #2)
Region II-Cagayan						
Batanes	9	6	2	8	C	-
Cagayan	608	25	9	33	C	C
Isabela	724	12	10	22	C	C
Nueva Vizcaya	196	36	7	43	C	-
Quirino	67	36	2	38	C	-
Ifugao	101	67	1	68	C	-
Kalinga-Apayao	166	45	2	47	C	-
TOTAL REGION II	1871	26	8			
Region III- Central Luzon						
Bulacan	519	7	73	80	C	A
Bataan	180	11	64	75	B	B
Tarlac	564	2	32	34	C	C
Nueva Ecija (incl. Cabanatuan and San Jose Cities)	791	3	43	46	C	C
Pampanga (incl. Angeles City)	559	2	65	67	C	B
Zambales (incl. Olongapo City	182	10	44	54	B	C
TOTAL REGION III	2795	3	52			

	(1) Rural Pop'n (000)	(2) Percent Rural Households w/o Improved Source of Kitchen Water	(3) Percent Rural Households w/ Electric Light	(4) Sum of (2) plus (3)	(5) Tentative Priority Classification (See footnote #1	(6) Technical Capability Classification (See footnote #2)
Region IV - Southern Luzon						
Laguna (incl. San Pablo City)	380	12	56	68	B	-
Batangas (incl. Lipa and Batangas Cities)	975	11	38	49	B	A
Quezon (incl. Lucena City)	800	51	10	61	B	B
Palawan (incl. Puerto Princesa)	288	64	3	67	C	B
Cavite (incl. Trece Martires, Cavite and Tagaytay Cities)	310	17	52	69	A	B
Mindoro Occidental	186	25	13	38	B	C
Romblon	169	52	0	52	C	-
Mindoro Oriental	383	22	9	31	C	C
Marinduque	150	31	8	39	C	-
Aurora	81	22	2	24	C	-
Rizal	139	14	57	71	B	-
TOTAL REGION IV	3861	29	25			
Region V - Bicol						
Camarines Norte	219	63	12	75	B	-
Catanduanes	135	19	14	33	B	C
Masbate	498	67	1	68	C	C
Sorsogon	394	48	11	59	B	B
Camarines Sur (incl. Naga and Iriga Cities)	835	34	15	49	B	B
Albay (incl. Legazpi City)	650	37	21	58	A	C
TOTAL REGION V	2731	45	13			

	(1) Rural Pop'n (000)	(2) Percent Rural Households w/o Improved Source of Kitchen Water	(3) Percent Rural Households w/ Electric Light	(4) Sum of (2) plus (3)	(5) Tentative Priority Classification (See footnote #1	(6) Technical Capability Classification (See footnote #2)
Region VI - Western Visayas						
Negros Occidental (incl. Bacolod, Bago, La Carlota, Cadiz, San Carlos & Silay Cities)	1221	55	9	64	C	-
Iloilo (incl. Iloilo and Guimaras Cities)	1038	51	7	58	C	A
Capiz (incl. Roxas City)	426	76	15	91	A	-
Antique	274	37	4	41	C	B
Aklan	285	50	16	66	A	B
TOTAL REGION VI	3244	54	9			
Region VII - Central Visayas						
Negros Oriental (incl. Bais, Canlaon and Dumaguete Cities)	664	50	5	55	C	C
Cebu (incl. Cebu, Danao, Lapu-Lapu, Mandaue and Toledo Cities)	1166	42	4	49	C	A
Bohol (incl. Tagbilaran City)	683	48	6	54	C	B
Siquijor						
TOTAL REGION VII	2513	45	6			

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	(1) Rural Pop'n (000)	(2) Percent Rural Households w/o Improved Source of Kitchen Water	(3) Percent Rural Households with Electric Light	(4) Sum of (2) plus (3)	(5) Tentative Priority Classification (See footnote #1	(6) Technical Capability Classification (See footnote #2)
Region VIII - Eastern Visayas						
Northern Samar	290	54	1	55	C	-
Eastern Samar	237	36	2	38	C	-
Samar (incl. Calbayog City)	429	42	7	49	C	C
Leyte (incl. Ormoc, Tacloban and Biliran Cities)	984	43	5	48	C	-
Southern Leyte	251	24	4	28	C	-
TOTAL REGION VIII	2191	41	5			
Region IX - Western Mindanao						
Basilan (incl. Basilan City)	173	58	9	67	C	-
Sulu	295	71	1	72	C	-
Tawi-Tawi	172	80	3	83	C	-
Zamboanga del Norte (incl. Dapitan and Dipolog Cities)	497	65	2	67	C	-
Zamboanga del Sur (incl. Pagadian and Zamboanga Cities)	960	53	11	64	B	-
TOTAL REGION IX	2097	61	7			
REGION X - Northern Mindanao						
Agusan del Norte (incl. Butuan City)	238	31	13	44	B	C
Agusan del Sur	214	63	6	69	C	C
Bukidnon	533	63	6	69	C	-
Camiguin						
Misamis Occidental (incl. Oroquieta, Ozamis and Tangub Cities)	321	42	22	64	A	-
Misamis Oriental (incl. Cagayan de Oro and Gingoog Cities)	423	39	19	58	A	A
Surigao del Norte (incl. Surigao City)	255	30	3	33	C	-
TOTAL REGION X	1984	46	12			

	(1) Rural Pop'n (000)	(2) Percent Rural Households w/o Improved Source of Kitchen Water	(3) Percent Rural Households with Electric Light	(4) Sum of (2) plus (3)	(5) Tentative Priority Classification (See footnote #1	(6) Technical Capability Classification (See footnote #2)
Region XI - Southern Mindanao						
Surigao del Sur	264	42	8	50	C	C
Davao	555	49	12	61	B	A
Davao del Sur (incl. Davao City)	624	57	9	66	C	-
Davao Oriental	263	56	3	59	C	-
South Cotabato (incl. Gen. Santos City)	516	37	5	42	C	A
TOTAL REGION XI	2222	49	8			
Region XII - Central Mindanao						
Lanao del Norte (incl. Iligan City)	390	33	32	65	A	-
Lanao del Sur	330	69	43	112	A	-
North Cotabato	477	54	3	57	C	-
Miguindanao (incl. Cotabato City)	407	53	5	58	C	-
Sultan Kudarat	240	27	3	30	C	-
TOTAL REGION XII	1844	49	17			
TOTAL PHILIPPINES	30,155	38	17			

Footnote #1: Tentative priority classification criteria used in this tabulation were:

A - Combined points in Column (4) 55 but neither Column 2 nor Column 3 less than 15
B - Combined points 30 but neither Column 2 nor Column 3 less than 10
C - All other

Footnote #2: Classifications based on observation by Mission staff during implementation of BWP II. Some other barangays received BWP I or BWP II assistance. Additional barangays may have some capabilities based on their implementation of RWDC or other project facilities.

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Table E/3 presents, on a regional basis, a comparison of domestic water needs, human waste disposal facility needs and infant mortality, all based on 1980 data.

TABLE E/3

PHILIPPINE REGIONAL RURAL WATER AND SANITATION NEEDS

REGION	Rural Households Without Improved Source of Kitchen Water (1)	Rural Households Without Own Water Seal Toilet or Septic Tank (1)	Infant Deaths per 1000 Live Births (2)
	Percent	Percent	Number
I	15	53	45
II	26	53	54
III	3	68	38
IV	29	82	46
V	45	79	46
VI	54	90	58
VII	45	66	46
VIII	41	65	61
IX	61	81	42
X	46	69	41
XI	49	76	33
XII	49	85	33
TOTAL	49	72	45

Notes:

(1) Source: 1980 Census of Population and Housing: Philippines, National Economic and Development Authority; National Census and Statistics Office, May, 1983

(2) Source: Vital Statistics Report 1980, National Economic and Development Authority: National Census and Statistics Office, November, 1983

2. PREDECESSOR PROJECTS

(a) Overview

Because of earlier difficulties in achieving rural development through USAID-assisted central government interventions, Operation SPREAD (Systematic Programming for Rural Economic Assistance Development) was initiated in 1966 to pilot basic LGU infrastructure development. This assistance was provided directly to the LGUs.

The success of this pilot program led to the establishment of the Provincial Development Assistance Program (PDAP) in 1968. PDAP operated through an agency in the National Economic Council. By 1976, PDAP was operational in 28 provinces and to varying degrees had :

- Established basic development mechanisms in the provinces.
- Improved budgetary and fiscal management.
- Improved LGU capacity for capital improvement planning and implementation.

In 1976, the administration of PDAP was transferred from NEC to the newly created Ministry of Local Government and Community Development.

As PDAP came to an end, various LGU capability development projects with specific need or beneficiary targets were introducted. Examples were:

- Rural Roads (1976)
- Rural Service Centers (1977)
- Barangay Water Project (1977)

The BWP purpose was to develop national and local government capability to plan, design and implement small scale domestic water systems. USAID loan funds amounted to $3 million, augmented by a 1979 amendment to the Project Agreement to a total of $6 million. These were used to reimburse the GOP for construction, and to provide technical assistance (specialized engineering skills) and engineering, training and office equipment. Under this project, now referred to as BWP I, about 175 systems (either public wells or piped water systems) were completed to serve communities of less than 5,000 population in 40 LGUs. The GOP contribution was estimated to be the equivalent of $4.8 million.

BWP II was initiated in 1981 under USAID Project Number 492-0333, approved in April 1980. The initial PACD was December 31, 1985, but this has since been extended to June 30, 1986 and again to December 31, 1986. Under BWP II, USAID loan funding of $18.5 million was provided for construction reimbursement, together with grant funds of $1.637 million for technical assistance ($1.55 million for engineering, training,

evaluation, monitoring and management consultants) and commodities. The GOP contribution was to be $9.9 million to cover project management staff, technical assistance, operational support, training, and grants-in-aid (seed money) to the participating LGUs. By an amendment dated August 31, 1982 the USAID loan contribution was increased to $19.6 million and the grant to $2.5 million. Deobligation of $5.5 million of the loan funds occurred in September 1985.

Target populations were doubled by comparison with BWP I to towns not over 10,000 in population. Participating LGUs were to reach 59 by the end of the project. The physical targets were 2,203 public wells and 507 piped systems. As had BWP I, the project provided for the organization of a community-based organization to operate each facility, and for an extensive training program for LGU and community personnel. As for BWP I, the project was to operate through a Project Management Staff (PMS) within the Ministry of Local Government and Community Development (now the Ministry of Local Government - MLG).

(b) Evaluation of BWP II

In February and March 1985, a process evaluation was conducted of BWP II. The evaluation team concluded that BWP II had not met its targets; that almost one third of the systems visited had design or construction problems; and that LGU and Rural Water Supply and Sanitation Association (RWSA) capabilities and performance were inadequate.

While the conclusions of the evaluation team that were based on their direct observation are accepted as valid, that relating to the number of completed projects was not. That conclusion was based on USAID disbursements under the FAR system used for BWP II. While disbursements for only 96 out of the planned 507 piped systems had been made by the time of the team's visit, many more systems had been completed or initiated by the LGUs, but not presented for reimbursement. On the basis of the Monthly Status Report for February 1986 of the MLG/MPS's architectural and engineering consultants, supplemented by Mission technical personnel, the following is the current position:

Level I (public well) facilities (number of wells, not number of projects)

Initiated but not complete, 96

Completed, 617

Total, 713

Level II and III (piped systems)

Initiated but not complete, 124

Completed, 149

Total, 273

As indicated by the process evaluation, there are numerous technical problems in BWP II. These, and the measures proposed in this project to overcome them, are discussed in section C, below.

(c) Residual Status

Taking into account the deobligation of $5.5 million of project loan funds in September 1986, the expected BWP II life-of-project cost, as of June 30, 1986 was (in $000):

	Dollars ($000)	Dollar Equivalent of Local Currency ($000)	Total Dollar Equivalent ($000)
USAID grant	1,257	1,280	2,537
USAID loan	-	14,100	14,100
TOTAL USAID	1,257	15,380	16,637
GOP net contribution	-	10,455	10,455
TOTAL PROJECT	1,257	25,835	27,092

Also as of June 30, USAID disbursements were 62 percent ($10.39 M) of the remaining total obligations. $6.25 million is still undisbursed. The project activities in the first six months of 1986 included rehabilitation of 56 of the previously constructed systems.

The primary determinant of the behind-schedule implementation of subprojects has been, not technical considerations or lack of demand for prcject services by LGUs, but the shortage of GOP funds and consequent delays in budget releases. This has been a particularly important factor in 1986. The project construction target of 2303 level I and 507 level II systems will not be achieved. The completed subprojects will include a higher than planned proportion of level II systems. A number of level II and III systems have been constructed by LGUs in expectation of project reimbursement that will not be forthcoming because they were not presented before the original PACD, after which only agreed rehabilitation subprojects are being reimbursed.

Of the 76 LGUs which have signed memoranda of agreement with BWP, 53 have been active in the project. Of these, 43 have completed level II or III systems, and a further 5 have such systems under construction. The completed level II and III systems are distributed as follows: Cavite, 19; Batangas, 16; Davao del Norte, 11; Pampanga, 8; Cebu, 8; Pangasinan, 6: Bulacan, 6; Sorsogon, 6; South Cotabato, 6; Two LGUs, 4; Three LGUs, 3; Fifteen LGUS, 2; Fourteen LGUs, 1.

Eight LGUs are considered to have achieved a high degree of competence in most of the skill areas required for the identification and implementation of subprojects. A further 12 have developed significant

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skills in many of the necessary areas of competence, while another 15 have developed some useful skills. These are the three categories identifed as A, B, and C in column (6) of Table E/2.

There is a useful reservoir of skills in certain relevant technical areas in the staff of the MLG/PMO. Through their efforts and those of the project consultants, a number of technical and procedural manuals have been produced. In general, these are sound, but important areas are not well addressed; and, in any case, such manuals cannot substitute for skill and experience at the job site.

There is, in the Philippines, a generally high level of technical sophistication, but this resides primarily in Metro Manila. The project has had to deal with the logistic difficulties that inhibit travel and effective work by technical and other government employees outside Metro Manila. It has therefore made extensive use of consultants, but has not been able to utilize their services in such a way as to create an effective technical management information and quality assurance system.

3. PROBLEMS AND PROPOSED SOLUTIONS

(a) Level of Water Supply Service

Different levels of water service are provided by various agencies and the appropriate level is not easy to determine. Level I service (new or improved point sources such as hand pumped wells) is provided by MPWH with assistance from World Bank, OECF and UNICEF. Only a small part of BWP's efforts (12 percent of beneficiaries and 9 percent of funds in 1984, for example) have been directed to level I service. Targeting of level I service was in general independent of targeting of level II service.

Most BWP beneficiaries received level II service. Many communities later upgraded partially or fully to level III. Out of 32 level II designed systems visited by the evaluation team in the first quarter of 1985, 16 percent had been fully converted, and a further 50 percent partially converted, to level III. A very small proportion of the RWDC/MPWH projects assisted by World Bank and OECF receive level II service and none receive level III service. For example, the World Bank funded FRWSSP includes $13 million for level I and only $5 million for level II water service. All UNICEF assistance relates to level I service.

The September 1982 WASH Project Evaluation of Level III-A Pilot Water Systems in the Philippines reported that of 14 planned level III-A systems, five were operational, three were operating with restrictors removed and six were still under construction. In any case, it is clear from the Evaluation Report, and from discussions with LGU staff from several provinces and cities that level III-A service is not acceptable to beneficiaries once they understand its limitations. (This is in line with the report of an ADB mission which reviewed similar systems in the Indonesia IKK Project in July 1984 and observed, inter alia, "Since flow

restrictors are inherently unacceptable, the Mission has no basis for believing that they can be made acceptable." This mission proposed that any future systems with restrictors in Indonesia have their pipelines designed with capacity for future upgrading in case the restrictors should still be unacceptable after education and enforcement measures had been taken.)

Many level II systems have in fact been designed with pipeline capacity for future upgrading to level III. The desirability of minimizing construction costs, in order to maximize ability to pay and the number of systems that can be constructed, argues for limiting per capita flows. It is understood that the draft revised Rural Water Supply Master Plan provides for a range of per capita design flows from 30 to 60 lcd instead of a fixed 60 lcd criterion as at present. It gives no indication of what steps would be taken to ensure that use or wastage in excess of a design flow of say 30 lcd by some users would not deprive others of water. On the other hand, the technical staff of provinces and cities have indicated their view that:

- All level II systems should be designed for future upgrading to level III.

- No consideration should be given to the use of reduced level II design flows because it is inevitable that at least some consumers will want to make direct connections and this will be very hard or impossible to prevent.

- More capacity should help assure that enough level II public faucets can be kept for the users unable to afford level III service.

- Maximum flexibility should be given to the provincial staff and the communities to select the appropriate level of service and design criteria.

It is proposed that the new project concentrate primarily on the provision of level II piped water service, since this is a clearly observable need that is backed by economic capability and willingness to pay some share of costs on the part of at least some residents in a proportion of barangays. In order not to neglect any residents of selected, target barangays or sitios who cannot, for economic or physical reasons, be served by a proposed level II system, provision should be included for level I service. That is, the proposed project philosophy is to provide level II water service to barangays or sitios which want and will pay for it and, once having selected any target sitio, to provide suitable supply to all its residents, by either level I or level II service.

While level II systems do tend to have problems due to subsequent direct connection of houses to the systems and loss of service by some users, the alternative of providing level III capacity adds considerably to the cost. (Refer to Section D(2) of this annex.) Provision of level "II

Plus" (with capacity for future conversion to level III) is an administrative convenience, and will be wanted by some communities, but the demand for it should be expresed in economic terms. It is proposed that the design per capita flow (60 lcd for level II or 100 lcd for eventual conversion to level III) be a matter of local (LGU in close consultation with the beneficiaries) decision based on adequate understanding of the issues and implications, including that the users will be required to pay the extra cost through higher water bills.

No further level III-A systems are proposed.

(b) Sanitation

Judging from Table E/3, the need for improved disposal of human waste is very great in rural barangays. The provision of safe water supply is unlikely to have any significant health benefit without the addition of a sanitation element. In addition, without care being taken to mitigate any adverse environmental impacts due to such effects as ponding of accumulated used water, there could in some cases be negative social and health effects due to the provision of level II water supplies.

The GOP has indicated its concern about rural sanitation and the priority for action to improve it by undertaking the World Bank assisted FRWSSP, which has a very major sanitation element. It has also acted to include the word "sanitation" in the titles of the RWSAs in order to reflect their responsibility for sanitation as well as water supply.

While rural residents do not typically take unprompted action to install household sanitary facilities, the water seal latrine program of the FRWSSP is understood to be proving highly acceptable. More accessible water, even level I, has been observed to accelerate acceptance - in fact in some cases to create demand for water seal latrines. In Antique Province, 80 percent of the households had improved toilet facilities at the end of the PUSH Project (PUSH Impact Evaluation, July, 1985). The field studies that were undertaken in 1985 in 112 pilot FRWSSP communities, of which 100 are intended to receive both level I water service and water seal latrines, showed that from zero to 94 percent of the barangay households (average 55 percent) already had pour flush latrines. It is understood that the FRWSSP assumes for planning purposes that all of the remaining households will accept latrine bowls during the pilot program.

The proposed project therefore includes provision for sanitation improvements as follows:

- Water quality data collection for design purposes managed (and if necessary performed) by the implementation teams
- Water quality monitoring by the LGU

- Review of possible adverse environmental effects of installing the water system and inclusion of any necessary mitigating measures

- Environmental sanitation including hygiene education for beneficiaries on the safe uses and misuses of water.

(c) Dispersion

The BWP I and II efforts have been highly dispersed. Seventy-six LGUs (out of a total of 73 provinces and 58 cities excluding Metro Manila) were admitted into the BWP program. Of these only 11 have completed at least three BWP water systems. This lack of focus has been a limiting factor in the level of competence to which the LGUs have been brought.

Projects have been undertaken in LGUs and regions and under widely varying conditions. The method that has been adopted to deal with this has been to provide written technical guidelines to deal with as large a proportion as possible of the situations to be found in the field, and to expect the LGU technical staff to work very closely to them. In addition, MLG/BWP has a consulting engineering firm which has the task of acting for it in all technical matters, including assisting the LGUs in project identification, planning, design and monitoring of construction. In practice, not every situation can be planned for in advance or managed technically from a central office, and design and construction failures have occurred.

While provision of technical assistance from the project is essential, such assistance must not be permitted to displace or dilute the subproject responsibilities of the LGUs. It is essential to nurture, not stifle, LGU skills and creativity. Under BWP I and II, there have been instances in which the intended beneficiary communities were not involved in project technical planning and where this led directly to failure, in some cases through suspension of construction. It is imperative that the communities be involved in all aspects of project selection, establishment of level service, planning of faucet locations as well as in planning and training for operation and maintenance. This involvement must include full participation in a "go"/"no go" decision after construction bids are received so that final costs are known and before any contract is awarded.

For such site-specific projects as water supply, engineering costs can become a significant part of total cost for small rural systems. It is not cost-effective to retain a consulting engineering firm to design and supervise construction of one or a few small rural water supply systems. It is important therefore to make maximum use of relevant standard designs and to develop skilled in-house professionals with the fluency in preparing preliminary designs and cost estimates that is based on

experience. These professionals should be as close as possible to the point where feasibility studies and decisions must be made. That is, within the LGU structure. An eventual aim will be for all basic engineering services to be provided by these LGU staff, using consultants for special problems or peak work loads. In the meantime, consulting technical assistance is needed, and can most economically and effectively be provided from a central point. Technology transfer to LGU staff must be part of the task of the engineering consultants.

BWP project staff and LGU staff have spent too little time in the field. This has been because of the GOP limit of ₱35 per day for travel per diem, and because of lack of available vehicles in the LGUs. Along with other reasons, consultants have been used in an attempt to achieve an appropriate level of field presence. Mainly because of the lack of clear guidance for the consultants, and because of variable responsiveness to recommendations made by the consultants on the part of the LGU, some important problems remain. A major one is the lack of complete and up-to-date information on the actual physical status of subprojects, individually and in toto. Design and construction problems are discussed in section (4) below.

To deal with the above difficulties related to dispersion, the following technical mechanisms are incorporated in the proposed project:

1. Focusing on an initially small but gradually expanding number of LGUs, so that each one is guided through the implementation of a sufficient number of subprojects to be considered to have acquired enough experience, subject to meeting certain institutional criteria to "graduate" from the project. It is considered that the number of subprojects successfully implemented that will demonstrate capability is five or six, built within a period of not more than about two years.

2. Building upon the residual skills from BWP I and II and maximizing the likelihood of early success by starting work in LGUs that have worked successfully under BWP.

3. Geographic clustering in the selection of LGUs both for project administrative convenience and to permit use of the better LGUs as models and sources of technical assistance.

4. Provision in each participating LGU of a full-time Water and Sanitation Manager, who would be a senior person of equivalent status to the Provincial Development Coordinator (PDC) and Project Engineering (PE), and who would be responsible for all rural water supply and associated sanitation activity in the LGU. He would draw upon the cooperation and personnel of the Project Development Staff, the Provincial Engineering Office and the Provincial Health Office to form subproject teams.

5. Eventually, basing the technical assistance efforts of the project in zonal or regional centers, each of which would have a small technical staff. Such decentralization, however, cannot effectively be initiated until the GOP has decided how it will restructure the water supply sector. In the meantime, the project architectural and engineering (A & E) would be Manila-based and, when LGUs within short travel time of a major center such as Cebu have been enrolled in the project, perhaps stationed there. Decentralized basing of project technical and possibly other staff will be further assessed based on project experience.

6. Retaining two Philippine consulting A & E firms by means of two-year term contracts (with provisions for subsequent extension or reaward) providing for:

   o Support for and assistance to the LGUs in:

      - Technical aspect of preparing 5-year development plans

      - Technical aspects of annual planning and budgeting for RWS systems

      - Subproject technical identification and feasibility evaluatio

      - Scheduling and monitoring of WS & S activities

      - Making or arranging for adequate pre-design field studies

      - Subproject environmental evaluations

      - Subproject design

      - Coordination of water supply and sanitation elements of subprojects

      - Participation, as technical resources, in training seminars

      - Technology transfer to LGU engineering staff

      - Pre-construction activities, including bid evaluation (participation with LGU and RWSA personnel on bid evaluation panels)

      - Evaluation of repair facilities and proposing improvements

      - Regular field inspections during construction, supplementing those by LGU staff

      - Reporting to the LGUs on subproject progress

      - Reporting annually on the technical performance of LGU staff

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- o Provision for the project of:
  - Subproject technical and environmental reviews
  - Guidance on technical issues and criteria
  - Technical certification of subproject construction and on arrangements made for operation and maintenance
  - Technology transfer to project staff
  - Monthly status reports giving the physical status of each subproject under implementation, together with problems and actions proposed, and summarizing overall subprojects (both in hand and already completed) by status, level of service, and LGU, with total and per beneficiary costs
  - Semi-annual reports on the condition, operability and actual use of all completed projects
- o Acceptance of any technical direction that may be given by the Project Management Consultant and keeping the Project Management Consultant continuously informed on activities, problems and intentions.

7. Incorporating in the terms of reference of the proposed Project Management Consultant technical functions which comprise assistance to the PMO in both the establishment of criteria and procedures and ongoing implementation, including establishment of the terms of reference for A & E consultants and overseeing their work, providing overall technical guidance to the implementation of the project, reviewing and upgrading the nature, content and use of manuals and standard designs and documents (including review of the per capital flow planned in the design of level II systems), providing technical sign-off for USAID disbursements, and providing technical assistance and technology transfer in certain fields, the most important of which is hydrogeology/well design. To deal with the technical demands on its services, the consultant team will include a rural water supply and sanitation specialist, a hydrogeologist or groundwater development specialist, and a water supply engineer, and will be able to call on the services of specialists in other areas as needed.

8. Providing supplemental travel allowances for project personnel and selectively to MLG, and LGU personnel, and vehicles for LGU personnel.

(d) Design and Construction

Overview

Numerous design and construction problems with systems installed under the BWP projects were reported in the Evaluation Report. These included well failures, failure to select the least costly systems, selection of inappropriate facility sites, use of inappropriate materials, failure to consider alternatives to electricity as the energy source, failure to consider reasonable alternatives to the economic lives of facilities specified in the BWP guidelines, and failure to test pipelines hydraulically after construction.

Few of the above problems involve unusual or highly sophisticated technology. They result, in general, from failure to deliver available technologies to the locations where the problems can be anticipated and dealt with-that is, to the project areas. There are persons and institutions in the Philippines having full understanding of most of the technical problems the proposed project will face. The solutions to the technical problems are therefore primarily procedural in nature.

Additional difficulties are reported to exist in the lack of: transportation to enable LGU staff to visit subproject sites; water quality testing facilities; micro computers for data management; inventory control and budgeting; and well drilling equipment. Some specific technical problems and proposed measures to deal with them are discussed below.

Wells

The Philippines is generally groundwater rich, especially in lowland areas. Wells are the generally preferred sources of water because groundwater is in most cases free of sewage contamination and so does not require expensive treatment as does surface waters.

Poor design or materials selection can result in a well that produces poorly, fails early and/or cannot be rehabilitated if blockage occurs. Many wells were constructed by driving torch-slotted pipe. These frequently did not yield the intended flow, drew in excessive amounts of sand and silt which caused premature wear of the pumps, or were soon blocked by clay, silt or mineral encrustation. Mineral encrustation is encouraged where drawdown in the well is excessive because of poor screen design. Slotted or louvered pipe screens cannot withstand the acid cleaning that is needed to clear encrustation. In other cases, gravel pack materials have been wrongly selected for the specific aquifer and screen characteristics, and/or wells have not been properly "developed" after construction, so permitting ingress of solid materials into the well. In some cases, excessive drawdown has led to massive increases in power consumption for pumping.

While groundwater in adequate quantity is not available for every community, dry wells have been constructed in some cases where it is available. This has most commonly been caused by arbitrarily locating wells alongside the storage tanks, when a trained eye could see that another location would have a better chance of success. Near the sea there can be a relatively thin lens of fresh water underlain by salt water in which case drilling too deep or overpumping can contaminate and effectively destroy the aquifer.

These shortcomings have generally been due to attempts to save money by engineers and others who did not fully understand well technology. Because so many wells have been built over the years in the Philippines, there are many lay engineers who believe they know how wells should be designed and constructed, and whose "knowledge" must be overcome. There has also been a tendency to provide insufficiently close supervision of well construction. Under BWP this has been exacerbated by the need for the inspection staff to depend on the contractor for transportation to the job site.

Under BWP II a test well program has been instituted to prevent systems from being constructed in the false hope of finding groundwater. In addition, five manuals have been prepared dealing with geology, well construction, pumping tests, test drilling and water data. However, some of the earlier manual guidance, valid only for handpumped wells, may be in inappropriate use.

No further 4-inch diameter wells should be permitted for level I or II systems and no further torch-cut, slotted or louvered pipe screens should be used, in spite of the extra cost of bigger wells and wound, corrosion-resistant screens

While improved technology has been introduced into the BWP program, it will be necessary for the proposed project to take positive steps to ensure quality well design and construction. These will include:

- Providing training for LGU personnel in well design, test well site selection, and the interpretation of well logs, aquifer material tests, pump test data and groundwater quality analyses.

- Continuing to install production wells only where there have been successful test wells

- Providing for the review of each well design and the results of each well test, aquifer sample analysis and test well log by a qualified hydrogeologist or by an engineer who has acquired sufficient experience through working with such a specialist

- Providing LGU site inspectors with transportation and insisting that they spend at least two days per week at the site during construction, and stay there continuously during critical phases, such as when samples and tests are being taken

- Handling all well construction by specialist contractors, which means separating well construction contracts from those for systems, which are normally awarded to contractors having no special expertise.

Other System Elements

The 1985 evaluation report indicated that there were several other areas in which alternatives to established BWP criteria should be considered under appropriate circumstances. Examples included:

- Design capacity of sources
- Alternatives to electric power for pumping
- Use of corrosion resistant materials under corrosive conditions
- Use of ground-level storage tanks in appropriate situations.

There are also other system elements for which improved designs may be feasible and economical. An example is the public faucet. Contractors and LGUs have commented on what they perceive to be overdesign in the standard elevated tank.

Certain design procedures need review both for appropriateness and to make sure that those that are appropriate are universally followed. All of the standard design elements should be subjected to review for appropriateness and cost-effectiveness. The evaluation report also made some specific proposals regarding perceived deficiencies in the BWP specifications and contract documents. These also should be subjected to review.

The proposed project includes review of the content, need for and use of design manuals and standard designs, specifications and contract documents, in the scope of work of the Project Management Consultant.

Construction

There have been examples of poor and inadequately supervised construction. Instances pointed out in the 1985 evaluation report include lack of pressure testing after pipelaying, lack of adequate well development, non-performance of (and lack of any BWP guidelines for) flushing and disinfection after installation of distribution systems, and pipes laid in waterways. The need for training of both PMO and LGU staff in construction supervision was pointed out.

As indicated above under "Wells", effective supervision of construction is totally dependent on the financial and logistic independence of the construction inspector from the contractor. If the inspector is an LGU employee and the contractor is politically connected, the inspector will be powerless. There is little that can be done about such contingencies in the design of a project. One thing that can be done, however, is to

provide construction inspectors, along with other project personnel, with the means to go to the job sites. The proposed project therefore includes provision of travel allowance supplements and vehicles. In addition, to encourage the community members to watch for and report any abuses, the project design includes provision both for involvement of an RWSA member in the bid evaluation panel, and also for the provision of basic information on construction criteria during the community preparation procedures. The project A & E consultant will also be required to make regular visits of inspection to every subproject during construction.

It was also pointed out in the evaluation report that no quality control guidelines or procedures for supplier accreditation, shop drawing submission and review or factory inspections (except for affixing BWP stickers to pipes) exist for pipes, meters, pumps, motors, controls or other equipment. This will be corrected.

It is planned that, for reasons of economy and to promote on-time completion of construction work, construction in general be done by private contractors (separate contractors for wells and systems). In view of the importance of involvement of community members, it is intended that, on an initial trial basis, distribution system construction contractors be required to hire their unskilled labor in the beneficiary sitios.

(e) Operation and Maintenance

The following operation and maintenance problems were pointed out in the Evaluation Report:

- The LGU waterworks repair shops were generally not equipped or operating as intended.
- LGUs are sometimes slow to respond to RWSA requests for maintenance assistance, and tend to believe that RWSAs should fend for themselves after turnover of projects.
- Water quality testing before construction and monitoring after construction were seldom done.
- Many BWP systems were providing only intermittent service in an effort to reduce electricity consumption.

To deal with these problems, and to promote proper operation and maintenance practices, the following measures are included in the proposed project:

- Provision for each graduating LGU of a locally assembled maintenance van complete with tools and equipment against provision in the LGU budget for operator salaries and operating expenses; provision is also included for training of technicians to use the equipment.

- Assistance to the PMO in development of a format and procedure for the preparation of operation and maintenance handbooks is included in the scope of work of the Project Management Consultant.

- Provision of full information to prospective RWSA members on their obligations regarding payment for water service, and inclusion of the full cost of operation and maintenance in such payments.

- Provision for advance payment to the RWSA fund for operation and maintenance purposes of six months of estimated water fees by all intended users before construction begins.

- Full involvement of the beneficiary communities in all major decisions regarding each subproject to engender a feeling of ownership of and responsibility for the operation and maintenance of the system and the right to demand continuous service.

- Continuation of the BWP provisions for the formation of an RWSA before any construction begins, and the hiring and training of staff members by RWSA.

- Establishment of funds for the provision, on a loan basis, by the LGU to RWSAs of the costs of any major repairs, such as pumps and motors.

- Establishment of the prime responsibility of the LGU Water and Sanitation Manager to make arrangements for water source testing prior to construction, and for decisions to be made in full consultation with the Provincial or City Health Officer on treatment requirements

(f) Rehabilitation

The 1985 Evaluation Report pointed out that BWP had no policy for funding maintenance, rehabilitation, restoration, improvement or expansion projects, and that a number of systems were in serious need of rehabilitation. In 1986, 56 rehabilitation projects have been undertaken. There are understood to be about ten further systems needing rehabilitation.

Subject to compliance with other LGU and subproject criteria, the proposed project will provide for rehabilitation of existing, as well as construction of new projects. Rehabilitation under the project will be limited to water sources. Rehabilitation terms will be the same as for the corresponding elements of new projects.

(g) Progress Monitoring

Data on the physical and operational status of subprojects, both individually and in toto, have been seriously deficient under BWP. The PMO's A & E consultants have been reporting on each subprojects monthly through February 1986; but these reports are incomplete, and do not give any basis for analysis of the overall project status.

A major item in the scope of work of the Project Management Consultant in the proposed project is to establish an appropriate technical monitoring format and procedure to be followed by the PMO's A&E consultants and to serve as the technical basis for a management information system.

(h) Technical Resources

The Evaluation Report pointed out that the BWP engineers had mostly academic experience, and so had difficulty in training the more experienced LGU engineers. It was also noted that any growth in the LGU engineers' skills may have resulted from on-the-job contacts with staff of the USAID and PMO technical consultants. Many of the PMO staff, who in the main were contract rather than direct hires, have resigned since that report was submitted, and the situation is changing day by day.

There is generally a high level of technical understanding and education in the Philippines. However, many of the professional technicians lack actual relevant work experience. A high proportion of experienced water and sanitary engineers are to be found in MWSS, LWUA and in consulting engineering firms. Philippine consulting engineering firms are concentrated primarily in Metro Manila. Engineering resources are very limited in the remainder of the country, although some skills exist in the private sector in Cebu and, to a lesser extent, in Davao.

In general, each LGU has a provincial or city engineer with a number of professional engineers and support personnel on his staff.

Groundwater development skills are few and widely scattered in the Philippines. BWP has a small number of geologists with limited practical experience. LWUA and NWRC also employ a few geologists. Carlos Water Resources Center in Cebu has a small group of hydrogeologists who do some consulting work.

Well construction skills are concentrated in Metro Manila, Cebu City and Davao City.

Effective technical management of the proposed project will require either that senior technical staff with significant actual water and sanitation experience be recruited by the PMO, or that project consultant technical personnel play a direct role in technical decision-making and in technology transfer. Since the latter approach would not be conducive to institutional growth, it is very important that a senior experienced water engineer head the technical unit in the PMO central office, and that other staff with sound technical qualifications and experiences be retained.

Transfer of technology relating to hydrogeology and well design will be a major technical responsibility of the Project Management Consultant. The A & E consultants must also provide personnel with sound groundwater development experience.

4. COSTS

(a) Unit Prices

Construction and operating costs have risen sharply in the last three years. In part, this has resulted from the devaluation of the peso. Philippine Government price index figures and mid-year peso to dollar conversion rates are shown in Table E/4 for the period 1978-1984. This table suggests that inflation net of devaluation has amounted to an average of about 6 percent per year.

TABLE E/4

CONSUMER PRICE INDEX AND DOLLAR CONVERSION RATES 1978-1984

Year	(1) CPI	(2) Peso for Dollar Exchange Rate Mid-Year Rate	(3) Percentage of 1970
1978	100.0	7.36	-
1979	117.5	7.36	100.0
1980	138.9	7.50	101.9
1981	157.1	7.99	108.6
1982	173.2	8.47	115.1
1983	190.5	11.00	149.5
1984	286.4	18.01	244.7

TABLE E/5

AVERAGE COST PER CAPITA OF
BWP I AND BWP II PROJECTS IN 1977-84

YEAR	LEVEL - I		LEVEL - II		LEVEL III	
	₱	Equiv $(1)	₱	Equiv $(1)	₱	Equiv $(1)
1977	-	-	175	25	-	-
1978	-	-	208	28	-	-
1979	7 (2)	14 (4)	285	39	215	29
1980	9 (2)	14 (4)	274	37	447	60
1981	9 (2)	13 (4)	242	30	-	-
1982	12 (2)	13 (4)	240	28	431	51
1983	17 (2)	10 (4)	273	25		
1984	209 (3)	12	323	18	-	
1985	-	-	877	47	1326	74
Average	-	13	-	36	-	67

Notes: (1) Converted at following $/₱ rates for 1977 to 1985: 7.0, 7.36, 7.36, 7.5, 7.99, 8.47, 11.00, 18.01.
(2) Average ₱16,000 per project; the reported numbers of beneficiaries are very high and are understood to represent total barangay or cluster populations, regardless of distance from the well.
(3) Average ₱24,000 per project
(4) Adjusted to 150 beneficiaries per project.

(b) Per Capita Costs

Per capita costs of constructed facilities and systems expressed in pesos have increased, primarily because of the price increases indicated in Table E/4. However, in 1985 two other factors were introduced: (i) inclusion of test wells in all level II and level III projects and (ii) inclusion in contractors' bids of price provision for expected delays in payment.

Per capita costs of level I, II and III systems are presented in pesos and equivalent dollars in Table E/5. Level I systems, primarily hand-pumped tube wells, averaged ₱16,000 through 1983 and ₱24,000 in 1984. The equivalent average US Dollar cost is $2100 per well, or at 150 beneficiaries per well $14 per beneficiary, 1985 basis. The level III costs vary substantially from year to year. Correlation between per capita cost (on a US dollar basis) and both year of construction and number of beneficiaries is not significant. The weighted average per capita cost of level II systems from 1977 to 1985 has been $25.54. To this should be added provision for test wells, averaging $6,000 each, for a total average cost of say $30 per capita.

Typical 1986 well costs in pesos and equivalent dollars are indicated in Table E/6.

TABLE E/6
1986 WELL CONSTRUCTION COSTS
(In ₱ 000, except where indicated otherwise)

Item	Level I (150 persons)			Level II (2000 pop)	Level III (2000 pop)
Assumed av. depth (ft)	30	70	200	400	400
Well	2.9	7.7	32.9	110.8	110.8
Casing	1.3	7.3	17.8	80.6	80.6
Screen	-	-	-	51.2	51.2
Pump	1.5	3.0	3.0	115.2	140.8
Riser (& rod, for handpump)	-	2.6	7.8	13.9	13.9
Test well	-	-	-	110.8	110.8
Miscellaneous	1.3	1.9	6.5	29.7	29.7
TOTAL IN ₱ 000	7.0	22.5	68.0	512.1	537.8
EQUIV DOLLARS	350	1100	3400	25,600	26,900
DOLLARS PER CAPITA	1.33	7.33	22.67	12.80	13.45

(Note: The above figures include contractor's overhead and profit.)

The figures in Table E/6 are for average conditions. Under hard drilling conditions, the cost of a well for a level II system would be increased by about ₱150,000. The cost can also be higher in remote locations, or less where the well depth need not be so great as 400 feet.

Actual historical data are not available on the additional costs of including in level II systems the additional capacity needed to permit subsequent conversion to level III since it is not known in every case whether or not this was done. The proportion of the total costs represented by the distribution system is greater in low density and larger communities than in higher density and smaller communities; so also will be the additional cost of a "level II plus" system over a pure level II system, expressed as a proportion of total or per capita cost.

Some specific cost examples of level II and level II plus design are available as a guide. In Table E/7 are shown the per capita costs of distribution systems for eight communities for which it is known whether design was based on level II or level II plus.

TABLE E/7
EXAMPLE DISTRIBUTION COSTS FOR LEVEL II AND LEVEL II PLUS SYSTEMS

System	Pop'n	Per Capita Cost (₱) Dist'n Only	Per Capita Cost (₱) Dist'n Plus Serv Conns
LEVEL II			
Calumpang Lejos (Cavite)	1199	266	-
Pulang Saging (Cavite)	875	238	-
Average	1037	252	
LEVEL III			
Sta. Trinidad (Angeles City)	3786	161	377
New Danglayan (Batangas)	4104	184	397
Silay (Misamis Oriental)	5922	825	1053
Medina (Misamis Oriental)	5604	898	1098
Opol (Misamis Oriental)	3876	746	982
Talisayan (Misamis Oriental	4476	255	459
Average	4628	511	728

While the range of the values of level III system costs in Table E/7 is too wide to permit much confidence in the average, or in the comparability with the level II figures, the extra cost of provision for level III appears to have been significant. The service connection costs appear to have averaged almost ₱220 per capita or, say, ₱1,200 per household. Comparative cost estimates were prepared for alternative level II and level II plus designs for a community of 1356 (Talaonga, Sorsogon). These yielded per capita figures of ₱378 and ₱533 for the distribution system construction costs. For this particular system, if the fixed (well, tank, office, public faucets, av etc.) cost amounted to say ₱700 per capita, then the difference would be about 40 percent of the distribution cost or 15 percent of the total capital cost.

Including nominal provision for this, projections in this report are based on an expected construction cost for level II systems of $35 per capita, 1985 basis.

(c) Per Subproject Costs

The average number of beneficiaries per level II project, over the life of BWP I and BWP II, has been approximately 2000, but it was slightly higher under BWP II. Assuming that the average number of beneficiaries per project will be 2200, that 85 percent of these would receive level II water service (and the remainder level I service), the average per subproject construction cost would be:

Level II system cost	.85 x 2200 x $35	=	$65,450
Level I facility costs	.15 x 2200 x 14	=	4,620
Add 5 percent for other sanitary measures & contingency		=	3,775
Total 1985 basis			$73,574

On a 1986 basis, the cost per subproject would be $73,574 x 1.05 = $77,252 say $77,000.

(Note: At 90 percent coverage, the 2200 beneficiaries per subproject imply an average target community size of 2440 persons.)

The estimated cost of the proposed maintenance wehicle to be provided to each LGU with five systems is:

o Vehicle	₱200,000
o Tools	₱200.000
o Equipment	₱ 50,000
o Total, 1985 basis	₱170,000 or $8,500
o Total, 1986 basis	₱180,000 or $9,000

The estimated manpower requirement and costs of the LGU and A & E consultant technical inputs are given in Exhibit E-1.

5. TECHNICAL FEASIBILITY AND RISKS

There has been sufficient successful experience under BWP I and II to show that, given certain interventions and improvements, the proposed project is technically sound.

These interventions and improvements are included in the design of the project. They include:

- o Focusing project activities on selected LGUs, each of which will undertake enough subprojects that significant capability development will result
- o Beginning work in LGUs that have done successful work under BWP
- o Placing clear responsibility for project activities in each LGU in a full-time senior manager

- Provision for eventual decentralization of technical assistance activities to zones or regions and for the basing of A & E consultant services initially in Manila and perhaps another center

- Placing additional responsibilities on the A & E consultants, compared with BWP, for technology transfer, inspections, reporting, environmental evaluations, and sanitation

- Providing for oversight of the A & E consultants' activities by an overall project management consultant consortium, which will provide overall technical guidance and assistance to the project

- Intensified application of the well design and construction procedures introduced during the latter years of BWP II

- Separation of well construction from system construction contracts

- Involvement of the beneficiary communities in pre-subproject planning and decision-making, and encouraging them to notice and react to construction and operational events

- Provision of vehicles and travel allowance supplements for both central and LGU personnel

- Provision of other commodities, including maintenance and repair vans and water quality test kits

- Payment by users to the RWSAs of the full cost of maintenance and operation of the systems, and establishment of funds for major repairs

- Provision for system rehabilitation

Notwithstanding the above measures, certain risks remain. These include:

- Possible weak management and/or technical leadership in the PMO (Establishment of guidelines for and provision for USAID review of proposed senior staff should mitigate this risk; a condition precedent dealing with this is proposed.)

- Possible inability of the PMO staff, taking into account attrition after the completion of the BWP work and the success or otherwise of the PMO in attracting suitably qualified and experienced people, to develop and implement successful operating, training, development and monitoring modes within the first two years of the project, or the possible loss of the PMO operating staff because of a sector reorganization by GOP (If it becomes apparent, for example during the mid-project evaluation, that project progress has been or is being impeded for such reasons, a major re-orientation, possibly including establishing a more directly involved role for the Project Management Consultant, may be necessary; the possible need for re-orientation should be included in the basic Project Agreement.)

- That pressure for an early start to construction may be permitted to subvert the essential early developmental work of the project (Some mitigation of the effects of any decision for an early start on the engineering and construction of subprojects would be provided by limiting this to a very small number of experienced LGUs operating under memoranda of agreement with MLG, and with a short-term A & E consultancy arrangement, that will from the start give effect to key project elements, and be subject to amendment or replacement to fully conform at a later stage.)

- That LGUs may not provide the full-time management, technical inputs and follow-up maintenance and other support of RWSAs that is needed (This risk should be mitigated by adequate provision in MLG/LGU memoranda of agreement, to be subject to USAID review.)

EXHIBIT H - 1

ENGINEERING MANPOWER ESTIMATE FOR SUBSYSTEM DESIGN AND CONSTRUCTION, AND A & E CONSULTANT ESTIMATE

I. Assumptions:

- Each subsystem will serve an average of 2,200 persons and will have a construction cost of ₱1.5 million; a total of 130 new subprojects and 12 well rehabilitation subprojects.
- The design work will be done by LGU staff guided on almost a one-to-one basis by an A& E consultant.
- Full use will be made of design manuals and guidelines, and of standard designs and contract documents; there will, for example, be no need for new detailed structural designs of such elements as water tanks.
- Site inspections will take place twice weekly during an average construction period of six months; the A & E representative will participate in every fourth visit.
- Soils sampling and analysis will be done by contractors; topo surveys will be done by LGU personnel.
- A well rehabilitation project involves about one third the technical manpower that a new system does.

II. Professional Manpower Estimates:

	LGU STAFF Person-days	A & E Staff Person-days
A. SUBPROJECT ACTIVITIES		
1. Test well	30	30
2. Basic studies and preliminary design	46	27
3. Detailed design and contract documents	15	10
4. Pre-construction and construction services	87	38
Total professional person-days	178	105

	LGU STAFF Person-days	A & E Staff Person-days
A. SUBPROJECT ACTIVITIES		
Professional person-months	8.1	4.8
Total professional person-months for 130 plus 12/3 = 134 subprojects	1086	643
Overall Estimate	1200	700

B. PROJECT ACTIVITIES

	A & E Person months
1. Services to the PMO	
Preparing monthly reports on all construction	48
Preparing 6-monthly reports on subsystem operations	39
2. Service to LGUs	
Assistance in planning	100
Evaluating repair facilities and procedures	32
Participating in training seminars	16
Management of consultant services	48
Total professional	283
Overall Estimate	300

III. Cost of A & E Services:

A. SUBPROJECT ACTIVITIES

Professional services: 700 person-months at ₱15,000	=	₱10,500,000
Drafting and typing services: 70 person-months at ₱6,000	=	420,000
Travel, per diems and miscellaneous expenses	=	3,580,000
		₱14,500,000

B. PROJECT ACTIVITIES

Professional services: 300 person-months at ₱15,000	=	₱ 4,500,000
Drafting and typing services: 30 person-months at ₱6,000	=	180,000
Maintenance of an office outside Manila: 48 months at ₱20,000/month	=	960,000
Travel, per diem and miscellaneous expenses	=	₱ 7,000,000

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C. TOTAL

In 1986 Pesos	₱21,500,000
In 1986 Dollars	$ 1,075,000

D. ANNUAL DISTRIBUTION

Year	% in 1986 $	Amount in 1986 $
1987	12	129,000
1988	28	301,000
1989	40	430,000
1990	20	215,000
	100	1,075,000

IV. Cost of LGU Services

A. ESTIMATE

Professional staff (including overhead)
1200 person-months at ₱4,000 = ₱ 4,800,000

Survey crews
10 crew days x 130 systems x ₱7,500/22 = 443,000
₱ 5,243,000
$ 262,000

B. ANNUAL DISTRIBUTION

Year	% in 1986 $	Amount in 1986 $
1987	12	31,440
1988	28	73,360
1989	40	104,800
1990	20	52,400
	100	262,000

ANNEX I

ECONOMIC ANALYSIS

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1. Introduction

Development of a fully quantified economic analysis is not possible given the lack of sufficiently detailed information on the benefits derived from water and sanitation services. In particular, quantification of health benefits is difficult because the effects of specific interventions on health indicators have not been adequately identified. Measuring the benefits from institutional development is also very hard as much of the value will be reaped in the delivery of services to other areas, and over a long time period. The problem is exacerbated because the project is actually a series of diverse subprojects, and the benefits are likely to vary widely across those subprojects. Costs are easier to measure, both conceptually and empirically, than benefits, so this is done with more precision. Nonetheless, the difficulties mean the economic analysis must be more qualitative than quantitative in the sense that the benefit-cost analysis cannot be meaningfully reduced to a single number. The categories of benefits and costs are identified and are quantified wherever estimates can be obtained.

2. Benefits

The project is intended to build institutions, but the direct benefits include many which accrue immediately to individuals and, in fact, should be larger for individual users than for the institutions. Four major categories of benefits are derived from the project: the value of more easily accessed water, the institutional development gains for LGUs, the health benefits to individuals, and the enhanced economic development opportunities.

2.1 Project Beneficiaries

The project has two sets of direct beneficiaries. First are the institutions which are targeted for development. Principally these are rural provincial governments. At the project's conclusion they should be able to identify those areas most in need of improved water and sanitation services; plan for development of water systems to meet the needs; administer the construction of facilities; and turn the facilities over to operating RWSAs. They should be able to support and monitor all operating RWSAs. A capacity should exist at the national level (including central and possibly zonal or regional offices) to provide for continual training and upgrading of provincial governments, which were in the project as well as those provinces which will be unable to participate directly during the life of the project. Finally, RWSAs should have the capacity to maintain and operate water systems and to provide relevant sanitation training.

The second set of beneficiaries are the consumers of water and sanitation services. An estimated 240,000 people will receive level I or II water services as a result of the project. Participants may choose to expand to a level III system at their own expense. Requirements that beneficiaries pay for operations and maintenance, and part of capital costs, mean that they will generally be moderate to high income residents in selected provinces. The lowest income provinces and barangays are much less likely to be selected for participation in the project. Further, for those areas which do

participate, the highest income residents will be most likely to receive level II (or III) service, and the lowest income will be most likely to receive level I service. Choosing participating communities in this manner is necessary to insure sustainability of the water systems.

2.2 Institutional Development

Institutional development of LGUs is anticipated to be the most important project benefit. Successful LGUs are expected to have the capacity to plan, organize, develop, and to a limited extent finance water projects when the project is completed. Institution building should provide benefits for the delivery of services other than water since many skills obtained through the project should be equally useful for other development projects. The benefits are greater efficiency in delivering water services from existing systems, building new water systems, and delivering other services where the skills are transferable.

2.3 Time Saving

One of the major benefits derived by having water more easily available is time savings arising from carrying water shorter distances. Water will generally be available in the consumer's home with level III systems, although a system which only provides level III service may include some individuals who purchase water from a neighbor with a house connection. With level II service the standpipe location will usually be nearer the consumer's home than the alternative water source. Level I systems probably would offer more limited benefits of improved access. In each case, the time savings can be used to increase agricultural and other production, or for increased leisure activities.

Two approaches will be used to consider the time savings value to consumers. The first is benefits measured through the price which consumers are willing to pay for water; the second is measuring the time savings benefits necessary to make the project return the economic production cost of water.

2.2.1 Willingness to Pay

The consumer's willingness to pay is often accepted as a proxy for the internalized value of benefits such as time savings. A consumer can be presumed to purchase water only if the value he expects at least equals the price.

The price is only a measure of benefits that consumers perceive when they make consumption decisions. It will understate actual benefits to the extent that externalities in consumption exist or lack of information causes people to incorrectly assess benefits. The consumer may be internalizing benefits, such as improved health when the decision is made to purchase water. However, the limited understanding on the part of consumers about the linkage between the availability of water sanitation practices and

improved health would suggest that time savings are probably the major benefit which consumers consider when purchasing water.1/ This is the major economic efficiency justification for subsidizing water services. The following analysis assumes that consumers only perceive time benefits from the availability of water.

No studies of willingness to pay for water in rural Philippine communities were identified for use in the project paper, but revealed preferences indicate that consumers in many barangays are willing to pay at least the operations and maintenance costs of water systems. In some cases, such as the Balagtasin RWSA, consumers are also willing to pay part of the initial capital costs. Rates are frequently set at ₱2.50 or more per cubic meter in BWP level III projects. One RWSA in Batangas charges ₱6.00 per cubic meter, although its collection performance appears to be very poor. Often the rates are progressive with consumption. For example, in Balagtasin, rates range from ₱2.50 per cubic meter for the first 10 cubic meters to ₱5.00 per cubic meter for consumption in excess of 30 cubic meters. Progressive rates are a way to force business firms, which are heavy water users to subsidize residential users. This may be justifiable on the basis of equity but probably not on the basis of marginal costs.

No cases have been identified where consumers have been consistently paying the full economic cost of water services which is estimated to be approximately ₱3.80 per cubic meter of water sold in Balagtasin. Nonetheless, revenues generated in Balagtasin indicate that consumers set the value on time savings equal to approximately 80 percent of the system's economic cost.2/ Further evidence that consumers value water services at the financial costs they are currently confronting can be found in the reported excess demand for BWP projects in 1985.3/ On the other hand, the demand for RWDC projects is insufficient to absorb all of its loanable funds; but this may be that consumers fail to value water at the financial terms offered by RWDC because they are seeking the more attractive terms from BWP or because the institutional structure for RWDC projects is very different from BWP projects. One final measure of willingness to pay is the fact that people are reported to pay ₱1.00 to have a can of water delivered to their house. Based on the data provided in 2.3.2 below, this is much higher than the cost to produce water through an RWSA.

1/ The project will increase people's understanding of these relationships, so willingness to pay will be a better indicator of benefits after its conclusion.

2/ These costs do not include those which are borne by the national government and LGUs as they support RWSA delivery of services. This estimate is based on the average operations and maintenance cost per cubic meter of water which was experienced in Balagtasin between April and June 1986 (₱2.40), an estimate of the cost to replace the pump every five years (₱0.30 per cubic meter), and a cost per cubic meter for capital assuming a 20 year life and a 3 percent real cost of capital (₱1.10 per cubic meter).

3/ WASH Assessment of 1985, page 148.

User fees are a lower bound estimate of the benefits which consumers receive from water services. Consumer surplus must be added to the benefits measured from direct payment of water fees to obtain total revealed value of time savings benefits. A water project is economically desirable if consumer surplus exceeds any loss incurred because price is set below average cost, even without consideration of benefits other than time savings. Consumer surplus depends on the shape of the demand curve and, in particular, its elasticity. Again, there are no studies of demand for water services so it is not possible to use knowledge about the demand curve's shape to estimate consumer surplus. However, it is probably reasonable to assume that the demand curve is relatively elastic, so benefits measured by consumer surplus are limited.

2.3.2 Opportunity Cost of Time

Another way to value water benefits is directly in terms of the shadow wage of time savings. The large degree of unemployment and underemployment in the Philippines means that the time savings benefits may be of limited macroeconomic value when unskilled laborers are involved, and many project beneficiaries may fall in this group. The minimum daily compensation for nonagricultural rural workers was set at ₱56.00 in December 1984. Sixty percent of this may be a reasonable estimate of the shadow wage for unskilled workers. Shadow wage rates would be much higher for skilled workers living in the barangays.

Water cans frequently carry approximately ₱18.90 liters, and at the approximate average economic cost of ₱3.80 per cubic meter that was measured for Balagtasin, the water in one can would cost ₱0.07 to produce. Based on the shadow wage, a consumer saves time worth the production cost of water if he takes 1.03 minutes less to carry water after the water system is available. This corresponds to 45 yards in each direction, at a 3-mile per hour pace. The value of time savings depends on the shadow wage of the worker. For example, nonplantation agricultural workers would need to save 1.6 minutes to return the production cost of the water. In both cases, the required time savings per trip is very small to return water production costs. This presumes that the only benefits of water services are time savings and the needed time savings would be smaller if other benefits were also included.

2.4 Health Benefits

The health benefits are expected to be significant given the combination of available, clean water and improved sanitation practices. The combination is necessary to obtain the benefits to yield substantially improved health.

Several major categories of health benefits can be identified. First, the improved consumer satisfaction from feeling better. In many cases, the same benefit could be obtained through medical treatment, so the value is any reduction in costs of providing a given level of health through water and sanitation, as opposed to the available alternatives. Such a comparison is

very difficult to make because improved water and sanitation are a preventive rather than a curative method of medical care. Further, water and sanitation have long-term benefits while curative means are generally short-term in duration, and must be repeated frequently (e.g., infant rehydration). A related benefit is the consumer's gain in satisfaction from not experiencing the symptoms of an illness while curative means become effective. This value would be measured by the additional amount consumers are willing to pay to achieve the same amount of health benefits from preventive rather than curative means.

A second health related benefit is the lowering of work loss due to reduced illness and death. The direct benefit is greater time in the workforce for people who would otherwise be sick. Many of those affected by waterborne diseases are children who may not be directly productive, but time is lost when the mother must care for them, and time savings for a productive mother must also be valued.

As noted above, consumers may be unaware of the health benefits from water projects, or the need to combine sanitation practices with the water in order to obtain health benefits. Even if people understand the health effects, they may choose not to spend limited income on water, feeling that they would rather accept the risks of becoming ill than use the money to obtain water that can be gathered from least costly, though riskier, sources. The cost to the economy in terms of lost output remains the same whether or not people would have chosen to use the water and sanitation to obtain the health benefits as described above. Thus, usage of the water and sanitation program should lead to an increase in the economy's production.

Work loss benefits can be measured by the number of work days that must be gained to make project benefits equal project costs. The time cost savings are assumed to equal operations and maintenance expenditures for this analysis, so it is presumed that only capital costs must be recovered from work loss benefits. This is reasonable, since no barangay will be considered for the project unless its residents are willing and able to pay at least the O & M costs for the service. A representative barangay would have 2,000 residents and a labor force participation rate of 65 percent. An annual savings of 3000.7 work days would be needed to return the capital costs for a ₱1.5 million initial investment, using the shadow wage for unskilled rural workers and a 3 percent real rate of return to capital. This represents 2.3 days per member of the worker force. The annual incidence of diarrhea is estimated to be 8 to 15 times per household. If one work day can be saved for each diarrhea case reduced, and water and sanitation practices decrease diarrhea incidence by one-third, this alone would save 30 to 50 percent of the work days needed to recover capital costs.

A similar analysis by type of disease would be needed to measure all work related health benefits. Unfortunately, data on work days saved and reductions in disease that would be needed in order to develop meaningful analyses of this type for all health benefits, are not available for the Philippines.

2.5 Economic Development

The final benefit is improved opportunities for economic development through the provision of more accessible water to small business enterprises. A limited perusal of records for two BWP subprojects revealed that small businesses such as poultry processors are large users of water services. Irrigation and more easily available water for animals and gardens are a benefit to small farmers. The BWP I Project Paper assumed gardens would be started because of water availability from subprojects. However, there are no data on whether this has occurred.

The value of the water is equal to the reduction in unit production costs. For small firms this is likely to be lower labor costs per unit produced and for small farmers this will equal time savings. The benefits of new gardens is the value of produce grown. No information exists on the reduction in costs for businesses, but the importance of having infrastructure in place is generally regarded as an important factor for allowing economic development.

3. Costs

Identification and measurement of project costs is both empirically and conceptually easier than measuring benefits. Shadow prices are necessary to measure costs in some cases, but the process is straight forward. There appear to be no important externality costs associated with the project. The major cost categories are USAID financed capital costs to construct facilities, GOP and LGU financed costs to plan and implement subprojects, and RWSA financed costs to operate and maintain the systems. User fees will be the revenue source for RWSAs and part of the capital costs. Residents are generally also the providers of a small piece of land to house the water system.

The peso price for subprojects financed through the project is expected to average ₱1.5 million. An estimate for the shadow value of this investment is only ₱36,000 more (see Table 1). Imported commodities are converted at a shadow exchange rate of 1.2 times the existing exchange rate with the U.S. dollar of 20.4, and unskilled labor is valued at 60 percent of its price. Land used for the water system is assumed to have no shadow price.

Table 1

	Peso Price	Shadow Price
Imported Commodities	480,000	576,000
Unskilled Labor	150,000	90,000
Other	870,000	870,000
Total Project Costs	1,500,000	1,536,000

Operating and maintenance costs of the RWSAs are estimated based on the experience for April-June 1986 of the Balagtasin Barangay in Batangas. (The

PMO does not have information which would permit a more general approach to estimating operations and maintenance costs.) The time period is very short and the sample is certainly not random, so the numbers are only representative. Nonetheless, this RWSA is regarded as a very good performer, partly because it has the provincial treasurer serving as RWSA president and a BWP engineer serveing on the managerial committee. Costs may be understated because there is no account for major repairs included in the costs.1/ Operations and maintenance costs for this time period were 2.4 per cubic meter of water sold or an annualized expenditure of ₱142,769. The shadow price would differ very little from actual expenditures. Fifty-nine percent of total current expenditures was for purchases of electricity and eleven percent was direct purchase of labor.

4. Benefits Versus Costs

The information given in the previous two sections is insufficient to calculate a benefit/cost ratio for the entire project because many benefits were not quantified, and both costs and benefits were generally discussed relative to a single subproject. However, one conclusion was that the time savings for consumers needs to be very small in order to make the shadow wage for the time savings exceed the economic production cost of water. Benefits of a subproject exceed its costs if time savings have greater value than production costs of water and sanitation, even without consideration of the other categories of benefits. This result reasonably leads to the conclusion that the benefits in terms of the opportunity cost of time exceed production costs for water.

The alternative approach used here for measuring time savings benefits was consumer's willingness to pay for water services. No studies exist on willingness to pay so the analysis had to be based on revealed preferences for a small number of RWSAs. Of course, prices for water are not set in a competitive market so there can be no presumption that the service is yielding its marginal cost simply because it is provided. Further, the price has been set reflecting subsidized capital and uncertain information on operations and maintenance, so the price does not indicate economic production costs as it would in a competitive market. This information taken together means that it is possible to measure the amount of water demanded at the price charged, and presume consumers place that value on the water, but; it is not possible to measure whether consumers are willing to pay the economic production cost of the water.

Following this approach, revealed preference indicates that the water is valued at least up to 80 percent of its economic production cost, though the percentage is probably much lower for most RWSAs.1/ Based on information currently available about revealed preferences for water--i.e., in some cases, presently paid prices cover .80 percent of economic costs--additional benefits are needed for demonstrating that benefits will exceed costs.2/ Such other

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1/ The RWSA does have a savings of more than P100,000, but does not include a specific reserve in its costs reports.

2/ Residents of Balagtasin pay fees equal to 80 percent of the economic cost of producing water.

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benefits have been described, including health effects, institutional development gains, and enhanced economic development in an area. These other benefits, although not quantifiable, appear to be sizeable. Hence, the reasonable expectation from this line of inquiry is that subproject benefits exceed costs.

5. Alternative Mechanisms for Service Delivery

Two sets of issues regarding alternative delivery systems for the project's objectives need to be addressed. One, the alternative of carrying water from traditional sources while using curative means to treat health problems which arise. This set was discussed above in the benefits section and does not need further consideration here.

The other set of alternatives is the consideration of the level of service to offer. The choice between these alternatives is not clear cut because greater benefits arise from the more expensive systems. Level I systems are the lowest cost, but they are also likely to offer the lowest benefits. Water can be provided with the desired quality, but the quantity of water at the desired location is obviously not achieved. Consumers may still need to carry water for long distances with level I systems so the time savings benefits may be reduced. Also, discussions with knowledgeable observers suggest that consumers may choose to use traditional sources which offer lower quality, but more accessible water, rather than the services of a level I system. This will lower the health benefits. Still, in most situations, benefits exceed costs from level I systems.

Level II service offers greater time savings benefits, but at higher cost. Consumers may still choose to use more accessible, traditional sources, although they are less likely than if level I service is offerred. Level III service offers the greatest time savings benefits at the highest cost. Level III, combined with improved sanitation practices, also offers the maximum health benefits. Finally, water consumption will be higher with level III systems. A financial benefit of level III is that the service can be more easily priced, and the revenues more easily collected because specific individuals can be held accountable for the water bill, and service can be terminated for nonpayment.

This project paper approach is based on the judgement that the benefits of level II service generally exceed the costs, although level I service will be provided in cases where consumers are unable to pay some of the financial costs. Frequently, the benefits per dollar of cost for expanding to level II are greater than the benefits per dollar of cost for providing level I because of greater time savings, improved health benefits and a greater willingness of people to use the new source. Still, this will only be done in cases where people are willing to pay a portion of the costs. This is based on conversations with knowledgeable individuals about the demand for each type of system and the degree to which water would be drawn from each type of system.

1/ Willingness to pay is much higher than production costs for water, to the extent that people are paying one peso per can for delivery of water.

The benefits per dollar of cost for providing level III service over level II are judged to be smaller than the benefits per dollar of cost for providing level II water in communities where it is not available. Thus, project funds will not be used for this purpose. Still, project funds will be used to build level II systems so that they may easily be expanded to Level III, thereby reducing lost resources if conversion occurs. Many RWSAs have chosen to expand systems built under BWP from level II to level III, and have encountered the problem that the original pipes were insufficient to handle the demand placed on the system by the greater water consumption that occurs when people have taps in their homes. The conversion of systems illustrates a strong revealed preference on the part of many for the benefits offered by level III systems. Residents may use their own resources to expand to level III service if they feel the benefits exceed the costs.

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FINANCIAL ANALYSIS

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Attachment 1 - Notes on the Budget

This financial analysis will treat seven topics: financial costs of the project, ability of the LGUs and the GOP to finance their recurrent costs, capacity of the RWSAs to finance operation and maintenance costs, willingness and ability of consumers to pay for water services, explicit interest rates and subsidies in the project, mechanisms which will be used to make payments to contractors and LGUs and the financial terms study which is needed as an initial project activity. Each of these will be considered separately in the following sections.

1. Financial Costs of the Project

Attachment 1 to this Annex provides information on the manner in which various loan items in the budget table were calculated. The budget table itself appears in Part IID of this Project Paper.

2. Recurrent Costs for Government Agencies

This section will consider the capacity of the GOP and LGUs to pay recurrent costs. Examination of recurrent costs must be separated into those which will be borne during the life of the project and those which will be borne after the project. The government agency responsible for paying recurrent costs and the revenue sources used to pay recurrent costs will likely change after the project's conclusion.

Operations and maintenance (O&M) of individual water systems will generally remain the responsibility of the RWSAs, so this largest recurring expenditure will be funded through nongovernment sources. There is no general subsidy today, so this project merely will continue existing practices. The RWSAs' ability to meet recurrent costs is discussed in parts 3 and 4 below. The topic of government subsidies to capital investments in new water systems is treated in part 5 below.

2.1 M L G.

The GOP will finance two types of current expenditures during the project's life. The first is the cost of project management operations which are housed in the MLG. The major function of this management is to insure that LGUs are prepared to assist RWSAs to deliver water services. Coordination of the USAID contract consultants will also be performed by this office. A budget of ₱5,788,132 ($283,732) in 1987 is expected for this purpose. This will be increased in later years for inflation (5 percent annually). The Project Management Office of the BWP II project had a budget of ₱10 million in 1984 and ₱9.7 million in 1985, approximately half of which funded consultancies which will be part of the USAID prime contract in the new project. The amount designated for A and E consultancies will grow with the number of subprojects, but is lower than in the BWP II project. Thus, MLG funding of staff operations is consistent with recent experience for rural water activities.

The other major GOP expenditure during the project is a series of one-time contributions to the participating LGUs each time a subproject is approved. The contribution will be five percent of capital cost of the subproject. This contribution is to be placed in a special trust account of the LGU administered through the Municipal Development Fund (MDF), and is to be used only for LGU costs associated with rural water projects. In particular, these include resources for the LGU project manager, training, community participation, travel, and other expenses associated with assisting RWSAs. LGUs are required to spend at least one-half of the resources for nonlabor expenditures. The burden is smaller than that imposed under BWP II, where LGUs were provided "seed money" when projects were financed. The difference is that "seed money" was not restricted to rural water projects. The estimated project cost for these contributions is ₱12,413,726 ($608,516).

After the project's completion in 1990, the cost of operating the institutional capacity created within the MLG to continue providing training and technical assistance for LGUs must still be financed by the GOP. These costs should be lower than those incurred during the project's operations since there will be no costs associated with coordinating the USAID assistance.

2.2 L G Us.

The LGUs will be responsible for actually working with RWSAs to insure that they have adequate skills to operate and maintain water systems. The LGUs will also monitor performance of RWSAs. During project operations this function will be substantially financed by cash transfers from the GOP, as described above. Once the project is completed the expenditures must be financed by the LGUs. Traditional Philippine sources of intergovernmental aid are based on sharing of central government taxes, and no additional revenues would be forthcoming with any added burden on LGUs. This means that the LGUs will need to finance these costs from their own sources. However, the costs of maintaining this staff should be relatively small for each LGU, with an expected staff of three people and an annual labor budget of ₱108,000 ($5,294) per LGU in 1986 prices. This represents only 0.1 percent of the average LGU's budget, so it is reasonable to presume that each LGU can finance these expenditures from general funds.

The other recurring expenditure for LGUs is financing for major water system repairs. (Normal operation and repair expenditures will be met by the RWSAs from funds they control.) These expenditures will be funded by RWSAs contributing a fixed fee per unit of water sold into an LGU Water System Repair Fund. The required amount to be placed in the fund will be determined by the Financial Terms and Socio-Economic Study, to be conducted early in the life of the project. The fund will be established in a separate trust account, and can be used only for major repairs. The fund would provide low interest loans to any RWSA which had to undertake major repairs. Loans, rather than grants, will be made from the fund to provide an incentive for RWSAs to undertake appropriate ongoing maintenance, rather than letting problems become major so that they are eligible to meet them by turning to the fund. Any RWSA failing to make payments into the fund would be ineligible to borrow from it. No new burden is placed on the LGUs since the fund is self-financing.

2.3 GOP Capital Subsidies.

Loan repayments made by the RWSAs to the LGUs will provide a pool of resources which will be tapped for new water systems within the jurisdiction of the LGU. However, this will be far from sufficient to keep the program operating at the level to be achieved under the project. To do that, the GOP will have to provide subsidies for the construction of new water systems after the project is completed. This is the one place where there is reason to question the capacity and willingness of the GOP to finance future activities. Whether these funds will be forthcoming depends on economic conditions in the Philippines and priorities within the government. The magnitude of current budget deficits would suggest that the GOP is unlikely to be able to subsidize new water projects out of surplus revenue growth and will be able to finance them only by changing priorities or by obtaining financial support from external assistance agencies.

3. Recurrent Operations and Maintenance Expenditures

The major issue of financial sustainability arises with regards to the RWSAs. They are currently responsible for operating and maintaining individual water systems without any cash subsidy from government sources, except that some subsidies have been provided for major repairs. The same responsibility is expected to continue. They will also need to generate resources to finance loan repayments and to provide the insurance pool for major repairs. Their ability to generate revenues and the level of required O&M expenditures are the two main factors which will determine their financial sustainability. This section is a consideration of the O&M expenditures which RWSAs must make to allow the water systems to work properly during their desired economic life. The next section is an examination of the willingness and ability of consumers to pay the expected user fees, and therefore generate the required revenues.

Unfortunately, the expenditures necessary to operate and maintain water systems adequately have not been carefully identified. The few systems which were examined during preparation of the project paper appeared to be able to generate sufficient revenues to finance the O&M expenditures which they had actually incurred, although the adequacy of their expenditures is not known. Further, no account was included for major repair expenses. One RWSA has created a reserve of over ₱100,000, but this appears to be an exceptional situation. Thus, a study will be undertaken in the first months of project's implementation to determine what are the average O&M costs per cubic meter of water to be delivered in a RWSA systems. Included will be regular expenditures for O&M and costs for major repairs, such as replacement of a pump, which can be expected during the life of a subproject. The latter item will be used to set payments for the LGU Water System Repair Fund. Analysis will be made of the various conditions in which water services are offerred and the several types of water systems. The results will be guidelines for determining what user fees must be established when new systems are built. RWSAs which are unwilling or unable to pay at least the fees necessary to finance O&M costs and major repairs would be excluded from further consideration for subproject funding. They will also be required to pay a percentage of capital costs.

The magnitude of future O&M expenditures also will depend on inflation. Forecasting inflation rates is always precarious beyond the very short run, but seven percent appears to be a reasonable expectation given current conditions. Underlying inflation and currency devaluation have caused cost inflation for RWSAs to be much greater than this over the past three to four years. However, power costs have been the specific category where increases have been most significant. In Balagtasin, power costs were ₱3,080 during May and June of 1983 and were ₱11,891 during the same period of 1986. Power costs represented 59 percent of the RWSA current budget for April-June 1986. Some of the rapid growth probably was caused by an expansion in consumption, but power rate increases appear to be the most important reason. Power rates may have risen because of efforts to rationalize prices in the sector, as well as inflation and devaluation, and it would appear unlikely that future rates of increase would be near the recent experience.

Serious problems have arisen with regards to the ability of RWSAs to finance major repairs such as replacing pumps and motors. Unexpected early burnout of motors occurred in BWP II subprojects because of varying voltage currents, and the RWSAs were unable to replace the motors from their own sources. It is anticipated that individual RWSAs will continue finding it difficult to finance repairs of this magnitude from current revenues since a motor would cost at least one-half year's revenues for a relatively large, successful RWSA and could be a larger portion for others. The accumulation of a large repair fund in the RWSA is not a solution since development and handling of these large reserves at each RWSA would be difficult, and it would be tempting for them to prematurely reduce rates when a reserve was created; and since some RWSAs would find that they needed major repairs before they had been able to develop a sufficient reserve. These problems will be met through the creation of the LGU Water System Repair Fund described in the previous section.

USAID rehabilitation activities and funds allocated by some LGUs have been financing many of the major repairs which have been needed in the past. Limited, additional rehabilitation will be undertaken in the project to meet situations in which the cause of the problem was faulty design or original construction. However, repairs needed for other reasons will have to be funded from the insurance fund if the concerned RWSA is eligible.

4. Willingness and Ability to Pay

4.1 RWSA Revenue Sources.

RWSAs currently raise their revenues through a variety of sources including one time membership, connection, and application fees; penalties for late payment; two month advance payments for water bills; donations; and user fees for water consumption. User fee revenues are the predominant source. For example, they provided 86.7 percent of Balagtasin RWSA revenues between April and June 1986. The importance of user fee revenues will increase as a system matures, and few new community members are making the initial one time payments.

Collection experience varies by RWSA. Balagtasin reports some late payments, but indicates a very high percentage of collections achieved with the help of individual visits, as needed, by a collector. Bulihan RWSA has a much lower collection rate, but blames this on problems with system operations during 1985 as a major problem with silt in the pump created the need to prepare a new well, and this limited service for a period of time. Some members refused to pay when water services were unavailable. The RWSA has cut off service to 30 customers for nonpayment, and has accounts receivable of over ₱40,000, which is slightly more than three months of user fee revenues.

4.2 Willingness and Ability to Pay User Fees.

4.2.1 Approaches to Willingness and Ability to Pay:

The major determinants of RWSAs' capacity to finance operations, maintenance, major repairs, and loan repayments are the willingness and ability of consumers to pay user fees. It is necessary for consumers to have both willingness and ability to pay in order to generate the necessary user fees to finance O&M, major repairs, and capital repayments. Ability to pay is basically a question of affordability or capacity to pay user fees. This depends on factors such as income, size of family, and other demands placed on income. The ability to pay for water services in BWP I and II projects has been measured through a subjective evaluation of the local housing stock.

Willingness to pay depends on the same factors as ability plus a number of others as well. An important determinant of willingness is the demand for water services relative to other uses of the income. This depends on the inconvenience of collecting water from alternative sources and consumers' understanding of the health benefits from water and sanitation practices. The greater the time savings and perceived health benefits of water, the more willing users will be to pay. Willingness to pay will also be affected by reliability of the service after it is operational. Consumers will be much more willing to pay if the water is provided consistently, and with the quality that was anticipated. Whether consumers must pay in order to receive the service will be another important determinant of willingness. Each RWSA must be willing to disconnect households which fail to make required payments, but this should not occur without consideration of seasonal fluctuations in income. (Level III systems are very helpful in this regard because it is much easier to disconnect consumers if they fail to pay.) People are also more willing to pay if they feel they own the water system. Finally, willingness will be influenced by the understanding which consumers have about how much they will be expected to pay. Willingness will decline if they are told to expect a price which is lower than becomes necessary after the system is established. The same will occur if consumers do not realize that user fees will rise with inflation and other cost increases.

No systematic study of these issues has been undertaken. Thus there should be a study of the willingness, and ability to pay conducted simultaneously with the determination of actual O&M costs as mentioned above. The purpose of the study will be to determine the acceptable percent of income which consumers can afford to pay for water services. This study will be used to determine

the income levels which residents of a Barangay must possess in order to be able to afford recurrent costs for level I versus level II systems. The information will also be used to identify the subsidy necessary for capital investments. (This topic is addressed below.)

The study will also examine the practice of basing presumed ability to pay on housing stock. If this approach is acceptable, the relationships between housing stock and ability to meet recurrent costs and capital payments will be determined. The degree to which capital subsidies must be given for various income groups will also be established. If the housing stock is deemed to be an unacceptable proxy for ability to pay, a practical alternative will be developed, and the relationship between ability to pay for water services and the alternative measure of capacity will be derived. Again, the linkage to capital subsidies will be quantified. It will also identify the steps needed to be taken to insure that consumers will be willing to pay. For this reason the study must include the socioeconomic analysis described in the Social Soundness Analysis.

Applying the results of the studies will be difficult in practice because the measures will necessarily be surrogates for ability to pay, and like all surrogates, will be subject to error. Communities will be expected to provide 10 percent equity in cash as a further evidence of willingness to pay. The requirement of equity is consistent with practices under the RWDC. It is anticipated that RWSAs will provide the equity by raising initial capital for operations and maintenance, perhaps by providing labor for the system's construction. The first alternative will generally be followed, and it can be achieved through imposition of various application and tap-in fees plus a two month user fee deposit.

4.2.2. Estimates of Ability to Pay:

Various rules of thumb are used to describe the capacity of people to pay for water services. Some suggest that two percent of income is reasonable, while others go as high as five percent.1/ Rural residents are currently paying 4.97 percent of their income for all utilities, of which the vast majority is undoubtedly going for power. Assuming that rural residents are paying very little for water, the five percent rule would allow a near doubling of utility payments for RWSA members. This may be regarded as an unacceptable increase, and would cause rural residents to pay dramatically more for water and for all utilities than their urban counterparts.

The two percent rule would allow the median income rural family to pay ₱307.7 for water annually.2/ For a family of six consuming 60 liters of water per

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1/ Current guidelines in the Philippines call for 5 percent of income or 25 pesos. See WASH, August 1985, p. 33.)

2/ Estimated from, "1985 Family Income and Expenditure Survey, Philippines," (Preliminary), National Economic Development Authority, National Census and Statistics Office, May 1986.)

day this means the family could afford to pay ₱2.37 per cubic meter. This is lower than the costs per cubic meter which went for operations and maintenance of the Balagtasin system between April and June 1986.3/ However, the two percent rule would mean that barangays with incomes at the median would be unable to create RWSAs if the costs need to be as high as in Balagtasin. If consumers are also expected to pay for major repairs, and some percentage of capital, as is anticipated in the project, the rule would be even more restrictive. Thus, further consideration of what principles are appropriate for setting O&M is imperative in the Financial Terms and Socio-Economic study in order to provide the basis for identifying which barangays have the capacity to participate in the development of a level II system.

An actual revenue estimate must be prepared for a community to determine if it can pay the costs. The revenue estimate is calculated by multiplying the user fee rate which can be charged times the number of households which will join the system times the consumption of water. Information on each of these components will be required to make the revenue estimate. In addition to other aspects of the study, it must look at past experience to determine the proportion of households that will join an RWSA, and the likely consumption per household. Careful examination of water usage and numbers of households buying into the system will be imperative when results of the study are applied to actual communities in the analysis of their potential for participation. Some have indicated that up to 30 percent of households that initially commit to pay for water change their mind when the system is complete.

O&M expenditures for individual RWSA water systems will be financially sustainable if the systems are placed only in communities which can afford to pay the necessary water fees. The pool of potential barangays appears to be more than sufficient to make the project financially viable. This can be seen by taking the conservative assumptions that ₱3.50 per cubic meter of water must be paid by consumers and they can afford to pay only two percent of income for water. An annual income of ₱22,801 would be necessary to pay the user fees, accepting an average family size of six with average consumption of 60 liters per day. Data are unavailable on income by barangay, so the assumption used here is that the distribution of average income of barangays is the same as the distribution of income across households in rural Philippines. Even with conservative estimation, 28 percent of rural barangays would qualify for water subprojects, i.e., 8,821. Even allowing for the fact that many may already be served, the pool is very large compared with the 130 systems to be built. The pool would expend to two-thirds of barangays using the less conservative assumption that people could pay 3.5 percent of income for water services.

3/ The Balagtasin RWSA has a level III system and the expenditures may differ from those which are necessary. Consumption levels are also probably much higher than would be expected with a level II system.

The Financial Terms study will be used to determine much more precisely the characteristics of communities which have sufficient income to qualify for a level II system. Whatever the study concludes about user fees, it is certain that some communities will be deemed unable to finance a financially viable system. A portion of communities will certainly have insufficient income to pay for operations and maintenance and major repairs without subsidies. These communities will need to be provided with level I water systems through another funding mechanism.

5. Interest Rates and Capital Subsidies

5.1 Existing Subsidies.

The BWP II project has provided RWSAs with grants for development of water sources, grants for a percentage of distribution costs and a loan for the remainder of distribution costs. Recent loans have averaged about 25 percent of distribution costs, and have charged a four percent annual interest rate. Loan repayments have been made to the LGU in which the RWSA is located.

The World Bank has given RWDC a loan which is used to provide grants for source development and loans for 90 percent of the costs of level II distribution system. The remaining 10 percent of distribution costs is an equity contribution which is usually paid in-kind. A greater in-kind contribution is permitted in cases where the community could not afford the necessary amortization payment. Repayments are made to RWDC. Level III systems are not financed through RWDC.

Both the BWP II and the World Bank financed projects have been offering subsidized capital investments. BWP II has provided a subsidy which is approximately equal to 90.0 percent of capital costs.4/ The subsidy arises from the direct grants for source development and for part of the distribution system. The subsidy also results from use of a four percent interest rate for setting amortization payments. The World Bank financed projects include a 60.5 percent subsidy for capital costs because of the grant for source development and the four percent interest rate which is used for setting amortization payments.

Furthermore, BWP II and RWDC are providing much larger subsidies if actual repayment practices are considered. RWDC is said to have in hand only 30 percent of those amortization payments which should have been made. A 50 percent collection rate for BWP II amortization payments has been estimated.5/ The collection experience for the 37 BWP subprojects in Batangas is shown below. Unfortunately, data on required amortization payments are unavailable, but the decline since 1984, while the number of systems has grown, indicates that the record is poor. Also, only one system appears to be completely current on amortization payments, and sixteen have made no payments.

4/ Subsidies are estimated for a P1,000,000 water system with 30 percent of project costs going for source development and a 10 percent opportunity cost for capital).

5/ WASH, p. 148

YEAR	Collections
1980	₱ 28,390
1981	₱ 33,431
1982	₱ 21,666
1983	₱ 76,917
1984	₱127,043
1985	₱103,642
1986	₱ 30,519

through May, with large payments reported to have been received since then.

5.2 Appropriate Subsidies.

Conceptually, the subsidy should be based on either economic efficiency or equity grounds. Subsidies may be justified on equity grounds if water services is of such overriding importance that it is deemed essential that all people receive it. Still, it is necessary to conclude that there is no better way to insure that all people receive water than through a subsidy, since subsidies can rarely be targeted only to those who need them to obtain the service. There must also be examination of who will finance the subsidy.

Subsidies can be justified on economic efficiency grounds if people fail to consider all benefits from water consumption when they make decisions on how much water to purchase. People may understate benefits because: (i) they have insufficient information on the extent of health benefits; (ii) there are external benefits to those around the water consumer as, for instance, that the consumer becomes less likely to be a carrier of disease; and (iii) there may be economic or institutional development benefits not apparent to the consumer. To the extent that any of these factors are important a subsidy is appropriate, and should be provided in the same ratio as the understated benefits are to the total benefits. Unfortunately, the data are unavailable on health benefits and institutional and economic development benefits to quantify this conceptual justification. Therefore, the appropriate subsidy is a question of judgement and the capacity of people to pay.

5.3 Interest Payments.

An important difference in the project is the desire to set the interest rate for RWSA amortization payments so the subsidy is explicit rather than implicit. The payments are made to LGUs, so they should be regarded as on lenders. The interest rate for future subprojects will be set at ten percent. Although less than the opportunity cost of funds for LGUs, it is based on a time deposit rate of seven to eight percent, and a two to three percent allowance for handling the account, and for the limited foreign exchange risk that exists with financing new water systems. The interest rate is positive in real terms based on an expected seven percent inflation rate.

All required amortization payments to LGUs will be placed in The LGU Capital Expansion Fund, which can be used only for financing new water systems. It will be established in a separate trust account which must be approved by the LGU council. A precondition for any LGU to receive subproject financing under RWSP is that such an account be created. All interest payments made by the RWSAs to the LGUs, and all interest earned on the deposits in the fund will be retained in the trust account for financing of new water systems.6/

The loan fund is not expected to maintain its full value unless other contributions from LGU funds are made or new external funding sources are located. A major reason is that the fund will be dissipated as subsidies are provided for capital expenditures. It is also expected that some RWSAs will fail to make the required amortization payments. Nevertheless, the project remains financially viable because the key measure of sustainability is the capacity of RWSAs to meet O&M and major repair costs.

5.4 Project Subsidies.

Choice of the 10 percent interest rate allows explicit determination of the subsidy but fails to identify what is an appropriate subsidy for water services in the Philippines. The grant/loan mix can be adjusted to provide the same subsidy that existed in the BWP II project or at any other level.

The appropriate mix will be established after results of the O&M and ability and willingness to pay studies are obtained. The principles to be followed are: First, the revenues necessary to finance O&M and major repairs will be given top priority to insure that systems are operationally viable. Second, user fees will not be set above the capacity and willingness of average barangay resident to pay. Third, the subsidy will be smaller for higher income communities. Fourth, any community which opts for a service system more costly than a Level II system, must pay the additional cost on a loan basis, and all costs for household connections and meters used in level III systems will be paid by the RWSA from its own funds. Household connections and meters cost approximately ₱1,000 per household, of which about half goes for each. Finally, results of the current government study on water sector structures and appropriate subsidy levels will be evaluated to seek conformity of project policies with sector policies.

Precise estimates of how various income classes would be affected by subsidy versus loan policies cannot be given prior to conclusion of the studies. Still, it is possible to provide some information on what subsidies might be under alternative scenarios. For example, it may be determined that residents in a barangay that can afford a level II system should pay a user fee which

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6/ No explicit guidelines existed for use of amortization payments under BWP. In the best cases the funds were deposited in the LGUs general account with an notation that they were for water projects. Interest accruing to the deposits became part of the general fund.

covers O&M costs, major repairs, and one percent of income for amortization of the loan.7/ This means that an RWSA with 300 household members and median income levels would need a 60.7 percent capital subsidy to support a system that costs one million pesos. The same sized RWSA with members whose household incomes average ₱39,153 would need no subsidy to finance a water system. If the system costs two million pesos to build, the median income RWSA would require an 80.3 percent subsidy. An RWSA whose members have an average income in the 90th percentile of all rural residents (₱39,767 annually) would need a 49.2 percent subsidy to build a two million peso system.

6. Flow of Funds Mechanisms

Two separate flow of funds mechanisms will be used in the project, one to pay contractors for construction and to purchase certain commodities and the other to transfer funds to MLG and the LGUs. The use of two systems will facilitate the most rapid payment of contractors, and also will allow smooth funds transfers to the LGUs.

6.1 Direct Payment.

Direct payment to contractors for construction of water systems will be made by USAID in pesos. Vehicles and other major equipment purchases and the project management contract will also operate through direct payment in dollars or pesos from AID even if host country contracts were used for their procurement.

Direct payment to the construction contractors will operate through a system with 25 percent advance payments and a final payment on completion and certification of the work. The contracts will be fixed price. This will require very careful estimates of each subproject's cost. Any required adjustments in contracts must be approved by the LGU, USAID, and MLG/PMO.

USAID and the project management consultant will be actively involved in contracting procedures and payments because of the direct payment mechanism. The large number of subprojects will require standardized procedures and contracts.

The necessary steps to achieve direct payment for construction contractors include:

a. Local communities, LGUs, and MLG jointly select areas where water systems will be built;

b. USAID (through the prime consultant), LGU and MLG engineers approve the proposed plans;

7/ The percent of subsidy must also vary depending on the type of system chosen, or residents would bear no cost of choosing a more expensive system. For simplicity this is ignored in the calculations performed here.

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c. LGUs seek bids to construct the water system;

d. USAID provides the LGU with a statement of agreement to pay costs for the subproject;

e. LGUs enter into a fixed price contract with the lowest, responsible and most responsive bidder;

f. USAID approves the contract and sends the LGU authorization to commence with construction;

g. USAID provides a 25 percent advance directly to the contractor based on receipt of a copy of the contract;

h. The contractor completes the facility;

i. The contractor provides the LGU a Contractor's Certificate and Agreement, a Certification of Performance for Final Payment, and an invoice for the balance of payment;

j. MLG, LGU, and USAID engineers jointly inspect the new facility for compliance with specifications;

k. Written approval to pay is provided by the MLG and LGU;

l. Documents provided by the contractor to the LGU are forwarded to USAID along with the engineers' report. Information copies are sent to the MLG/PMO;

m. USAID Controllers Office prepares final payment for the contractor.

6.2 Municipal Development Fund.

Transfers of funds from MLG to LGUs are expected to be facilitated through use of the Municipal Development Fund (MDF), which is under in the Ministry of Finance. This mechanism was established in 1984 through Presidential Decree 1914, and was operationalized through MOF Joint Circular No. 3-84 on May 31, 1984.

MDF was developed to receive the "proceeds of foreign loans, assistance, or grants which can be made available to the Local Governments..."8/ Provision is also made for peso counterpart payments by the GOP, so the MDF will be used to transfer funds to the LGUs from both USAID and the GOP.9/ The Joint Circular notes that the MDF "shall be the principle mechanism for long-term financing available for urban/rural services to all eligible local governments."10/ The major advantage of the MDF is that it permits funds to

8/ Joint Circular, p. 1
9/ Joint Circular, p. 9
10/ Joint Circular, p. 1

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be transmitted to LGUs without the delays involved in passing them through a line agency. Careful explanation of the procedural guidelines and the role played by each institution is given in the Joint Circular, and will not be reviewed here.

GOP funds will be transferred to the LGUs for the 5 percent matching contributions. GOP funds will also be provided for operations of the MLG/PMO.

The process would work as follows:

a. MLG/PMO sends the MOF/MDF an annual Work and Financial Plan and Budget which is detailed by LGU, by category of use, and by subproject. Requests for the five percent GOP payment will be included in the plans;

b. MOF/MDF requests an Advice of Allotment (AA) and a Cash Disbursement Ceiling (CDC) from OBM;

c. The GOP deposits funds in the Bureau of the Treasury (BTR) for use by the LGUs based on receipt of the Work and Financial Plan and Budget and a copy of the AA.

d. BTR is notified by journal voucher to transfer funds into the MOF general account once the AA and CDC are received;

e. BTR is notified by second journal voucher to transfer funds from the MOF general account into the MDF account for the implementing agency (MLG/PMO). MLG is notified that the funds are available;

f. MLG requests funds from MOF/MDF for the next quarter for the national government staff and for each LGU that is to receive funds. The account is replenished quarterly if 50 percent of the last allocation has been liquidated;

g. MOF/MDF requests BTR to deposit the funds in trust accounts for the LGUs;

h. The funds are deposited in an account at either Philippine National Bank or the Land Bank;

i. The bank alerts the LGUs that the funds are available.

The MDF remains relatively untested after its two year existence. The concept is ambitious, and may be unattainable in the short run. Further, other GOP agencies appear to be hesitant to use MDF, probably because it cedes some control to the MOF. An initial function of the project management consultant will be to verify that MDF still appears to be the best mechanism for transferring funds to the LGUs.

7. Financial Terms and Socio-Economic Study

The financial terms and socio-economic study has been described throughout the annex. This section is a summary of what this study will entail. The study is intended to establish guidelines for setting the user fee per unit of water consumption and for choosing the barangays which will be funded through the project. It will also develop practical techniques for using these guidelines when the project is operational.

Specific outputs of the study will include:

a. Measurement of the capacity to pay water services. This will be based on recognition that capacity is a relative and not an absolute concept so capacity must be defined as a reasonably acceptable bill for the service;

b. Identification of the willingness to pay for water services and steps which can be taken to enhance willingness to pay;

c. Development of a mechanism for estimating the proportion of households that will choose to join an RWSA;

d. Development of a mechanism for estimating the consumption of water per household for various water rates;

e. Estimation of the O&M costs which are necessary for achieving the useful economic life of water systems;

f. Estimation of the life for water system components and the fee per cubic meter of water which must be placed in the LGU Water System Repair fund to finance necessary repairs;

g. Establishment of appropriate subsidy levels.

The resources that are required to conduct the study include a financial analyst, a sanitary engineer, and a sociologist. The study can be conducted using Philippine consultants, though engineering and financial expatriate advisors should be used to help design the study.

Attachment 1

Notes for the Budget

The following algoritims summarize the caculations used to develop the budget. All prices are calculated in dollars, although those which can be purchased in pesos are marked in the budget. An exchange rate of ₱20.4 = $1 is used. The algoritims are shown using data for 1987. Table 1 lists the input data which were used for each year.

Table 1

Category	1987	1988	1989	1990
Number of project starts	7	33	47	43
Number of project finishes	0	25	49	56
Number of new LGUs	6	15	5	0
Expatriate consultant months in U.S.	0	0	3	0
Expatriate consultant months in Philippines	29	49	31	13
Philippine consultant months	41	78	64	31
U.S. months for Financial Terms Study	8	0	0	0
Philippine months for Financial Terms Study	41	0	0	0
U.S. months for general evaluations	0	4	0	3
Philippine months for general evaluations	0	0	0	0
Inflation factor	1.050	1.103	1.158	1.216

Table 2 lists 1986 values for prices which are used in the algorithms.

Table 2

Category	Unit Price
Expatriate labor in Philippines	$ 16,000/month
Expatriate labor in U.S.	$ 12,000/month
Philippine labor	$ 750/month
Water system cost	$ 79,000
Vehicles	$ 12,500
Microcomputers	$ 5,000

Line USAID

1.a Project management consultancy = Dollar costs + costs paid in Pesos + contingencies

1.a.1 Dollar costs = 29 expatriate consultant months in Philippines x $16,000/month x inflation factor
+ 0 Expatriate consultant months in U.S. x $12,000/month x inflation factor

N o t e: Consultant months includes engineering and training services.

1.a.1 Peso Costs = Consultancy + Consultant support + Social marketing firm

1.a.2.a Consultancy = 41 Philippine consultant months x $750/month x inflation factor + 29 expatriate months in Philippines x $2,000 living costs x inflation factor

N o t e: Consultant months include engineering and training services. PVO consultant time is also included here.

1.a.2.b Consultant support including a budget for consultant and travel and operational and for facilitating travel by MLG, LGUs and MOH.

1.a.2.c Social Marketing Firm = $24,000 x inflation factor

N o t e: Based on J. Walter Thompson estimate for costs to prepare education materials.

1.b Commodities = Microcomputers and software + training materials

1.b.1 Microcomputers and software = (A total of 3 for the PMO and zonal offices + 1 for each new LGU) x $5,000/computer x inflation factor.

N o t e: PMO computers are assumed to be purchased in 1987.

1.b.2 Training materials = 145,000 x inflation factor

N o t e: $145,000 annual expenditure for each year 1987 - 1989, including consumable training materials, audio visual materials, training resource materials, training supplies, and in-country seminars.

1.c Capital costs = Water systems + rehabilitations

1.c.1 Water systems = .25 x 7 Project starts x $79,000/system x inflation factor + .75 x 0 Project finishes x $79,000/system x inflation factor.

N o t e: .25 times Project starts represents the advance paid to contractors. .75 times Project finishes represents the final payment to contractors. $76,650 is the estimate for building new systems which was contained in the WASH assessment, plus 5 percent inflation.

1.c.2 Rehabilitation = 3/year x $79,000 x 19 x inflation factor

N o t e: Rehabilitations have averaged approximately 19 percent of the cost for a new system.

1.d Financial Terms Study = U.S. Based Consultants + Philippine Consultants

1.d.1 U.S. Based Consultants = 8 expatriate months x $26,668/month x inflation factor

1.d.2 Philippine Consultants = 41 months x $750 month x inflation factor

1.e Evaluations = General project evaluations = U.S. based costs + Philippine based costs

1.e.1 U.S. based costs = 0 expatriate months x $26,668/month x inflation factor

1.e.2 Philippine based costs: 0 Philippine months x $750/month x inflation factor

1.f Audit = $25,000 x inflation factor for pre-audit survey

1.g Technical assistance = .086 x 7 project starts x $79,000/start x inflation factor

N o t e: .069 is the technical assistance needed per Dollar for each subproject based on estimates of the level of effort. The remainder is a prorating of fixed project technical assistance costs.

1.h Total USAID = Dollar component + Peso component

1.h.1 Dollar component = 1.a.1. + 1.a.3. + 1.b + 1.d.1. + 1.e.1. + 1.e.2.

1.h.2 Peso component = 1.a.2. + 1.c. + 1.d.2. + 1.e.2 + 1.f. + 1.g.

GOP

2.a Project management staff = $270,221 x inflation factor

N o t e: 1986 value of $270,221 is the approximate budget for the BWP/PMO staff and operations which existed in 1984 adjusted for inflation. This represents approximately 50 person years of effort plus operations expenses.

2.b Vehicles = 16 (A total of 4 for PMO + 2 for each new LGU) x $12,500/vehicle x inflation factor.

N o t e: PMO vehicles are assumed to be purchased in 1987.

2.c Administration and operational support = .654 x Project management staff expenditures

N o t e: This anticipates that indirect effort will equal 65.4 percent of direct GOP contribution. Includes effort from Ministry of Finance, Ministry of Health, National Economic and Development Authority and others which support MLG activities.

2.d Travel = $10/trip x 201 trips/subproject x .7 Project starts

2.e 5 percent grants = 0.05 x (1.c.)
N o t e: This is a transfer to local governments. It is calculated as 5 percent of the costs for locating a new system.

2.f Total Central Government = 2.a. + 2.b. + 2.c. + 2.d. + 2.e.

LOCAL GOVERNMENT

3.a Personnel costs = Project staff + Seconded staff

3.a.1 Project staff = (3 persons x ₱36,000/year x 7 total LGUs in the program) - 20.4

N o t e: Includes the salary for the Project Manager and two Assistant Managers with an average salary of ₱36,000 per year, LGUs are cumulative in later years.

3.a.2 Seconded Staff = (7 Project starts x ₱36,000/year average salary x 3.5 person years x inflation factor) - 20.4

3.b Operations and administrative costs = (3 person years x ₱30,000/year x 7 subproject starts x inflation factor) - 20.4

3.c Training = 500 training days per year x $36.20 per training day for salary and travel x inflation factor

3.d Travel = 208 travel days per Project x Number of project starts x $10 per travel day x inflation factor

3.e Total local government = 3.a. + 3.b. + 3.c. + 3.d.

4. RWSA = (₱200/per household member x 300 household members x 7) - 20.4 project starts

N o t e: The RWSA contribution is the advance paid by members to create a revenue reserve prior to the building of a system. The ₱200 is based on ₱33.33 /month water bill x 6 months, representing six months of water bills. Actual operations and maintenance expenditures are not included as project contribution.

5. Contingencies = .05 x (1.h. + 2.g. + 3.e. + 4.)

Contingencies are calculated as 5 percent of all gross project costs. However, contingencies are only included in computations for the GOP central government and USAID in part 6 below. Contingencies are added to these two in proportion to each's precontingency expenditures.

6. Totals = USAID + GOP (central government) + local government + RWSA

6.a $$\text{USAID} = 1.h. + \left(\frac{1.h.}{(1.h.+2.g.)}\right) \times 5.$$

The last term is used to prorate contingencies. 1.h. is total precontingency USAID and 1.h. + 2.g. is total precontingency USAID and GOP (central government).

6.b Total Philippine Contribution = GOP + LGU + RWSA

6.b.1 $$\text{GOP} = 2.g. + \left(\frac{2.g.}{(2.g. + 1.h.)}\right) \times 5.$$

6.b.2 Local government = 3.e. - 2.f.

N o t e: 2.e. is a transfer to local governments and is included in the central government for purposes of calculating the total Philippine contribution. It is netted out of the LGU total since it does not absorb own source LGU funds.

6.b.3 RWSA = 4.

ANNEX K

RURAL WATER SUPPLY AND SANITATION
(492-0401)

CERTIFICATION PURSUANT TO UTILIZATION OF GRAY AMENDMENT ORGANIZATION

I, JOHN S. BLACKTON, Acting Director of the Agency for International Development in the Philippines, having taken into account the potential involvement of small and/or economically and socially disadvantaged enterprises, do hereby certify that in my judgment the majority of the goods and services other than the technical assistance required under this project can best be provided by indigenous firms and/or local private voluntary organizations. As for the technical assistance, the bulk will be provided by the Project Management Consultancy (PMC) firm, and it has been determined that its services can best be procured thru open competition. However, all other things being equal, preference will be given to firms which submit joint proposals with Gray Amendment-satisfying firms. Furthermore, for the two scheduled external evaluations, joint efforts involving both local expertise and Gray Amendment-satisfying organizations are anticipated. My judgment is based on the recommendations of the Project and Mission Review Committees.

John S. Blackton
Acting Director, USAID/Philippines

16 Sep 86
Date

ANNEX L

ENVIRONMENTAL ANALYSIS

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I. ENVIRONMENTAL CONCERNS

A. Water Supply Impacts

The provision of water supply service brings potential impacts due to the facilities provided, due to the water supplied and due to induced behaviors.

1. Potential impacts due to the water supply facilities provided include:

a. Visual impacts:

Visible elements of water supply systems include: in most level II and III systems, an elevated water tank and a small office building; for level I and II systems, a handpump or series of public standposts; other visible facilities present in some systems include pump houses, above-ground sections of pipe and/or water treatment plants. If the facilities are generally similar to those of BWP II, as they are expected to be, they will be of simple, rugged design, with no particular apparent concessions. The extent to which their appearance is a problem within the beneficiary community is dependent upon economic and cultural factors that may vary from community to community, and will vary according to the level of maintenance. The items most likely to create a visual nuisance because of physical deterioration are the elevated water tank, the office, and any water treatment plant. The only system facility which could cause any negative visual impact outside the beneficiary community is generally the elevated water tank.

b. Noise impacts:

Under normal circumstances, the only source of noise in an existing system is the pump. In the few cases where treatment of surface water may be provided, there may be sounds from chemical dosing, pumping and other mechanical equipment, but these would not normally be audible outside the facility. The pumps in most systems are submersible, and so can only be heard by placing one's ear to the delivery pipe, if it is exposed above ground. The only significant opportunity for production of noise at a level that could cause a nuisance would be diesel-driven pumps or diesel-powered electricity generation for pumping.

c. Obstruction of activity:

If public faucets or other above-ground facilities are placed in traffic ways, doorways or other places where public or private activities would otherwise take place, adverse impacts will result. This will also occur if land with an alternative use of commercial or social value is taken for the construction of facilities, such as the water tank or office.

d. Injury to persons or animals:

Injury to persons or animals may occur if unauthorized access is permitted to facilities where there is electrical equipment, where water is stored or mechanical equipment is operating or to platforms or other places from which a severe fall is possible. Injury to operating or maintenance personnel may occur if appropriate handrails are not provided for elevated platforms and accessways and guards for machinery and electrical equipment. Inadequate structural design or construction leading to collapse could also cause injury.

e. Damage to property:

Damage to property can result if, as a result of inadequate maintenance or traffic damage to an exposed above-ground item (such as a public faucet), water escapes from the system and enters an area building or place where food, materials or equipment is stored. This possibility will be greatest where vulnerable above-ground facilities are located in roadways or on the outside of T intersections or curves where an out-of-control vehicle would have a likelihood of striking them. Inadequate structural design or construction leading to collapse can also cause property damage. So too, can improper laying or jointing of pipes, for example by laying them with insufficient depth in road crossings so contributing to breakage under heavy traffic and consequent property damage due to flooding.

f. Cost, including Complementary Cost:

There will be direct user costs based on the costs of operation and maintenance and of distribution system loan repayment. These costs are dependent on: system design, daily hours of operation, and service level, including per capita water usage. There are, in some cases, complementary costs of upgrading by individual users by provision of individual house connections.

2. <u>Potential impacts of the water supplied include:</u>

a. Direct Health Impacts

Potential direct impacts of the water supplied are likely to be beneficial if the new supply is both more convenient to use, and of better quality than the alternative source previously used. However, if the water supplied has poor taste or appearance, for example because of high iron or manganese content, or high turbidity, or if it is inconvenient to obtain, it may not, in fact, be used as intended, and may therefore not have a beneficial health impact. Any such impact is also likely to be dependent on improved human waste disposal, and the improved household sanitation practices.

If the water source is contaminated by sewage or animal wastes and not treated, the system can be a direct vehicle for transmission of waterborne diseases such as typhoid, cholera, hepatitis and dysentery, and under certain circumstances of protozoan infections. Such contamination can occur because of overland flow of storm runoff into an improperly capped or aproned well, locating the well too close to a latrine or other source of groundwater contamination, failure to seal the annular space between the well and the soil, thus enabling a contaminated near-surface aquifer to pollute a deeper one used as a water source. Surface waters can be assumed to be polluted by sewage or animal wastes, and to be non-potable unless treated at least by filtration and chlorination.

Contamination by disease agents can also occur within the distribution system. This commonly occurs when newly laid or repaired pipelines are not flushed and throughly chlorinated before being put into service. It will also occur if a pipe section forming part of the system is in a contaminated location (such as in a waterway or in soil that is polluted by sewage); has leaky pipes or joints, and is at certain times not under internal pressure (e.g. if the pumps are off for part of the day).

While not a problem in most rural areas in the Philippines, there is the possibility of contamination of water sources by discharges from any industries manufacturing or using toxic chemicals and from dump sites. Any such contamination has the potential of creating adverse health effects in water system users.

b. Indirect impacts

Substantial quantities of water are generally spilled or allowed to run to waste from handpump discharges, and from public and private faucets. If this water forms ponds, it can contribute to mosquito breeding, and hence to malaria transmission.

3. <u>Potential impacts due to water-supply-induced behaviours include:</u>

a. Impacts of wastage and unplanned level III conversions:

Loss of water by wastage or pilferage, and increased usage due to level III conversion, can, under certain circumstances, deprive users of water at higher levels in the served area. The use of flexible hoses to convey water from public faucets to private property, while very convenient for those who are in a position to benefit from it, could also increase usage to the point that some other consumersers suffer.

b. Impacts of to economic activity:

Some level of economic use of the water supplied, for example for pig raising and home gardening, may fall within the intended benefits of the water system. However, one or a few users can, by engaging in a level of water-based economic activity that the system was not designed to support, deprive others of the service that they expect.

c. Impacts of to high water rates.

The amount of money paid for water depends both on the price, which may increase with time as power costs increase, and on the quantity used. New system users may not understand how much water they will tend to use, especially if they have level III connections, and may be surprised at their high water bills. A common response to high water charges is to demand that the pump be turned off at night and for some time each day. This greatly increases the opportunity for contamination and negative health impact; and, except in a leaky system, or one in which public faucets are left open when not in use, makes little difference to the cost, unless the system lacks an automatic control to shut off the pump when the tank is full.

B. Construction Impacts

The construction of water supply and sanitation facilities brings impacts of:

1. Disruption of activity:

Laying of watermains in roadways interrupts the flow of traffic and commerce. The installation of a pour-flush latrine, especially if is to be located within the house, is disruptive of family activities during the period of construction.

2. Injury to persons or animals, and/or property damage:

Inadequate marking of excavations, careless loading and unloading of pipes and materials, and disregard for safety precautions pose dangers to the public, to workmen and to property. Because of the small scale, relatively shallow trenches, the potential for serious injury and damage is not great, but some such risk accompanies every construction project. A factor to be considered here is the likelihood that local unskilled labor may be utilized in order to create consumer participation, and a sense of ownership.

3. Damage to property:

The risks of damage to property by construction operations are less than in large-scale construction, than in construction in congested urban locations. Nevertheless, damage can occur, for example, to a vehicle driving into an open trench at night or into fences, houses close to trenching, or other construction activity.

II. MITIGATING MEASURES

The following table sets out the principal mitigating measures that are available to deal with the environmental impacts discussed above, and indicates those that are proposed for adoption. All of the major and procedural measures set out in the Table are included in the measures proposed elsewhere in this document. The technical measures that are not discussed elsewhere comprise sound engineering practice, and are in general already covered in the guidelines and standard designs prepared under BWP. They should be included in the review of such materials that is provided for by the Project Management Consultant.

III. Environmental Soundness

The proposed project has two significant environmentally-related differences from BWP I and II. These are: (i) that it provides for the inclusion of sanitation improvements along with the supply of water; and (ii) that environmental evaluation of each subproject is proposed with the intent that drainage or other facilities needed to prevent adverse environmental impacts will be included. With these provisions, and other specific measures discussed elsewhere in this paper, the Project is environmentally sound.

MITIGATING MEASURES

	IMPACT	MEASURES AVAILABLE	COMMENT
(a)	Water Supply Impacts Due to Facilities		
1.	Visual impacts	Community consent	Proposed
		Operating funds, including for repainting	Proposed
2.	Noise impacts	Locate any diesel engines outside community	Proposed
3.	Obstruction of activity	Community involvement in facility location	Proposed
4.	Injury to persons or animals	Review standard designs for safety provisions	Proposed
		Conduct foundation soils analyses for water tanks	Proposed
5.	Damage to property	Locate public faucets out of traffic ways	Proposed
		Conduct foundation soils analyses for water tanks	Proposed
6.	Cost, including complementary cost	Ensure that costs are known before level of service decided	Proposed
		Ensure that probable water consumption is understood before level of service is decided	Proposed
7.	Impact of water source upon existing users	Ensure that any current users of source continue to receive adequate supply or otherwise provided for	
	Impacts Due to Water Supplied		
1.	Direct health impacts	Perform environmental evaluation, incl. sanitary survey, of each subproject	Proposed
		Locate wells clear of existing and likely future latrines and of chemical factories and dump sites.	Proposed
		Analyze water quality at test well stage, after construction, and in use	Proposed

	IMPACT	MEASURES AVAILABLE	COMMENT
		Treat surface waters	Proposed, even though expensive and may prevent use of surface waters in most cases
		Chlorinate all, including groundwater, supplies	Not proposed because of cost and operational difficulties in small systems
		Flush and chlorinate new and repaired mains before putting into service	Proposed
		Chlorinate and flush wells before final sampling and putting into service	Proposed
		Review all well designs	Proposed
		Specify and check that watermains are not laid in drains or sewer trenches	Proposed
		Ensure that watermains are pressure tested after laying	Proposed
2.	Indirect impacts	Environmental evaluations to check drainage of spilled and wasted water and include in design	Proposed
	Impacts Due to Water Supply Induced Behaviors		
1.	Wastage amd unplanned level III	Community involvement and self-monitoring	Proposed
2.	Impacts due to economic activity	Education of community to understand that system capacity is limited and decisions will be needed from time to time on uses permitted	Proposed
3.	Impacts due to high water rates	Provide automatic control to shut off pump when tank is full	Proposed
		Educate users on health risks of part time system operation	Proposed

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IMPACT	MEASURES AVAILABLE	COMMENT
Impacts Due to Sanitation Induced Behaviors		
Lack of familiarity	Hygiene education	Proposed
(c) Construction Impacts		
1. Disruption of activity	Limit time for construction in contracts; provide	Proposed
	for more expeditious contractor payments	Proposed
	Limit length of trench that can be kept open in advance of laying and testing pipelines	Proposed
2. Injury to persons, animals and property	Limit open trench length	Proposed
	Evaluate insurance and contractor liability aspects of use of specified or volunteer community labor	Proposed

ANNEX M

TRAINING STRATEGY AND PLAN

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I. Purpose and Outcomes

Training is a major strategy used in this project to achieve its purposes. This annex summarizes the development and design of a training effort aimed at three levels.

The first level at which the training effort is aimed is the national level. The target group is the Project Management Office (PMO) staff. Its job is to become the institutional strengthener of the LGUs. Therefore, the project will attempt to build its capacity by strengthening its performance in building strong and capable LGUs. Training will be the major vehicle for accomplishing this.

The second level towards which training is focused is the provincial level. The target is the Local Government Unit (LGU). The project intends to build the capability of LGUs by strengthening their performance in providing water to rural barangay residents. This will be achieved primarily by training LGU personnel.

The third level at which the training effort is aimed is the barangay. The project will build the capacity of user associations by strengthening their performance in planning, implementing and maintaining financially viable water systems. Once again training will be used to bring this about.

Institutional building by its very nature is a time consuming process. While skills can be developed relatively quickly, habits and attitudes change very slowly. The process requires an imaginative blending of technical and human resource development skills.

All training under the project will:

A. Develop Specific Skills, Knowledge, And Attitudes Required For Effective Job Performance

Training in the project must develop job related skills, knowledge and attitudes. Under BWP II training was seen primarily as a requirement. In order for an LGU or a barangay to enter into a program agreement certain "trainings" were required. The focus was on the delivery of the event rather than on helping people to learn job related skills. If all the required "training" occurred, training was then considered to be fulfilling its intended role. Training was viewed as the imparting of information. Most training events were presentational in nature for large numbers of participants.

Under the project training will build the necessary technical skills at all levels to enable individuals to perform the jobs to which they have been assigned. Skill training will occur in a range of areas including engineering design, groundwater hydrogeology and well development, training of trainers, financial management, sanitation and community development. Training will be based on a practical and systematic approach designed to provide relevant and directly useful training.

B. Focus On Organizational Units, Teams Or Groups As Well As Individuals

The building of skills in individuals is an important part of any staff development effort. Under the project individuals at all levels will be helped to increase their skills through training. However, training will also focus on improving the performance of organizational units, and teams. An individual who has received training and then returns to an unchanged working environment in terms of strategy, systems, and policy, typically reverts to his/her pre-training level very quickly. Training under the project will help the PMO staff, the LGU and the barangay develop systems and processes for getting work done, build a sense of teamwork and instill a commitment to project goals.

C. Aim At Improving On-The-Job Performance

Training will be designed around the need to accomplish certain project tasks. It will include preparation for doing the task, the actual doing itself, and a review of what was learned. In this way training will become an integral part of the process of accomplishing tasks rather than being treated as a distinct and separate event. For example, a specific project task that will need to be accomplished is the design of a training program for LGUs. The current BWP II staff is lacking in this skill. Rather than holding a workshop on how to design a training program and then sending off staff to do it, the staff will be trained in this skill while at the same time actually designing the program. Likewise, the LGU staff have to accomplish the task of conducting feasibility studies at the barangay level. In the past the feasibility studies were not always well carried out. Rather than training LGU personnel in how to conduct a feasibility study and then leaving them on their own to do it, their training will include the actual doing.

D. Be Targeted Towards Achieving Specific Results

Improving on-the-job performance is not enough. Under the project training must be geared to achieving specific results for which each level is responsible. Therefore, training must always encourage a focus beyond the simple accomplishment of a project task. This means that training of PMO staff must help participants to keep their eye on the long term aims of the project. If the role of this staff is to be the "institutional strengthener" of the LGUs, they should not, for example, see as part of their job the delivery of training or technical assistance to the RWSAs. Rather they must direct their efforts towards helping the LGU be more effective in assisting the RWSA. This will require a major change in the orientation and attitudes of PMO staff whose emphasis has been on getting systems implemented rather than improving the performance of LGUs to to it.

In a similar manner training at the LGU level must help both technical and non-technical staff to view their role more broadly. Their job does not only involve seeing to it that water systems are implemented. It also involves a strengthening of the ability of barangay residents to actively participate in the planning, implementing and management tasks.

II. Training at the Project Management Office Level

A. Current Situation

The major new role of the PMO is to become the institutional strengthening arm of the project. In the past this office has mainly been administrative. It concerned itself with the paper work processes involved in executing program agreements with LGUs, in the review and approval of feasibility studies, in review and approval of engineering designs, and in conducting some of the "trainings" before program and project agreements could be met. The PMO relied heavily on consultants to perform programmatic tasks. The A&E consulting firms played a major role in supervising the engineering work done by the Provincial Engineering Office. Another sub-contractor was hired to assist in strengthening the training, monitoring, research and evaluation capability of BWP. A third sub-contractor provided institutional consultancy services often directly to the barangay level.

For the most part these consultants were the implementing arm of the BWP. They operated fairly autonomously of the PMO which did not view its role as being a manager of consultants. The consultants defined their clients as the LGUs and barangay residents, not the PMO staff. Therefore very little skill transfer occurred from consultants to PMO personnel who had few opportunities for professional development. Under BWP I and II no provisions were made for training at this level. Some employees were assigned to positions for which they had little background or experience. No effort was made to upgrade the skills they needed in order to perform their tasks effectively.

Currently because of major reorganization efforts occurring in the sector and lack of a clear mandate and goals, staff at the central level are underproductive, low in morale, and unfocused in their activities.

B. Improvements Needed

Under the new project the PMO staff will play a vital, proactive role in shaping and implementing the project strategies. With the full support of the Project Management Consultant (PMC) they will work more directly with the LGUs not as administrators but as developers of institutions. In order to fulfill this role improvements in performance are needed within all three units (Engineering, Training, Monitoring and Evaluation), across units and within the organization as a whole.

1. Organization-wide

Improvements are needed in:

a. Gaining Understanding of and Commitment to Project Goals

The Evaluation Report states that little or no energy has been put into promoting BWP since 1981. The staff has had no clear vision of the future for which it was aiming. The project will have an opportunity to revitalize staff commitment of project goals. During project design, designers develop their understanding of project goals and of how the project should work.

But implementation involves operational level staff who seldom participate in design. There is generally a gap in handing over the responsibility for project success from designers to implementors. To overcome this gap, project "ownership" must pass from the designers to the implementors. The PMO staff has never "owned" the institutional strengthening goals of the project.

b. Clarifying Roles and Responsibilities for Project Tasks and Activities

In BWP there are lines of responsibility but no accountability. For example, although there are some field trip reports, there are no documented follow-up procedures. Although an organization chart listing job responsibilities exist, they are not focused on accomplishing project tasks and activities directly related to achieving the project's institutional strengthening goals. Project failure are often due to organization failure, the inability of the implementing organization to control resources and execute the project. Projects involving reorganization of staff cause confusion regarding who does what, who controls whom, and who is responsible for what and whom. Because of its importance, the project organization must be carefully defined in relation to the needs and characteristics of both the project and the implementing agency. To make the project work administrative procedures, lines of authority and areas of responsibility must be carefully structured. These are areas in need of improvement which must be addressed by the project.

c. Development of Implementation Plans and Schedules

The Evaluation Report states that planning tools are not evident at the PMO. When understanding of project goals has occurred, the staff must then clarify specific outputs, prepare realistic work plans and schedules, develop accurate budgets and write individual work plans. While the implementors do not have the freedom to throw out the original design and begin anew, they can and should make revisions to reflect changes in conditions since the original was written and develop project plans that are realistic. This is currently not occurring at the PMO.

d. Establishing Information and Control Systems

Under BWP no clear systematic method existed for disseminating information such as BWP policy changes or guideline revisions. There is no mechanism for progress reporting and for re-planning based on

achievement of progress and performance indicators. Project monitoring and control is what keeps the project on track. Control is based on implementation plans, but deviations from plans should be expected. The purpose of project management systems is not to enforce conformity to plans but to detect when deviations fall outside tolerable limits and alert management when they do. Monitoring is distinct from evaluation. Monitoring measures whether the project is on track. Evaluation questions whether it is on the right track. Information and control systems must be established at the PMO.

e. Building Multi-disciplinary Teams

The PMO units cannot work in isolation of each other. If the major aim of the project is to strengthen the performance of LGUs, an interdisciplinary approach on the part of the PMO staff will be required.

f. Management of Consultants

Under BWP management of the various consultants was non-existent. Under the project there will be a large number of consultants assisting the PMO to implement the project. It will be crucial that the consultants are clear about expectations of the PMO and about the outputs and standards for which they are accountable. Consultants must understand their own role, the role of the PMO and the role of other consultants so an integrated and well managed technical assistance effort is implemented and project results are achieved.

2. Across Units

Improvements are needed in:

a. Approaches to Consulting, Training Delivery and Technology Transfer

Almost all the professional staff will play a role in giving advise to LGUs whether it be on an engineering procedure or a training design for RWSAs. This requires skills in the consulting process and changing attitudes from "doing for" to "doing with". Likewise many staff members will be called upon to train LGU personnel by transferring their skills (technology transfer).

b. Developing Community Participation and Health Strategies

Community participation should be everyone's concern not just that of the trainers or community organizers. While the PMO staff will not be working directly at the barangay level, it will be responsible for developing guidelines concerning community participation, training LGU staff in community participation approaches and giving assistance to LGUs in developing a participatory strategy to working with barangay residents and RWSAs. In the same way, PMO staff will have the job of developing guidelines concerning the

participation of Ministry of Health in the project, training LGUs in the relationship between water and health, and assisting it to promote health and sanitation activities at the barangay level.

3. Technical Units

Improvements are needed in:

a. Construction Supervision

There have been many examples of poor and inadequately supervised construction (See Annex 1). It will be the job of the Engineering Unit to help LGUs improve their performance in this area.

b. Operations and Maintenance

Several operations and maintenance problems are identified in Annex H. The Engineering Unit will help each LGU improve its operations and maintenance record.

c. Test Well Design and Construction

The Engineering Unit will be responsible for providing training for LGU personnel in well design, test well site selection, and the interpretation of well logs, aquifer material tests, pump test data and ground water quality analysis.

d. Design Procedures

Certain design procedures need review for appropriateness and cost effectiveness. The Evaluation Report also made some specific proposals regarding perceived deficiencies in the BWP specifications and contract documents. The content and format of design manuals need review both from a technical and training stand point.

4. Training Units

Improvements are needed on:

a. Training Needs Assessment

Assessment of individual learner and organization needs is a crucial first step in developing a training design. Its purpose is to identify the performance gap in the functioning of individuals and institutions. Conducting an effective needs assessment requires using a variety of fact finding and analytical techniques. The importance of the trainer's behavior and performance during the assessment cannot be overemphasized. He/she must work hard to develop a climate of collaboration and trust. Under BWP I and II, training programs were delivered without conducting this important first step which insures that the training design

will be directly relevant to the participant's job setting. The Evaluation Report states: "Because courses are not conducted on the basis of needs analysis, the training agendas show a distressingly similar series of course offerings year after year. Many of the training needs discovered by the evaluation team are not being addressed by BWP trainings."

b. Training Design

Training design involves several key skills such as setting performance objectives, sequencing the content to be taught and selecting the most appropriate training method. Without an effective training design, effective training will not take place.

c. Training Delivery

The need for improvement in delivery of training is clearly evident. Imparting of information as was done under BWP is not training. Adult learning follows a four step cycle model for conducting training events. This is often referred to as the "Experiential Learning Cycle".

d. Evaluation of Training

The real success of training can only be measured by improved on-the-job performance and more effective achievement of specific results for which a unit or group is responsible. Under BWP the success of training was measured in terms of inputs such as number of participants trained and number of trainings held. A great variety of devises can be used to measure and evaluate outcomes of training including observation, testing, certification check lists, follow-up interviews or output measuring on-the-job.

e. Training Materials and Manual Development

The training materials and manuals used by BWP are not effective teaching tools. The format and content of any manual, job aide or training hand-out must be clearly written, well organized, have a logical sequence and take into consideration characteristics of the learner. Trainers with skills in manual development often work with technical experts to produce products that are useful and learner centered.

5. Monitoring and Evaluation Unit

Improvements are needed in:

a. Record Keeping

During the evaluation team investigations no one could provide the 1985 budget, the 1983 and 1984 targets or annual plans, the LGU evaluation team reports or figures on status of projects in all LGUs. An appropriate microcomputer system should be determined and monitoring personnel trained how to use it at both the LGU and PMO level.

A determination should be made about who needs what information and why. A Project Management System (PMS) generally serves at least three management levels - managers at individual project activities, the overall project manager and the project's sponsoring agency. The information a PMS provides should reflect the nature of decisions and actions for which each level is responsible. Appropriate performance indicators should be selected, and decisions made about how and where to get data, and how it will be analyzed.

b. The Design of the Reporting System and Documents

The current BWP reporting system is inadequate, the documents used are ill designed for providing information needed by managers. The purpose of a reporting system is to provide the right information to the right people in the right format at the right time. A reporting system must clarify who makes the reports, who must receive them, who must approve them and who must be consulted or informed.

C. The PMO Staff Development Program

1. Purpose and Outcomes

The purpose of the PMO Staff Development Program is to improve its performance as the institutional strengthening agent of the project, a role it has never realized in large part because of the absence of staff development opportunities that the new project will now provide. The major outcomes intended are:

a. A pro-active PMO with a functioning service delivery system structured to improve overall performance in LGU functioning.

b. Units with operational approaches to technology transfer, consulting, training and community participation.

c. Inter-disciplinary teams with a coordinated approach to institutional strengthening.

d. Personnel with necessary technical skills to perform the jobs to which they have been assigned.

2. Program Elements

a. Implementation Planning Workshop

Early in the start-up of the project an implementation planning workshop will occur (see Annex C of project paper). Development projects are complex, ambitious undertakings which sometimes succeed but more often fail to reach all of their intended objectives. When projects fail the reason is frequently due to unrealistic objectives, inadequate planning, inefficient organization, poor coordination, limited managerial capacity, or

similar "management problems". Experience has shown that most of the management problems which limit project success can be anticipated in advance; many can be reduced or resolved before they become a crisis.

There is a practical approach which project teams can use to build solid foundations for project implementation and thus overcome typical problems. The project intends to hold an intensive planning session soon after the PMO is in place. It will involve the project manager, staff, MLG representatives, donor staff, contractors, and others who play important implementation roles. By completing the process together, implementors reach a shared understanding of the project, develop effective working relationships, and acquire a common set of management concepts for use throughout the project.

b. Staff Re-organization

The PMC staff will work together with the PMO to develop a workable staffing plan that is responsive to project needs. A part of this effort will involve the assignment of one staff member to each participating LGU. This individual will be the team leader responsible for managing the technical assistance and training inputs to a particular LGU calling upon staff from other units to serve as team members.

c. Unit Implementation Planning

Each of the units of the PMO will undergo its own implementation planning based on a frame work developed in the first organization-wide implementation planning workshop.

d. Skill Training Workshops

Practical workshops to build job related skills will be held for personnel across units as well as for particular units. Appropriate personnel from all units as well as sub-contractor consultants will participate in workshops on consulting skills, training/technology transfer skills, and community development approaches. Other skills training workshops will be held in:

i. Construction Supervision

ii. Operations and Maintenance

iii. Test Well Construction and Design

e. On-the-job Training

This training will be primarily designed around the need to accomplish certain project tasks. On-the-job training often happens with little structure or guidance from the "trainer". Personnel are left to their own devices to pick up whatever skills they can. Under the project a vigorous

and more structured approach will be used for all OJT training events. The first phase is preparation for doing the task (which may or may not occur at the site where the task will be accomplished). This preparation period will be carefully designed using principles of adult learning and experiential training approaches.

The next phase involves the actual doing of the task under the guidance and supervision of the "trainer". The last phase is a review of what the participant learned from doing the task. For example, a major task of PMO teams will be to design and conduct a training and technical assistance needs assessment of LGUs intending to enroll in the LGU Development and Certification Program. On-the-job training for accomplishing this task would involve:

i. A workshop for PMO personnel from the Engineering Unit and Training Unit on how to design a needs assessment instrument. During the workshop personnel would actually design the instrument to be used as well as practicing the communication and consulting skills that will be crucial in working with the LGU "client". ("Clients" may view this activity as a threat. Therefore, careful attention will be paid to the manner in which the PMO team approaches the LGU).

ii. Conducting the needs assessment on site and analyzing the results under the guidance of the PMC trainer.

iii. Reviewing what was learned from doing the activity and planning for improvements in performance the next time it's done.

This model will be applied to other project tasks for which PMO staff is responsible. For example, training provincial engineers in better construction management and training the LGU Project Development Team in how to conduct feasibility studies.

f. Team Building Workshops

At least once a year over the life of project, a team building workshop will be held for PMO staff away from the office site. During the workshop problems affecting the PMO will be discussed and solutions adopted. Assessment of progress towards achieving project targets will be reviewed and re-planning to get the project back on track will occur.

III. Training at the LGU Level

A. Current Situation

The LGU is the primary implementing arm of the project for developing water and sanitation subprojects. The LGUs have had difficulties in the following areas:

1. Community participation:

This area is perhaps the most problematic of all. Community development is a difficult and time consuming task and one that takes special skills. Currently LGUs are having minimal success in involving barangay residents in the planning, implementing, operating and maintenance of their water system. The evaluation report came to the conclusion that "In many cases barangay residents feel no particular sense of ownership or responsibility for their BWP water system." It points out that in some barangays RWSA members were not involved in system design or layout, were not party to the selection of the contractor, and were not involved in construction. It suggests that many RWSA "lack of ownership" issues result from having been told what-is-what by the LGU instead of barangay residents thinking through participating in decisions themselves. In a study conducted in 1983 by Professional Rural and Urban Consultants, Inc. of BWP participating LGUs only 24% of the respondents indicated that the LGU informs not only the barangay officials but also the people of the community before conducting the structural survey. Not only are few community members involved, but the word "informed" is an example of how the LGU perceives its role. Just as the PMO approaches the LGU from the prospective of a regulator rather than as a collaborator/ consultant, so the LGU approaches the community.

2. Training

The situation with training is again similar to what can be found at the PMO level. LGU personnel have never been trained as trainers and yet they are responsible for conducting the required nine community level "trainings".

3. Technical Concerns

Technical areas that are problematic for the LGUs are the same ones mentioned for the PMO--namely, operations and maintenance, test well design and construction, construction supervision and design procedures. When direct inquiry of LGU personnel concerning their own training needs was made during the 1983 RURBAN Study of BWP - Participating LGUs, the need mentioned most often by the PEOs was in water system design and construction. Also mentioned was pipe installation and well drilling. The Evaluation Report implies that the A&E firms have not been involved in training PEO staff in the preparation of detailed design and the quality examination of work accomplishments. This suggests that they see their role as primarily dealing with systems rather than as transferers of technology to LGU staff.

4. LGU Management

In the past BWP has required that LGUs form a provincial (or city) development task force with representatives from the PDS, PEO and other governmental units. From this task force the development of sub-projects was assigned. The result was considerable role confusion as to who is responsible. There was no single person with implementation responsibility for sub-projects.

The current task force arrangement does not promote inter-disciplinary teamwork. At times the PEO and the PDS work in isolation of each other. The encouragement of local participation and the strengthening of RWSA performance is seen primarily as the role of the PDS rather than as a target for which everyone must consciously aim.

Sector coordination is problematic. The limited resources of the LGUs are often stretched to the limit by responding to the demands of varying funding sources each with its own set of procedures and requirements. This situation inhibits the ability of the LGU to plan an overall water development program.

5. RWSA Management

RWSAs have trouble collecting monthly water fees. Many RWSA members do not understand what costs are included in their monthly water rates though they "have been told". Almost no RWSA budget planning takes place. The books are not properly maintained.

6. Sanitation and Health

Water quality testing is not being performed on a regular basis. Health and sanitation training related to water use is not being conducted despite the fact that in 1978 the Ministry of Health accepted, in writing at least, responsibility for these tasks. No action has been taken at the PMO or LGU level to encourage MOH participation in the project.

B. Improvements Needed

Under BWP the LGUs perceived their role to be primarily the implementors of water projects. The new project will help them expand this role to emphasize the development of financially and socially viable user associations and the promotion of health projects and health education activities related to water and sanitation., In order to fulfill this role while upgrading the technical work as well, the following improvements in performance are needed.

1. Community Participation

Because it is far more difficult to work with people than it is to work with nuts, bolts and pipes, it will need extra attention and effort to carrying out its role in promoting community participation. Although many of the tasks involved in mobilizing the community will be implemented by the trainers and community organizers, all members of the team including the Waterworks Engineer, Waterworks Technicians and Waterworks Analyst must play a part. Each member must see the community as its client. Two representatives of the community should be members of th sub-project implementation team.

The technicians must view their roles as more than designing and constructing water systems. They must understand the impact that technical decisions can have on the community; be able to communicate technical options to people with a non-technical background; and allow for appropriate community decision-making about technical aspects of the system. Likewise, the members of the team who are not engineers must understand the degree to which there is flexibility in technical decisions; the importance of adhering to technical standards; and an appreciation of technical design and implementation problems and issues.

Community participation means involvement in decision-making.

In order for effective and informed decision making to occur, several things have to happen:

- Community members must have relevant and specific information at certain key points on time
- Community members must have time to consider the information
- A problem-solving and decision-making process must occur during which problems are identified and clarified, alternatives are generated and weighed, and solutions are agreed to.

It is the job of the team to identify which information is needed and when, how to best communicate the information, and most importantly how to assist community members in reaching a sound decision. This will require a somewhat different orientation from that of the past which was driven by the need to install a certain number of water systems.

Additional staff with community development experience is needed to help implement the major elements of the community development thrust.

2. Training

Improvements are needed in three of the same areas listed for the PMO. They are needs assessment, training design and training delivery. In addition, performance in conducting community meetings, in leading a group through a problem solving process and in using non-formal educational techniques needs strengthening.

New training sessions are needed for barangay residents and RWSA officers/managers in:

a. Bid selection processes

b. Design/layout of water system

c. Monitoring of construction

d. Methods of anticipating annual expenses and adjusting

e. Budget planning

f. The link between water and health

Revised and improved training sessions are needed in all the topics currently covered by the community "trainings". Particular attention needs to be given to skill building in operations and maintenance and in bookkeeping.

3. Technical Concerns

Improvements are needed in all areas listed for the PMO, i.e. construction supervision, test well design and construction, design procedures and operations and maintenance. Increased skills in teaching operators and barangay residents through technology transfer are required.

4. LGU Management

A full time manager is needed with responsibility for implementation management within the project. Sub-project managers are needed to coordinate the resources of the PEO and PDS. An inter-disciplinary team approach is required for subproject development. Project Development Teams (PDT) should be formed for each sub-project to be developed. Implementation planning is needed at the beginning of sub-project start-up to clarify roles and responsibilities for project tasks, develop implementation plans and schedules, agree on performance indicators and set up procedures to monitor whether the project is on track.

Options for sector reorganization at the provincial level should be developed to achieve better coordination of the various water efforts and to allow for provincial wide planning in water development.

5. RWSA Management

In addition to the training sessions mentioned under 2., continued and on-going follow-up should take place with every RWSA management team. RWSA managers should be helped to take a more pro-active problem-solving approach to situations as they occur. This can be encouraged by the approach LGU personnel use with the RWSA which should be one of fostering independence. Rather than trying to solve all of the management problems an RWSA faces, LGU personnel must promote in management an analytical ability and skills in making sound decisions.

6. Sanitation and Health

The role of the PDT should be expanded to include the promotion of health projects and health education activities related to water and sanitation.

Each team member should know at least basic information concerning the relationship between water and health, have an understanding of how health considerations come into play when planning, designing and implementing systems (for example, how to avoid contamination of ground water sources with a shallow aquifer), what current practices involving water and sanitation need to be changed, and what role each can play formally and informally to raise community awareness about the relationship between water and health.

During the feasibility study carried out by the team, information should be collected about characteristics of the current water supply, water-related sanitary facilities and practices, non-water related sanitary practices, and socioeconomic and household characteristics. The team should be provided with a structured tool for carrying out this part of the feasibility study. Based on the data collected, the team will plan a water and sanitation for health strategy.

Coordination with other water and sanitation efforts or health projects implemented by MOH or the Provincial Health Office must occur. The team should also have responsibility for insuring that initial and on-going water analysis are conducted.

C. The LGU Development and Certification Program

1. Purpose and Outcomes

The centerpiece of the project strategy is to design and implement an LGU Development and Certification Program that will enroll and graduate selected LGUs throughout the country. The purpose of the program is to build the capability of LGUs by strengthening their performance in providing water to rural barangay residents. The major outcomes intended are:

a. The graduation of 19 LGUs with capabilities in managing the provision of domestic water and sanitation services through RWSAs.

b. RWSAs that are operating and maintaining financially viable water systems which are delivering enough potable water on a regular basis to meet minimum community requirements

2. Essential Features

There are six essential features to the LGU Development and Certification Program:

a. A well planned orientation program designed to enable interested LGUs to make informed decisions about participation.

b. A needs assessment phase which will identify specific training and technical assistance needs of a particular LGU and assist LGUs in meeting enrollment requirements.

c. The building of a client/consultant relationship between the LGU and MLG's PMO that insures an equal partnership and involves the LGU in all aspects of decision making regarding the delivery of training and technical assistance.

d. A core curriculum that is based on improving performance of sub-project development teams and promoting an integrated, inter-disciplinary approach to sub-project development.

e. Follow-up skill training and technical assistance to meet the specific needs of a particular LGU.

f. Support to project activities in the form of vehicles, grants for hiring additional personnel and materials for training and community development activities.

3. Program Mechanics

On the basis of experience under BWP II, the LGUs have been divided into four categories of decreasing residual capacity to implement water and sanitation projects. The selection of target LGUs for possible enrollment in the program will be based on a combination of factors including, but not limited to need, capability and ease of access. Selection from among these LGUs will require the use of more detailed criteria to be established during project start-up.

Confirmation of the category in which an LGU will be placed at enrollment will take place after an on-site training needs assessment of each has been carried out. Depending upon the results of the assessment, an LGU will be required to complete at least five but no more than six water projects at six monthly intervals in order to graduate. Some LGUs will be asked to start-up two sub-projects at the same time. In addition each will have to meet required performance standards at the time of graduation. The entire process from enrollment to graduation will take a minimum of 18 months and a maximum of 3 years.

During the planning and implementation of the first system under the program, LGU personnel will receive approximately 65 days of core curriculum on-the-job training while completing necessary project tasks. The number of days for training includes the actual completion of some of the project tasks necessary (such as conducting the feasibility study). The training will occur both in the classroom and in the field. The 65 days will occur intermittently over the course of the planning and implementing of a sub-project. After completion of the first sub-project, further needs for specific skill training will be identified and training and/or technical assistance will be delivered. Upon meeting all performance criteria required for graduation, an LGU will leave the program.

4. Requirements for Participation

A final determination of requirements for participation will be made during project start-up. The following requirements are suggested:

a. A full time water and sanitation member hired and on board

b. Two full time sub-project managers (community organizers) hired and on board

In addition, requirements for participation under BWP, such as a functioning PDS with eight core positions or a current capital improvement plan/local development investment plan, should be considered.

5. Program Phases:

There are five phases that an LGU passes through from pre-enrollment to graduation. They are:

a. Phase One: Orientation

b. Phase Two: Needs Assessment

c. Phase Three: Core Curriculum On-The-Job Training

d. Phase Four: Follow-up Technical Assistance and Training

e. Phase Five: Certification/Graduation

The LGU must be an active partner during each phase of program implementation. The success of the institution building process depends heavily on the collaborative relationship built between the PMO and the LGU. The task of the PMO is the "work with" rather "doing for". The degree to which the LGU has control over analyzing its own needs and helping to develop a strategy to meet those needs is the degree to which effective learning will take place during the program. The procedures and plans developed by the PMO must be flexible enough to accommodate individual LGUs.

a. Phase One: Orientation

This phase takes place prior to enrollment in the program. Its purpose is to identify those LGUs interested in enrolling and prepare them for the next phase. The major activity of this phase is conducting a two-day orientation workshop for potential LGU candidates. The outcomes of this Phase One are:

- o LGUs informed about program purpose, outcomes. approach, requirements and implementation steps.
- o Expectations and roles of PMO and LGUs clarified.

- Agreements reached on:
  - Performance indicators to measure LGU performance,
  - Role, function and structure of new RWSO (Rural Water and Sanitation Office),
  - Personnel requirements.

b. Phase Two: Needs Assessment

The purpose of this phase is to conduct a training and technical assistance needs assessment of each LGU, to confirm the category in which an LGU will be placed at enrollment and to develop a plan for its involvement in the program. The LGUs who have agreed to move on to this phase will work closely with the PMO team to conduct the needs assessment activities. The outcomes for this phase are:

- Identification of PDT and individual learning needs
- Confirmation of enrollment category
- Confirmation of ability to meet program requirements
- A plan for structuring the new Rural Water and Sanitation Office (location, authority, reporting channels, coordinating mechanisms)
- A plan for meeting enrollment requirements
- Agreement on number of subprojects to be implemented
- A target date set for signing of Memorandum of Agreement and for start-up of training

During this needs assessment phase interviews and working sessions will be held with the Governor's Office and with PEO and PDS personnel. In addition, on site assessment of water systems already built and interviews with functioning RWSAs and community leaders may be conducted.

At the end of this phase, a Memorandum of Agreement (clearly spelling out the responsibilities of both parties) will be signed between MLG and those LGUs who have decided to enroll. It will include the specific performance standards to be achieved for graduation as well as the plan for training and technical assistance activities.

c. Phase Three: On-The-Job Training

The purpose of this phase is to improve the skills of the Rural Water and Sanitation Office Staff in performing specific job tasks. The outcomes of this phase are:

- o Improved performance of project tasks,
- o Progress towards meeting performance indicators,
- o A plan for follow-on technical assistance and training.

After the needs assessment conducted with potential LGU enrollees, a detailed core curriculum for on-the-job training will be developed. Each training module will be designed around a major task that the PDT must perform. The module will include time for the actual performance of the task under the guidance and supervision of the PMO training team (with help from the Project Management Consultant).

The modules will be delivered as close as is practical to the actual timing of a particular task. The module on conducting the Feasibility Study, for example, would be delivered at the point when the PDT is ready to do a feasibility study for their first subproject. A set of Illustrative Training Modules for the LGU Development and Certification Program can be seen in Table L/1.

d. Phase Four: Follow-up Technical Assistance and Training

After completion of the first subproject and the simultaneous core curriculum on-the-job training, progress made towards meeting performance criteria for graduation will be assessed. Additional needs for training and technical assistance will be identified and a delivery plan developed. During this phase each LGU will receive close follow-up and every effort will be made to assist it to meet the graduation requirements.

e. Phase Five: Certification and Graduation

In order to be certified for graduation, each LGU must meet certain performance standards.

One of the early tasks for the PMO is to develop and/or refine the performance indicators to be used to determine graduation eligibility. The suggested performance categories with examples of indicators are:

i. <u>Sector Coordination Indicators</u>

- o A draft plan for re-organizing the water sector at the provincial level to achieve greater coordination

ii. <u>Management and Administrative Indicators</u>:

- o Functional job descriptions for WSO staff and PDT members with standards of performance indicated

- o Established coordinating mechanisms for drawing staff resources from PEO, PDS, and PHO (Provincial Health Office) and for information sharing and planning.
- o Implementation plans, schedules, and budget developed
- o An established system for monitoring and control
- o An evaluation plan for assessing the impact of PDT interventions
- o A three year strategic plan for expansion and support of water projects

iii. Personnel Indicators.

- o A fully staffed WSO (3 full time positions)
- o WSO positions fully funded by LGU
- o No turn-over in WSO staff during enrollment

iv. Training and Technical Assistance Indicators

- o Procedures for conducting training and technical assistance needs assessment of RWSAs prepared
- o Procedures developed for evaluating the relevance and usefulness of training and technical assistance
- o Participatory methods adopted for delivery of training and technical assistance to RWSAs
- o Training modules developed for conducting RWSA training

v. Community Development Approaches Indicators

- o An established process followed for maximizing community participation
- o Regular meetings held by all PDT members to assess impact of community development interventions

vi. Health and Sanitation:

- o Regular participation by barangay health volunteer or midwife on PDT.
- o Gathering of health data during feasibility study institutionalized.

- o Coordination occurring with other MOH and Provincial Health Office activities at barangay level.

vii. Technical Capability Indicators

- o Systems built and working.
- o Repair shop functioning.
- o Adequate service based on feedback from users.
- o At least one qualified engineer with water supply experience working full time on water and sanitation.
- o A sanitary engineer or sanitarian, a mechanical engineer and an electrical engineer available to assist PDT when needed.

viii. Project Specific Results Indicators

- o Community members making key decisions about:
  - Whether to proceed with water system.
  - Type and location of system.
  - Selection of contractor.
  - Structure and function of user association.
  - User rates and collection mechanisms.
- o RWSAs that are:
  - Delivering enough potable water on a regular basis to meet minimum community requirements.
  - Technically able to operate and maintain their own water systems.
  - Making regular monthly payments towards operation and maintenance of the system.
  - Involved in improving community sanitation practices.
  - Making regular amortization payments.
  - RWSAs capable of financing minor repairs.
  - Holding regular meetings.

IV. Resources Needed

The training effort will be organized with the help of the Project Management Consultant (PMC). A training coordinator provided by the PMC will work closely with the Project Manager and the Training Unit to plan and implement the LGU Development and Certification Program. Although the major responsibility for managing this effort will lie within the Training Unit, both the Engineering Unit and the Monitoring and Evaluation Unit will be closely involved.

Training and Technical Assistance teams will be formed at the PMO. Team members will include personnel from all three units at various points in time during delivery of training and technical assistance depending upon the needs of a particular LGU and the phase of the program. Each team will be managed by a team leader either from the Training Unit or the Engineering Unit. The team leader will have several LGUs for which he/she is responsible throughout the duration of their enrollment in the program. This arrangement allows the LGU to deal with only one person concerning the management and coordination of the training and technical assistance it will receive.

Philippine trainers provided by the PMC either through a sub-contract or other arrangements will assist each training team during its delivery of the core curriculum on-the-job training for enrolled LGUs. Their role is not to train the LGUs directly but rather to give guidance and support to the PMO training teams. They will be delivering on-the-job training to the PMO training teams while the teams are conducting the core curriculum for LGU personnel. The services of six Philippine trainers will be needed for a total of 82 person months over the first two years of the project. They will be provided by the PMC either through a sub-contract with a Philippine PVO or through some other arrangements.

The PMC will also provide a full time Philippine Community Development Coordinator at the PMO who will work closely with the PMC Training Coordinator and the Training Unit to develop the overall process for community development to be used in the project, and to work with the PMC Training Coordinator to design and conduct training for PMO staff on community development approaches.

In addition the Community Development Coordinator will be responsible for working with PMO staff to develop guidelines for the water related health projects and education eforts to be promoted by the LGU at the barangay level.

The Philippine Community Development Specialists will join the PMO training team during the delivery of the core curriculum training to LGUs. Their role will be to train the Project Development Team at the LGU in community development approaches and help it to develop a strategy for community participation. They will also be responsible for training the PMO Training Team so that after time it will be able to deliver the community development training to LGUs on its own.

The PMC will hire a Training Materials Development Coordinator. It will be the role of this person to work with all units to develop training materials for the LGU Development Certification Program. He/she will also work with the Engineering Division to assist it in the development of technical manuals, and with the Project Manager to develop publicity materials for the project including orientation packets for potential LGU candidates and a newsletter, on project activities and experiences.

A Project Management Consultant/Chief of Party will head up the PMC team. It will be his/her role to assist the MLG Project Manager to implement the major management interventions planned by the project. He/she would be assisted on a short term basis by a Philippine budgetting and financial advisor.

The PMC will also retain a Hydrogeologist/Groundwater Development Specialist and a Rural Water Supply and Sanitary Specialist for the first year of the project who will work with the PMO Engineering Unit to improve its performance in managing the technical aspects of the project. They will also work with the PMC Training Coordinator and the Training Unit to design and conduct training for PMO and LGU staff in engineering design, groundwater hydrogeology and well development, construction supervision and operations and maintenance.

Three A & E sub-contractors will be hired by the MLG to provide technical assistance and monitoring guidance and support to the LGU's Water and Sanitation Office and in particular to the PEO. In addition, these consultants will assist the PMO Training Teams in the delivery of training to the LGU engineers.

All of these contractors and consultants must be coordinated and managed so that an integrated training and technical assistance effort is developed. This is the role of the MLG Project Manager with close assistance from the PMC Management Consultant.

It is important to keep the focus of all these consultants and technical assistance providers on improving the performance of the PMO staff. It will be easy to slip into the role of decision maker and implementor unless this focus is kept clear. The capacity of the PMO must be developed so that project efforts can be sustained after the PMC withdraws.

In order to create and sustain institution building (the primary focus of this project) the approach of the consultants must be a skill transfer process within the overall framework of training. This approach involves a two step process whereby PMO staff obtain both technical skills and training and then subsequently function as trainers, transferring these technical skills to LGUs and who then transfer them again to the local community.

The primary client of the consultants is the MLG PMO staff (with the exception of the A & E firms which will work directly with the LGUs). The success of the institution building process depends heavily on the client-consultant/advisor relationship. Certain traits are essential to this relationship and are general qualifications for all consultants:

- Collaborative approach: The task of the consultant/advisor is to transfer skills by "working with" rather than "doing for". Both parties are assumed to be working together on project tasks in relationship of adult to adult. The degree to which the client is made to feel "junior" will lessen the effectiveness of the learning process

- Technology transfer skills: The consultant/advisors must not only be effective in their area of technical expertise be it engineering, project management or training. They must also be able to teach others these skills through training and the technology transfer process.

TABLE E/1

Illustrative Training Modules
For
LGU Development and Certification Program

Module	Timing	Purpose	Outcomes	Approximate Length	Participants
#1 Implementation Planning Workshop	After learning contract negotiation with LGU	To plan for successful sub-project implementation	. Consensus/commitment to program objectives and strategies . Realistic/agreed upon work plans and schedule for implementing first subproject . Clearly defined and understood roles and responsibilities . On-going mechanisms to monitor/coordinate . A sense of importance of inter-disciplinary approach	1 week	. Water and Sanitation Manager (WSM) . Project Development Team (PDT): 4 Total team
# 2 Community Development Approaches: Initial Entry	Before/after initial community meeting	To prepare the PDT Team to enter the community and to analyze results of the meeting	. Understanding of community development methods/ approaches appropriate for Philippine rural communities . Skills in conducting meetings . Strategy/agenda for initial meetings Community meeting conducted/ lessons learned identified	1 week (intermittent)	. WSM . PDT:Total team

Module	Timing	Purpose	Outcomes	Approximate Length	Participants
# 3 Conducting the Feasibility Studies	Before/after conducting the Feasibility Studies	To prepare the PDT to conduct the feasibility study and to analyze the results	. An understanding of purpose/ tasks of feasibility work . An agreed upon approach/ schedule to conducting the studies . Pre-feasibility conducted . Results analyzed and next steps identified.	6 days (intermittent)	. WSM . PDT:Total team
#4 Community Development Approaches: Sharing feasibility results	Before/after conducting a meeting with community on results of feasibility.	To prepare the PDT to share feasibility results with community and facilitate its decision-making. To analyze results of meeting	. Skills in group problem solving and decision making . A process for facilitating community decision-making . Strategy/Agenda for meeting . Community meeting conducted/ lessons learned identified	6 days (intermittent)	. WSM . PDT:Total Team
#5 Design and Construction of water supply systems	Before preparation of detailed engineering design	To identify common design problems encountered in the past and develop solutions	. Understanding of common design problems and how to solve them	2 days to 2 weeks depending on capability of engineering staff (intermittent)	. PDT:Total team for overview. . PDT: Engineers and waterworks technicians for remainder

Module	Timing	Purpose	Outcomes	Approximate Length	Participants
#6 Orientation to test well construction and testing	Before/During well construction and testing	To orient provincial engineers to important aspects of test well construction, pump testing & water quality analysis & interpretation of results	. Ability to prepare test well contract documents . Capability to interpret test well results and develop production well designs based on them	. 2 weeks (intermittent)	. PDT Engineers
#7 Community Development approaches: Helping community to reach a final go/no go decision	After preparation of detailed engineering design and before/after final decision making meeting with community	To prepare the PDT to facilitate a final decision with community on whether it wants to go ahead and to help it identify next steps	. A process for facilitating community decision making . A strategy/agenda for the meeting . Roles PDT will play in meeting clarified . Community meeting conducted/ lessons learned identified	1 week (intermittent)	. WSM . PDT: Total team
#8 Community Development Approaches: Developing a Business Contract with the community	After community has had time (2 to 4 weeks) consider options and develop a plan	To prepare PDT to negotiate a business agreement with the community: . structure/form of association . user fee arrangements	. Elements or business contract developed . An approach to negotiating contract developed . Negotiations conducted/ lessons learned identified	1 week (intermittent)	. PDT: . Sub-project managers . Training Officer . Barangay Captain . Community Representatives

Module	Timing	Purpose	Outcomes	Approximate Length	Participants
#9 Community Development Approaches: Designing a Sanitation Education component	After RWSA formation	To assist PDT in developing strategies for designing a santitation education component	. Relationship between water and health . Current practices re: water and sanitation . A plan for health projects and educational activities related to water and sanitation	2 weeks (intermittent)	. Sub project managers . PDT: . Midwife/Barangay Health Volunteer . Training Officer . Barangay Captain . Community representatives
#10 Community Development: Approaches: Working with a newly formed RWSA	After RWSA formation	To assist PDT in developing a strategy for assisting a newly formed RWSA to get off the ground	. A plan for assisting newly formed RWSA	1 week (intermittent)	. WSM . PDT: Total team
#11 Training RWSA Management (System Superintendent, bookkeeper, operator)	After RWSA formation	To assist PDT in preparing a plan to effectively train the RWSA management staff	. Skills in training delivery . A training design . Training conducted/lessons learned identified	3 weeks (intermittent)	. WSM . PDT: Total Team

Module	Timing	Purpose	Outcomes	Approximate Length	Participants
#12 On-going TA/support of RWSAs	After turn over to community	To assist the PDT in developing a strategy for the on-going support of RWSA	. Further training and technical assistance needs of RWSA identified . Plan developed to meet needs	3 days	. WSM . PDT:Total Team
#13 Lessons Learned	After turn over to community	To identify lessons learned and plan for improvements	. Lessons from first cycle identified . Areas for improvement identified . Additional training and technical assistance needed by PDT identified . Plan of action developed	3 days	. WSM . PDT:Total Team

ANNEX N

COMMUNITY PARTICIPATION AND HYGIENE EDUCATION: DESIGN FOR IMPLEMENTATION

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A. DEFINITIONS AND GOALS

This Annex focuses on the aspects of the project design which are important to the implementation of the strategy of community participation and health education. It describes the processes required so that proposed water projects will be accepted by the community. This design is based on lessons and experiences of BWP I and II, the 1985 Feasibility Assessment, and the 1985 Evaluation Report on BWP II.

Community participation has been given a great deal of attention in the design of the project. As defined by the PID and GOP sector officials, the concept is an active process whereby beneficiaries influence the direction and execution of their water systems rather than merely receiving a share of project benefits. The objectives of community participation are empowerment, building beneficiary capacity, increasing project effectiveness, improving project efficiency and project cost sharing.

B. ACCEPTANCE OF SYSTEMS

The 1985 Feasibility Assessment reported a lack of effective acceptance by the communities of the systems installed under BWP I and II in a large number of areas. That lack of acceptance resulted in an unwillingness to pay for the systems.

Acceptance depends on a number of factors. First, it is affected by the targetted population's need for water. Second, oftentimes when a community comes forward to ask for the water system it assumes that it will be receiving a system similar to that found in urban areas. Third, those coming forward as representing the community are generally the elites within the barangay. Because of their exclusive participation, level III systems (house connections) are requested whereas the majority of the population can only afford a level II or less. In addition, when studies are done to determine whether an area is to be served by the water project, housing is used as the only indicator for income which tilts the decision toward providing a level III system which only those with a house can afford.

To avoid a repetition of processes contributing to the lack of or misrepresentation of the whole barangay, this project will seek to ensure that:

a) the community's actual income level is determined;

b) the general membership is represented and involved in the decision to have the system;

c) water is, indeed, a felt need of the community;

d) water is <u>not</u> used as a promise by politicians seeking votes causing communities to expect the systems to be installed free of charge and maintenance and upkeep to be the government's total responsibility; and

e) people understand what the different levels of service represent and are given the option that if they so wish they can pay for level III - but only after they understand the cost implications for them in the upkeep, maintenance and utilization of the system.

The feasibility study for each system will stress the importance of including a community's participation in determining possible distribution points. This will help prevent conflicts and misunderstandings about rights and responsibilities.

C. LEVEL OF COMMUNITY INVOLVEMENT

The current process of eliciting commitment from the community is both long and tedious. Its implementation is proforma rather than a learning process for the communities. In most communities involvement has consisted of:

- each person signing a form to become an RWSA member,
- members of the community offering land for neighborhood taps,
- people paying for the water they use.

The last two do not build a positive community attitude towards the system because the taps are not accessible to many other people, and the community member donating the land is given a free house connection. Furthermore, the willingness of a community member to donate land or sign a form is not necessarily an indicator that the barangay members consider water a felt need and that there will be an attitude of community participation. Thus, more often that not, RWSAs are organized merely to comply with project requirements, and the process gives no guarantee of the people's commitment to its implementation. The problems identified in the 1985 Evaluation Report - such as poor collection, difficulty in raising the operating funds, objections to the technical design of the system - are only a few of the implementation problems resulting from the lack of community concurrence.

In addition, training at the community level has been conceived more to fulfill certain necessary procedural requirements than to develop viable water systems. This dependence on formal, mechanistic training is a problem. The design of this project stresses the approach of informal person-to-person contact in training and participation by the community in all major steps. For instance, a water supply system which is standardized in its technical design and installed by contractors provides little scope of community involvement since few decisions are left for the community to make. However, even in such situations, communities can become partners in the process. A member of the community can be designated as the system operator and become an apprentice to the contractor so that he can learn how the system is put together. The community's approval of the plans can be shown alongside other signatures on the technical plans. The community can be provided with a copy of the plans which include specifications so that it can participate in monitoring the quantity and quality of the commodities used. Designated members of the community can participate in the selection of contractors during the bids and awards process.

D. INFORMATION/COMMUNICATION

Both the 1985 Evaluation Report of BWP and the 1985 Feasibility Assessment stress that if people are to buy and become owners of the improved facilities accurate and timely information should be provided to them about the basic options for a water system: the water flow and what it means; what a level II system provided under the project is; what are the options for expansion to level III; how this can be done. Communities must be provided with the information that the system will provide a limited supply of water; that it is a low cost approach which requires slow flow; and exactly what the payment arrangements are - i.e. that people will pay for a house connection and a monthly tariff will be paid by householders and neighborhood tap users. To assure that the community fully understands the information the entire planning process should involve it. Formal meetings, as is the current practice, do not always ensure that the questioning, discussion and clarification required for understanding will take place. This process can be reinforced by requiring that a resolution passed by the Barangay Council have the signatures of at least 80% of barangay members.

The activities described in the process outlined below aim at establishing a business relationship between the community and the LGU. The services of specialists will be needed to define the most effective methods required for the different circumstances and to train people accordingly.

1. Channels of communication

Local leaders may not necessarily be those elected to be RWSA. The leaders need to be identified, and the correct information provided to them. In addition, methods and education aids and communications materials should be provided to them. A communications and marketing strategy needs to be developed to achieve social mobilization. An important input into that strategy will be the social marketing firm's specific messages and interventions. Much of the process for community participation recommended for the project builds on those already in place under BWP I and II. The significant difference is in the training provided community associations, LGU and central level personnel in the implementation of these processes. In addition, the use of PVOs to provide the required skills, follow up and quality control will help.

2. Communication within the Government Structure

An adequate system of communication and collaboration is needed within and among the government organizations responsible for water and those responsible for health and social services affecting the community. Information must be passed on to the right people, and ultimately the local community leaders informed.

One method of communication is a newsletter. This can begin as soon as the preparation for the project begins. Some of the topics to be covered in the newsletter would be:

- technical updates

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- program plans and methods of implementation of community participation and health practices.
- administrative changes
- useful lessons and experiences exchanged
- activity reports by management from various ministries related to project implementation
- relative activities by other departments and PVOs
- spin off experiences from the project experiences.

Such a newsletter would assist cooperation between departments and agencies; would improve the current flow of information to field staff and from field staff; and would build morale, motivation and a sense of teamwork. This newsletter could be put together by the provincial team from information supplied by the central office. If should be circulated to: RWSAs, MLG, LGUs, PVOs, USAID, and other ministries, e.g., Health.

E. SANITATION MEASURES

1. Background and Strategy

The combination of water supply and sanitation improvements can bring much higher benefits to the users than water supply alone. However, to date the health and sanitation concerns have not been integrated into RWSA activities. Recent studies have revealed no clear evidence of a substantial positive health impact due to water supply alone, but rather indicated that the "type of sanitary facilities used by households" had the strongest net influence on health status (Philippine Provincial Water Project Evaluation, Bureau of Census - June 1984). Both the BWP II Evaluation Report and the 1985 Feasibility Assessment strongly recommend that this component be integrated into the project.

The implementation of sanitation facilities is within the scope of responsibilities of MOH. Its Certificate of Compliance is a process whereby barangay level health workers check the facilities for proper use and maintenance. In the past, concrete latrine installations have been made by the local population using molds and technical assistance from the MOH field staff and from PVOs. The method required by MOH focused on procedures rather than the desired behavioral changes. However, the critical issue in the process is persuading the community to use the sanitation facilities in conjunction with other hygiene practices related to water so as to improve health. Information, using various media/communications regarding the linkage between water supply and sanitation and health outcomes will be supplied to barangay residents under this project.

2. Hygiene Education Implementation

The successful implementation of a sanitation component will depend on the sequence of interventions outlined in the implementation plan. The principal activities are:

- Message interventions prior and during the construction.

- Listing of households without sanitary toilets by the barangay captain with the help of the sanitary inspector, midwife and barangay health worker.

- Community preparation and health education through meetings, individual contacts, dissemination of information, education, communication materials, such as posters, instructional handouts, comics, cassettes, etc.

- Seminars and training for the different disciplines involved in the toilet construction and rehabilitation campaign program.

F. APPROACHES TO IMPLEMENTATION

Consultants in communications, market research and community work will be sub-contracted by the PMC for specific tasks. These tasks will include the following:

- Training to develop the capability of the LGU personnel to work as a team

- Preparation of community profiles of practices in water use and sanitation

- Compilation of accurate data on water related diseases to be used as comparative data in the Health, Social and Economic Impact Evaluation

- Assistance to the LGUs in developing messages related to sanitation and community participation.

1. Use of Consultants:

There is far too much work for the proposed staff of the LGUs and the MLG to perform. BWP has depended a great deal on assistance of consulting firms charged with implementation of "soft-ware" components. However, this relationship tended to be one in which the consultants did the work and sent a monthly report to BWP staff. This project will ensure that the services of the consultants are carried out with the objective of building the capability of the project staff.

2. Use of PVOs

Local PVOs are the major organizations concerned with community based programs. They take a holistic attitude to development viewing the provision of water supply and the improvement of sanitation practices as part of the overall development of a barangay.

Each province seems to have its own PVO implementing agency. Depending on the areas in which the proposed project focuses, an assessment of the local PVOs strengths and capabilities must be carried out. This assessment will identify the training needs required to build up specific skill areas.

The PVOs active in the Philippines whose activities include water supply and sanitation and who have operation and maintenance capabilities are:

- The International Institute of Rural Reconstruction which develops the capability of LGUs to carry out community participation. This PVO has been engaged by NEDA for the AID-funded Local Resource Management Project to assist in the organization of target beneficiaries and to develop approaches which expand the participation of beneficiaries in development.

- The ILAW International Center (Bohol, Tagbilaran City) which offers training in community development to policy makers, planners and field implementors. This PVO acts as an umbrella organization to other PVOs.

- Save the Children Federation at Iloilo City produced a repair and maintenance manual for village water system, i.e., dug wells, rain collectors and gravity flow water systems.

- Ramon Aboitiz Foundation whose three-year project is building the Pilot Central Visayas Water Information Center to compile, process and disseminate hydrologic date.

- Philippine Business for Social Progress (PBSP) is an association of private sector businessmen and women who provide funds for social and economic community-based development projects.

- Philippine Partnership for the Development of Human Resources in Rural Areas (PHILDHRRA) is another major PVO sponsoring a wide variety of community based activities.

The PVOs chosen will have a full time representative at the central level. It will be in a sub-contract relationship to the prime consultant contractor. The central level PVO will select the appropriately experienced personnel/organizations to work in the selected LGUs. The prime contractor would ensure that the PVO or individuals selected to work at the provincial level have been in that area for at least three years.

3. Use of Social Marketing Firms

The Philippines has private social marketing firms with experience in campaigns involving attitude change. One such firm is J.W. Thompson which has produced a campaign in the agricultural sector aimed at changing farmers' attitudes on rice production, and has launched a nutrition campaign as a public service. Its successful campaigns have relied heavily on radio messages and comic illustrations. The social marketing firm chosen to participate in the project would be under sub-contract to the project's management consultant.

4. Staff At Central Level

The PMO should obtain the services of a Social Scientist with very strong training and experience in communications and community development. His duties would be to carry out communications and a community work program with LGUs and the local committees. Specifically, he would:

a. Formulate policy to include sanitation in water supply projects

b. Coordinate and gather information from UNICEF, MOH and WHO on activities relevant to sanitation

c. Train personnel of relevant ministries to work as a team at the national level

d. Arrange meetings and workshops to facilitate communication about the rural water project at the national level among departments at both the national and provincial level

e. Plan in consultation with the PMC consultants:

   - provincial workshops for project planning teams within LGUs

   - training programs in communications, community education and community development

f. Plan, in consultation with the PMC and the private social marketing firms, workshops for training of the project's staff in communications skills and community education

g. Plan with provincial training center staff for communications and community education components to be added to the training of surveyors and other members of project planning team

h. Plan with the PMC education review workshops in the provinces

i. Prepare training materials

j. With the PMC review and evaluate achievements based on the predetermined benchmarks, i.e. health behaviors and practices relating to domestic water supply and functioning of systems at the community level; identify problems; prepare and test solutions; make recommendations for preventing similar problems.

5. Staff At LGU Level

Initially, two professional staff members should be appointed at each LGU to provide coverage for three to five barangays each. Their qualifications should be:

- Social Science and/Community Development graduate
- Communication Skills
- Adult education experience.

They will identify community level problems and their solutions by working with the RWSAs, and will develop and conduct training programs with the assistance of the PMC and the local PVOs. Eventually whatever assistance is required by the national level through the services of the PMC will be managed by the community development specialist.

6. Training Approaches

The following are the major steps which are to be taken at the barangay level.

Community meetings to discuss health issues affecting the community caused by bad water supply and lack of sanitation

Identification and formation of functioning health and sanitation committee

Assessment of Community's Health and Sanitation situation by

- Community survey
- Group discussions with beneficiaries
- Compilation of health data

Formulation of RWSA health and sanitation plan

- Identification of community para-medical workers - women, teachers, school children

- Planning seminar and team building

- Developing work plan for specific health and sanitation activities and projects

Implementation of sanitation measures at the barangay level:

- Dissemination campaign regarding plan and community specific health discussions relevant to water supply and sanitation

- Provide required resources

- Establish monitoring and evaluation points for project management and implementation

7. Process for Community Participation

The process for community participation will fall into three phases: pre-construction phase; construction phase; post construction phase.

a. Pre-Construction Phase:

1. Community members identify water and sanitation as a need of their community. This step will be done by providing radio messages to selected communities on the availability of the project, the number of projects already constructed and how to see the Community Development Agent at the LGU office. The message will also include the advice that a resolution passed and signed by Barangay Council members must have the signatures of at least 80% of the community.

2. The Community Development Agent at the LGU and the PVO as consultant approach the community with a preparation plan that lasts six months to one year prior to the installation of the facilities. This plan will include steps to achieve the following outcomes:

- Choice of the RWSA representative of the general membership

- Formation of the RWSA health team

- Introduction of sanitation practices

- Detailed and complete explanations of the options for systems

- Surveys - some done by Community, others with assistance of professional services

These outcomes will be achieved through training of the barangay level team using action training methods.

3. The RWSA appoints a system manager and operator.

4. Design of the project is reviewed and concurred with by the community and the community must be provided with a copy of the plans and specifications so that it can participate in monitoring the quantity and quality of the commodities.

5. In the selection of contractors, community representative must be present in the bids and awards committee.

b. Construction:

1. Community may provide labor in the pipe laying, excavations, construction of office, and carpentry. Payment of the community labor will be in cash.

2. The System Manager will participate in construction . This will ensure that he understands the operations and maintenance of the system.

c. Post Construction:

The provincial and city evaluation teams will provide technical, financial, health monitoring and evaluation. This team will include representatives from the local Commission on Audit and Bureau of the Treasury Offices. Their work will be coordinated through the community development coordinator.

ANNEX O

ILLUSTRATIVE BUDGET FOR HYGIENIC EDUCATION CAMPAIGN

Basic Information

- o Target - 100 - 130 barangays
  4 - 5 provinces
  - 100 - 130 barangays
- o Campaign Duration - 4 1/2 years

Possible Creative Materials

Posters
Comic Books
Radio
Possibly TV

Production Expenses

o Poster -	15 x 21 size	₱ 75,000.00
	₱15,000 per poster (with photography) x 5 posters pr year to include fee, final artwork, color separation, etc.) May increase depending on number of talents needed.	
	Printing Expense	
	5,000 cps. minimum ₱8/copy	₱ 40,000.00
	50,000 cps. maximum ₱4/copy	₱200,000.00
o Comic Books -	20-24 pages ₱10,000 per comic book inclusive of mechanicals x 5 comic books	₱ 50,000.00

Printing Expense

5,000 cps. minimum -	₱5 per comic book	₱ 25,000.00
50,000 cps. maximum -	₱2.50 per comic book	₱125,000.00

o Radio

Jingle production -	₱20,000 - 25,000	
Radio commercial -	₱10,000 per commercial x 5 versions per year year	₱ 50,000.00
Additional expenses for board and lodging for regional recording (Ilonggo, Cebuano, Ilocano)		₱ 20,000.00

o TV

VTR production (studio shooting)	₱ 70,000.00
with location 2-3 days	₱100,000.00

PRODUCTION EXPENSES

Production

Minimum Budget

Poster	₱ 55,000.00
Comic Books	35,000.00
Radio	50,000.00
TV	70,000.00
	₱ 210,000.00

Maximum Budget

Poster	(inclusive of printing)	₱ 275,000.00
Comic Books		175,000.00
Radio		95,000.00
TV		100,000.00
		₱ 645,000.00

MEDIA EXPENSES

Media Budget

Radio Campaign	(airtime cost)
Minimum	₱1,000,000.00
Maximum	₱3,000,000.00
TV Campaign	(airtime cost)
Minimum	₱3,000,000.00
Maximum	₱5,000,000.00

SUMMARY

Minimum Budget per year

Production	₱ 210,000.00
Airtime	₱ 4,000,000.00
TOTAL	₱ 4,210,000.00

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ANNEX P

RURAL WATER SUPPLY AND SANITATION

PROJECT NO. 492-0401

Certification Pursuant to Section 611 (E) of the Foreign Assistance Act of 1961, as Amended

I, John S. Blackton, the principal officer of the Agency for International Development in the Philippines, having taken into account, among other things, the maintenance and utilization of projects in the Philippines previously financed or assisted by the United States, do hereby certify that in my judgement, the Philippines has both the financial capability and the human resources to effectively maintain and utilize the proposed Rural Water Supply and Sanitation Project.

This judgment is based upon the project analyses as detailed in the Rural Water Supply and Sanitation Project Paper and is subject to the conditions imposed herein.

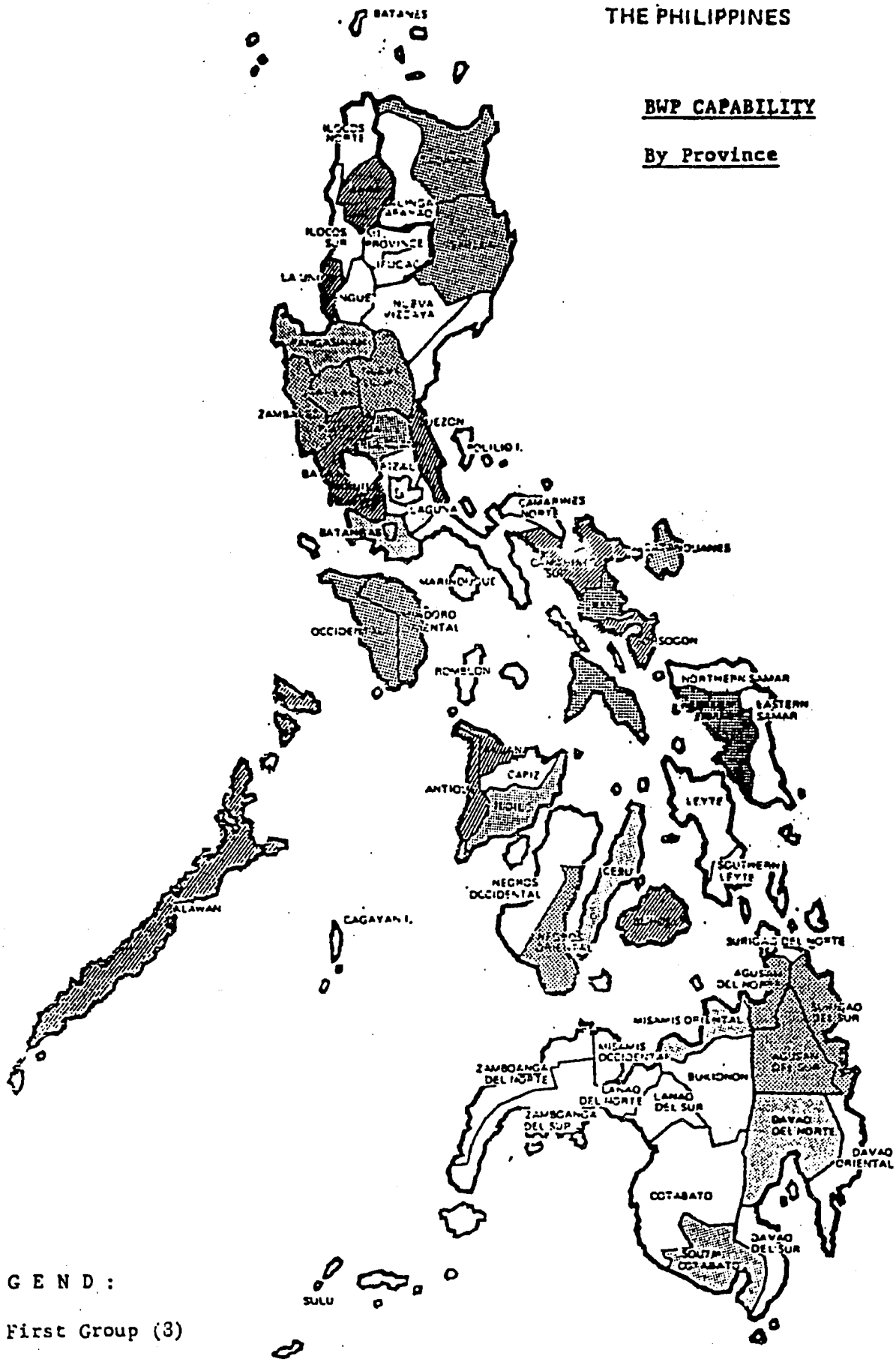
John S. Blackton
Acting Director, USAID/Philippines

16 Sep 86
Date

THE PHILIPPINES

BWP CAPABILITY

By Province



L E G E N D :

- First Group (3)
- Second Group (12)
- Third Group (15)

ANNEX R

INITIAL ENVIRONMENTAL EXAMINATION

Two components of the project require impact assessments. They are: (1) water supply; and (2) construction activities. These activities are not believed to have significant negative impacts on the physical and natural environment and in the case of the first, the impact that it is expected to have will be generally positive. The water supply component is intended to provide new rural water systems and rehabilitate some existing source facilities previously constructed under the Barangay Water Projects. This will result in the availability of safe household water supplies in the rural communities affected, and would thus have a high positive impact on the overall health program. On the whole, therefore, the environmental impacts of the water systems are judged to be positive. To assure that each water subproject is environmentally sound, an environmental evaluation of each subproject will be undertaken with the intention of including, if necessary, drainage and/or other mitigating measures needed to prevent adverse environmental impacts. The second component, construction of the water supply facilities, would have possible negative impacts in terms of temporary disruption of family activities and minor risk of injury to persons or animals and/or property damage during the construction period. The facilities to be constructed are small-scale with short construction periods, and negative impacts are deemed to be of minor significance. However, construction specifications will include provisions to lessen any negative environmental impact during construction.

The nature of the training and technical assistance (TA) activities under the project are specifically excluded from the requirement of an IEE under Clause 216.2.(c)(2)(i) of AID Handbook 3. However, it is worth noting that the Project provides for training in the preparation of environmental analysis of projects as well as TA in monitoring review and compliance with any required mitigating measures.

APPROVED : _____
John S. Blackton
Acting Mission Director

DATE : 16 Sep 86

CLEARANCE: _____
Richard S. Stevenson
Mission Environmental Officer

DATE : SEP 10 1986

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