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UNITED STATES INTERNATIONAL DEVELOPMENT COOPERATION AGENCY
AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON, D.C. 20523

PROJECT PAPER

BARANGAY WATER PROJECT II

PROJECT NO. 492-0333

JULY 1980

UNCLASSIFIED

PROJECT PAPER

BARANGAY WATER PROJECT II

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United States International Development Cooperation Agency
~~DEPARTMENT OF STATE~~

AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON

PROJECT AUTHORIZATION

PHILIPPINES

Barangay Water Project II
Project No. 492-0333
A.I.D. Loan No.

1. Pursuant to Section 104(c) of the Foreign Assistance Act of 1961, as amended, I hereby authorize the Barangay Water Project II for the Republic of the Philippines (the "Cooperating Country") involving planned obligations of not to exceed \$18,500,000 in Loan funds and \$1,637,000 in Grant funds over a three-year period from date of authorization, subject to the availability of funds in accordance with the A.I.D. OYB/allotment process, to help in financing foreign exchange and local costs for the project.

2. The project consists of assisting in establishing the capability of selected local governments to identify, plan, organize and install functional barangay cooperative water systems, and constructing such systems, with an indigenous maintenance capacity to provide safe, reliable, low-cost water to residents of selected rural communities of 10,000 population and under.

3. The Project Agreement which may be negotiated and executed by the officer to whom such authority is delegated in accordance with A.I.D. regulations and Delegations of Authority shall be subject to the following essential terms and covenants and major conditions, together with such other terms and conditions as A.I.D. may deem appropriate.

4. a. Interest Rate and Terms of Repayment

The Cooperating Country shall repay the Loan to A.I.D. in U.S. Dollars within forty (40) years from the date of first disbursement of the Loan, including a grace period of not to exceed ten (10) years. The Cooperating Country shall pay to A.I.D. in U.S. Dollars interest from the date of first disbursement of the Loan at the rate of

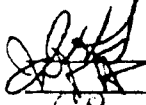
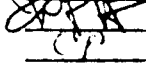
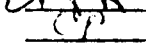
(a) two percent (2%) per annum during the first ten (10) years, and (b) three percent (3%) per annum thereafter, on the outstanding disbursed balance of the Loan and on any due and unpaid interest accrued thereon.

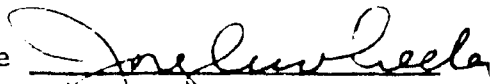
b. Source and Origin of Goods and Services

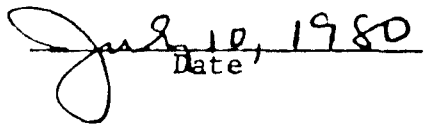
Goods and services, except for ocean shipping, financed by A.I.D. under the project shall have their source and origin in the Cooperating Country or (in the case of Grant funds) the United States or (in the case of Loan funds) countries included in A.I.D. Geographic Code 941, except as A.I.D. may otherwise agree in writing.

Ocean shipping financed under the project shall, except as A.I.D. may otherwise agree in writing, be financed only on flag vessels of (in the case of Grant funds) the United States or (in the case of Loan funds) the United States or the Cooperating Country.

Clearances:

	Date	Initial
John H. Sullivan, AA/Asia	6/27/80	
Norman L. Holmes, GC	7/1/80	
Alexander Shakow, AA/PFC	7/7/80	

Signature 
Joseph C. Wheeler
Acting Administrator


Date

GC/Asia:CStephenson:hp:6/27/80
C8

AGENCY FOR INTERNATIONAL DEVELOPMENT PROJECT DATA SHEET		1. TRANSACTION CODE A A = Add C = Change D = Delete	Amendment Number	DOCUMENT CODE 3
COUNTRY/ENTITY Philippines		3. PROJECT NUMBER 492-0333		
BUREAU/OFFICE Asin		5. PROJECT TITLE (maximum 40 characters) Barangay Water Project II		
PROJECT ASSISTANCE COMPLETION DATE (PACD) MM DD YY 1 2 3 1 8 5		7. ESTIMATED DATE OF OBLIGATION (Under "B" below, enter 1, 2, 3, or 4) A. Initial FY 8 0 B. Quarter 4 C. Final FY 8 2		

8. COSTS (\$000 OR EQUIVALENT \$1 =)						
A. FUNDING SOURCE	FIRST FY 80			LIFE OF PROJECT		
	B. FX	C. L/C	D. Total	E. FX	F. L/C	G. Total
AID Appropriated Total	867	7,520	8,387	1,437	18,700	20,137
(Grant)	(867)	(20)	(887)	(1,437)	(200)	(1,637)
(Loan)	(0)	(7,500)	(7,500)	(0)	(18,500)	(18,500)
Other U.S.	1.					
	2.					
Host Country	0	1,362	1,362	0	9,905	9,905
Other Donor(s)						
TOTALS	867	8,882	9,749	1,437	28,605	30,042

9. SCHEDULE OF AID FUNDING (\$000)									
A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE		D. OBLIGATIONS TO DATE		E. AMOUNT APPROVED THIS ACTION		F. LIFE OF PROJECT	
		1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan
(1) PH	519	250	545			1,637	18,500	1,637	18,500
(2)									
(3)									
(4)									
TOTALS						1,637	18,500	1,637	18,500

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each)	11. SECONDARY PURPOSE CODE
242 550 826 710 721	243

12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)					
A. Code	COOP	PART	DEL	INTR	
B. Amount \$M	9,500	9,000	818	819	

13. PROJECT PURPOSE (maximum 480 characters)

- To provide reliable, low cost water systems or facilities to selected small rural communities. (Under 10,000 population.)
- To institutionalize the capability of national and local government units to plan, organize, finance, and install barangay cooperative water systems with an indigenous maintenance and management capacity.

14. SCHEDULED EVALUATIONS	15. SOURCE/ORIGIN OF GOODS AND SERVICES
MM YY MM YY MM YY Interim 1 0 8 3 1 0 8 4 1 0 6 6	<input checked="" type="checkbox"/> 000 <input checked="" type="checkbox"/> 941 <input checked="" type="checkbox"/> Local <input type="checkbox"/> Other (Specify)

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

17. APPROVED BY	Signature Anthony M. Schwarzwald	18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION MM DD YY
	Title Mission Director	
Date Signed MM DD YY 0 4 2 4 8 0		

I. DESCRIPTION OF THE PROJECT

A. Background

In the Philippines, approximately 80 percent of the population lives outside an organized domestic water system. While rivers, streams, and shallow hand-dug wells are used, they are characteristically inconveniently located, inadequate, or provide water that is unsafe for human consumption.

The Barangay Water Program (BWP) is a domestic water program designed to develop local government capacities to provide safe and plentiful water for household purposes to small rural farming and fishing communities with populations of 10,000 and under. Like the communities they serve, the water systems themselves are small, generally consisting of the development of springs or wells, storage facilities, and transmission lines and laterals. Water is delivered to the consumers through strategically placed public faucets or individual house connections. The type and size of the projects vary from community to community, but the following is true of all systems: they are owned, maintained, and managed by the users themselves through water service cooperatives.

With 43,000 small rural communities representing 20 million Filipinos largely outside the jurisdiction of water systems, there is no central agency with sufficient resources or organizational outreach to satisfactorily diminish the magnitude of the water problem. Therefore, the Barangay Water Program works through local officials and provincial and city governments in an effort to develop their capabilities to plan and install village owned water systems. A small national project management staff, a unit within the Ministry of Local Government and Community Development (MLGCD), sets the policies, standards, and guidelines and trains the local government planning and engineering offices to develop and implement the water systems.

To assist the Philippine Government in implementing the program, the United States Agency for International Development (USAID) authorized a \$3.0 M loan in 1978 which provided funds for the construction of water systems on a Fixed Amount Reimbursable (FAR) basis. USAID has also provided management and engineering advisory services. Amendment No. 1 added \$3.0 M to the original loan.

The loan proposed in this project paper will assist the Philippine Government in refining the process of domestic water delivery and institutionalizing the program at the national and local levels to make way for larger funding inputs by other international donors. Grant funding will also finance some specialized technical assistance skills not readily available in the Philippines and provide a small amount for the purchase of specific engineering, training, and office equipment.

B. Purpose

The immediate purpose of the Barangay Water Program is to develop National and Local Government capacity to plan, design, and implement small scale domestic water systems. Local Barangay Water Service Cooperatives will manage, maintain, and operate the systems. The local cooperatives will also repay a portion of the

systems' capital costs. A longer range purpose of the project is the proliferation of water systems and facilities in small rural communities across the country. The loan funds made available by USAID will be used to reimburse the GOP for construction.

C. Strategy for Project Implementation

The strategy for project implementation entails four distinct phases and a decade of mixed GOP, USAID, and other donor funding. Each phase is briefly discussed below:

1. Pre-implementation Phase - Pilot (1977) \$1,142,000

The purpose of the "pilot" year was to: 1) develop an institutional structure with its attendant operational procedures, policies, and personnel at the national and local government levels and 2) test the responsiveness of the structure, and the adequacy of the policies and procedures by implementing a limited number of pilot systems. The "pilot" effort was funded entirely by the GOP with USAID providing only technical assistance.

2. Phase I - BWP I Procedural Refinement and Program Expansion (1978-1979-1980) \$11,078,000

The purpose for 1978, 1979, and 1980 was to: 1) further refine the procedures and 2) expand program operations to the remaining PDAP provinces and RSC cities. It is anticipated that more than 200 waterworks systems will be constructed by the end of this phase. Accordingly, more than 200 water users associations will be organized. Phase I is jointly funded by USAID and the GOP each contributing approximately 50 percent of the cost of the project.

3. Phase II - BWP II Institutional Refinement and Program Expansion (1981-1982-1983-1984) \$30,042,337

The purpose in Phase II will be to: 1) further expand the project to qualified non-PDAP provinces and non-RSC cities, 2) proliferate small water systems, 3) strengthen the institutional capacity of the structure at the various administrative levels, 4) refine the approach, and 5) develop sufficient local government absorptive capacity to attract follow-on funding by the World Bank or other international donor agencies. The World Bank has reviewed the program and has agreed to participate when the institutional and absorptive capacity exist to make possible larger funding of inputs. Phase II will be jointly funded by USAID and the GOP with USAID providing 67 percent and the GOP contributing 33 percent.

4. Phase III - BWP III - Expansion and Intensification of Operations (1985-1990) \$80,000,000 M

With the institutional capacity well established, Phase III will emphasize: 1) water system construction, 2) saturation of the established operational areas, 3) expansion to additional provinces and cities, and 4) the initiation of the project in communities ranging in size up to 15,000 inhabitants.

Phase II will be funded jointly by the GOP and international donors with the external contribution being around \$50,000,000. It is expected that external funding to the project will end in 1990. Funding beyond 1990 should be shouldered

solely by the GOP and should be limited to the more newly participating local government units. The original local government units should be phased out of funding grants as adequate financing becomes available through increased tax financing. (See Annex F, Ten-Year Program Strategy.)

The program is nationwide and is expanding to cover the country in an orderly manner. For a list of the provinces and cities currently participating in the program with approximately five local government units joining each year, see Annex G, Participating Local Government Units.

D. Outputs

1. Water Systems and Facilities

Waterworks systems and facilities constructed under the proposed loan will number 2,800. By end of project, approximately 1,250,000 people will be directly benefited. Infrastructure projects under the BWP consist of the development of surface water (such as springs) or ground water sources. Typically, a system will include a cased and properly sealed well, a distribution network, storage facilities, an office building, and a number of strategically located public faucets. Variations on this description would include intake boxes and transmission lines for springs development projects and individual house storage facilities for Level III A projects as described under Levels of Service and Technology.

2. Training

The major and perhaps most significant component of the BWP is training. Instruction is offered on a continuous basis at the central level for the Project Management Staff and local government officials. Training is also offered at the local community levels for the leadership, management staff, and general membership of the Barangay Water Service Cooperatives. Under this loan, 36 formal training programs will be conducted totaling 57,760 person hours of instruction. Formal training is complemented with a number of informal arrangements to round out the principal training activities. For a further description of the extent and nature of such training, see Annexes N and Q.

At the national level, the Project Management Staff will continue to undergo specialized training, and with USAID will develop training programs to be administered with the project. Twenty-six PMS members received a total of 1,300 hours of instruction during BWP I. Taking into account personnel turnover, it can be anticipated that thirty-five PMS members will receive a total of 1,750 hours of training during BWP II.

Fifty-nine local government units will also receive extensive training over the four-year life of the project in order to develop the knowledge and skills required to execute a province-wide Barangay Water Project. The training will be both specific and comprehensive and will prepare the provinces and cities to plan, program, finance, and implement drinking water systems. It will also provide skills required to organize, train, and advise the Barangay Water Service Cooperatives. The training will be sponsored by the Project Management Staff, other personnel from MLCOD, and other agencies as appropriate.

As a result of training, local government units will increase both their planning and technical capacity to conduct feasibility studies, prepare project designs,

train BWSC members, implement subproject construction, and levy assistance in major water system repairs. Local government officials being trained include: Provincial Development Coordinators, Provincial Engineers, Water Resource Analysts, Waterworks Technicians, Training Officers, Researchers and Statisticians. Other individuals and agencies necessary for the project's success such as the Provincial Treasurers, representatives from the Department of Health, Bureau of Public Works, the Governors, and members of the Provincial Legislative Councils will attend relevant initial and in-service training seminars and workshops.

Strong, effective, and knowledgeable institutions at the barangay level are a sine quo non for the success of the BWP, and training is the means for imparting the necessary skills to enable cooperatives to deliver safe, reliable water and service as large a segment of the community as is economically possible. No construction is initiated by local government units until community groups have been identified, organized, and trained in the principles of cooperativism and system management. (For a further description of the extent and nature of such training, see Annexes N and Q.)

3. Barangay Water Service Cooperatives Organized

At the community level, the Barangay Water Service Cooperatives are responsible for the day-to-day technical and administrative operations of constructed systems. Management and operation of the system is by a staff consisting of a System Superintendent, a Bookkeeper/Cashier, and an Operator/Bill Collector. As a non-stock corporate body, the BWSC derives its funds from members by the assessment of water user fees for services received. Under this loan, 2,800 BWSCs (Service Cooperatives and Service Committees) will be organized.

4. Waterworks Repair Shops

Developed and institutionalized through the initiation of the BWP, the Waterworks Repair Shop extends repair, maintenance, training, and construction services to both completed and ongoing BWP and other waterworks projects. The BWP requires the shop's establishment as a condition to continuing program participation. Waterworks repair shops are funded through grants of tools and equipment obtained through the AID-assisted Excess Property Project. BWP trains the attendant technicians. By the completion of this loan, approximately 60 waterworks repair shops will be established.

E. Beneficiaries

Under the first loan, the project served small rural farming and fishing communities ranging in size up to 5,000 people. Beginning in 1980, using funds provided by a \$3 M increase to the project, the program increased its offering to communities with populations up to 10,000 thereby narrowing the gap with the Local Water Utilities Administration (LWUA) which serves more highly populated centers. This loan will continue to serve small rural communities with beneficiaries largely in the lower half of the nation's income group. By the end of project, approximately 1,250,000 people will be directly benefited.

F. Levels of Service and Technology

The basic project offering under the Barangay Water Project is water systems rather than handpumps. This is due to the greater health, economic, and social benefits associated with the former, and because of the obvious convenience

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factors made possible through complete systems. Nevertheless, handpump projects are also undertaken on a limited basis in order to accommodate locations where electricity does not exist or where full-fledged systems are not technically advisable or financially feasible.

The technology offered in BWP is based upon recognition that water facilities for rural areas must be simple, inexpensive, durable, efficient, and relevant to needs. Relevancy to needs means that the water provided to users will be safe and in sufficient quantity to meet at least basic sanitation requirements. The safety aspect refers not only to the quality of water, but to the ability of the system to safeguard that quality.

The usual big city approach to designing a system that allows virtually unlimited usage and flow, as long as the user pays, is inappropriate for Barangay systems. The concern here is to achieve the lowest possible unit cost that will provide adequate water to all, consistent with the ability and willingness to pay. Thus, in technology choice and system design attention is focused on the four factors which directly affect the cost of a water system: quantity, pressure, flow rate, and location. How these variables are defined in any particular system determines the level of service.

BWP systems are designed to allow for an average per capita consumption of 15 gallons per day. While 9 gallons per day per person is considered the minimum for basic sanitation, 20 gallons per capita per day is allowed only when relatively large gardening and animal projects are common to the community. Pressure is also standardized. Systems are designed for a minimum standard pressure during periods of maximum consumption set at 5 psi, which will allow water to be received at the second floor level of most structures. To increase the pressure would require larger pipes, higher and more expensive storage structures, more expensive pumping machinery, and greater electric power consumption. Contrary to conventional wisdom, "flow," not "pressure," is the most important single factor in determining the cost of a water system, and lowering flow rate will dramatically reduce costly storage requirements. Locationally, the BWP offers a choice between water delivered directly to each household or water delivered to public standposts.

The BWP project will be flexible enough to accommodate a broad range of community water needs. National and provincial personnel will not dictate the type of project to be undertaken, but will provide a range of alternatives based upon what is considered technically sound and economically feasible. The communities will be guided in technology choice, but the final decision will be the communities'.

The four levels of water service offered by BWP are described below. Each has an accompanying relative cost per household. For demonstration purposes, these costs have been based upon a typical barangay of 200 households (1400 persons) located in level terrain along one main street. Due to inflationary rises, the costs shown will not remain accurate, but for comparative purposes, the relationships will remain.

Level I: Well construction or rehabilitation and pump installation. Each pump will serve at least 10 households. Such households will be within a radius of 250 meters from the source. Typically, all Level I projects will exploit wells of 80 feet or more in depth and as is customary in other BWP projects, such sources will be cased and grouted. (Per capita costs P50.00.)

Level II: Provides complete community water systems (public faucets). Wells or spring sources with storage facilities, pumps, distribution lines,

and strategically located public faucets (one per group of ten households) with meters are developed. Level II systems can be upgraded to Level III systems (individual household service) under the supervision of the BWSC. (Per capita costs P220.)

Level III: Same as Level II except with individual household connections and meters. Due to elevated costs, this type of system is no longer authorized for BWP funding.

Level III-A: Provides for direct household connections. This is an alternative to Levels II and III above. This system is experimental and involves minimizing periods of peak flow by calibrating water distribution to household storage containers (25 gallon capacity). Minimizing the flow rate permits the replacement of community storage with less expensive household storage, thereby reducing the need for more costly pipe and eliminating the need for a meter. If analyses of the impact suggest that the Level III-A design is appropriate, this option will be offered to a broader audience under BWP II. (Per capita costs P135.)

G. Relation to the CDSS Strategy and Other USAID-Assisted Projects

The Mission's FY 82 CDSS outlines a strategy for generating more productive rural employment by emphasizing selected regional development efforts in the areas of rainfed and upland agriculture and off-farm employment as well as support of a nationwide population program. This project was designed in advance of the strategy for implementation in FY 81. It carries forward the nationwide focus of BWP I aimed at institutionalizing a national capacity and building the nationwide constituency needed to sustain the accelerated expansion of barangay water systems. While continued efforts to consolidate national procedures and approaches are still required, the project can begin to emphasize water investments in the regions selected for concentration of AID programs in the future. These regions can serve as the focus for demonstrating a provincial saturation model and the impact of safe water in combination with other investments clustered in the same region.

The project is broadly supportive of the rural employment strategy. Some of the immediate benefits noted in BWP I are the employment opportunities created during construction and operation phases of subproject implementation. For example, during construction, usually 30 local residents are employed as laborers at the minimum wage of P10 per day for a three month period, or longer. More importantly, the project's contribution to improved health can lead to greater productivity and job security for barangay residents. The debilitating effect of water borne disease increases the probability of major illness striking household members which can send the marginal household into a downward spiral of indebtedness and poverty as income is interrupted. A follow-on project to maximize the health, as well as employment and nutrition benefits associated with safe and available water, is currently in the planning stage. This new project would complement BWP I and II in the regions of AID concentration in support of the CDSS.

The Barangay Water Project incorporates a number of features common to other successful ongoing Mission supported projects, e.g., the National Electrification Project, the Small Farmers System Project, and the Rural Roads Program. An objective of all these efforts is the improvement in local government capacity to plan, finance, and implement local development projects. Furthermore, the BWP places special emphasis on the rural barangays in the sixteen cities covered

under the Rural Service Centers Project. The BWP also relates to the Nutritional Outreach Project in that water conveniently located brings with it the possibility for backyard gardens and small animal projects which in turn permit a better diet and a higher level of nutrition. Finally, the BWP interacts with three other Mission supported projects that have water components: the Local Water Utilities Administration (LWUA), the Pansy Unified Services for Health (PUSH), and the Bicol Integrated Health, Nutrition and Population Project (BHP). LWUA provides water for communities of 20,000 people and over while the other two projects provide water service for sub-communal groups, a level below the water offering under BWP.

H. Relation to GOP Priorities and Initiatives

The Five-Year Philippine Development Plan (1978-1982) emphasizes rural development and commits the government to the reduction or removal of conditions adversely affecting the poor. The provision of community water in sufficient quantity and adequate quality is stressed, and the protection of public health through pollution abatement and control of waterborne diseases is a priority.

In recognition of the need for rural water resource development in the Philippines, a Task Force on Rural Water Supply under the National Water Resource Council was established in 1978. The broad responsibility of the Task Force is to provide technical, institutional, and financial assistance to water associations and cooperatives for the development of rural water supplies. It was formed to oversee an International Bank for Reconstruction and Development loan of \$2 M to the GOP to be used largely for Level I (handpumps, covered springs, and other small point source development), Level II (piped water to community standposts), and Level III (piped water to individual houses). The plan was to drill 10,000 shallow wells and equip them with screens and pumps in 1979, followed by an additional 10,000 in 1980. The Task Force views the program as a large pilot project and it is anticipated that a total of 200,000 wells will be completed during the next 20 years. As of December, 1979, however, only a few wells had been drilled or rehabilitated, a few handpumps installed, and five small Level II systems initiated.

While the Task Force Program articulates the need to involve communities in maintenance and repair, sufficient resources have not been allocated for the equipment and manpower required for training, monitoring, and technical assistance. Provincial and City government units with their limited capabilities are bypassed in favor of municipal government units which have even less planning and administrative capability. Without a comprehensive training program and without the development of a delivery system with attendant guidelines and resource commitment, it is unlikely that the Task Force will differ substantially from past programs which have provided hardware, but neglected the institutional and logistic network required to sustain it.

In January of 1980, a Presidential Decree was signed establishing a Rural Water Development Corporation (RWDC) focusing on communities of 20,000 in population and under. A further regulating order has not been issued, but information provided to USAID reveals that the RWDC will operate from the Office of the President and will attempt to establish a division of labor and the lines of cooperation between the various agencies involved in domestic water resource development. It will also attempt to establish procedures and standards for all programs to follow in the implementation of their discrete project activities and to develop a Master Plan for addressing the entire nation and its water

needs. The Mission has been informed that the Barangay Water Program will play an important role in the development of water systems in the RWDC's target area. Further information on the RWDC will be provided as it becomes available.

I. Coordination with International Agencies

Coordination with other donors has consisted of frequent meetings and planning sessions with UNICEF, WHO, AND IBRD. These three organizations are the only donors which have demonstrated a strong interest in the development of small village, domestic water systems.

J. Status of the Program

As of this date, the governmental organizational structure has been established from the national to the local government level. The structure has been staffed with trained personnel and detailed procedures have been developed to facilitate the construction and organization of water systems. A national office has been established and 39 local government units are currently participating in the program.

In advance of the first loan, the Philippine Government undertook a pilot project to test the concepts of village owned and managed water systems constructed by local governments. In this experiment, four provinces piloted the entire process from project selection through organization, training, and the turnover of projects to recipient communities. Four pilot systems were constructed using Government of the Philippines funds. An additional 18 village systems were later undertaken and are all expected to be completed by March of 1980. Thirty-four more systems have been initiated and are scheduled to be completed by the end of CY 80. As of June 1980, \$2.76 M of the original \$3.0 M BWP I loan will have been accrued or will be earmarked for projects in the final planning stage. Approximately 123 more systems will be undertaken in late 1980 and early 1981. The latter systems will be funded by the increase of \$3 M to the original loan.

This Project Paper seeks funding for BWP II, an "institutionalization" phase covering the four year period of 1981-82-83-84. During this time, the project will expand its offering to all local government units, refine its approach, strengthen administrative procedures, and demonstrate sufficient local government absorptive capacity to attract follow-on funding by the World Bank or a similar institution. Waterworks systems and facilities constructed under this loan will number 2,800. By end of project, approximately 1,250,000 people will be directly benefited. The loan amount requested for the four year period is US \$18.5 M, to be disbursed at the current rate of US \$4.5 M per year. Slightly more than \$1.6 M of grant funding is also requested in order to provide specialized technical skills not readily available in the Philippines. (See Financial Plan.)

The Barangay Water Program has expanded rapidly and shows potential for providing the institutional wherewithal to eventually resolve the nation's rural domestic water problems. Furthermore, the research and experimentation that are taking place within the program in the fields of engineering and development administration set it apart from AID's predecessor projects in water resource development. That which is learned through this project is being documented

in the form of procedures, policies, and methodology which are believed to be applicable to other countries in Asia and perhaps throughout the developing world.

It is therefore recommended that AID Washington approve this loan proposal in order to permit the next phase of project development and a continuation of the work already begun.

II. PROJECT SPECIFIC ANALYSES

A. TECHNICAL FEASIBILITY

1. General

The great majority of rural dwellers in the Philippines live in clustered communities. Such groupings lend themselves well to small piped water systems. In almost all cases, however, no such systems exist and water must be hand-pumped or carried from long distances. This project is designed to create more favorable relationships between rural dwellers and water for domestic use with regard to quality, quantity, and proximity.

From the standpoint of quality, all subprojects have as their common goal that the water to be supplied will be safe for human consumption. Physical, chemical, and aesthetic (taste and odor) considerations are secondary to safety and will not warrant substantial additional expense under this program. If the intended source is adjudged safe and is acceptable to the beneficiary community, then no efforts will be made to bring the water into further conformity with the Philippine Drinking Water Standards.

From the standpoint of quantity, all such subprojects are designed to provide 15 gallons per capita per day. There will be a limited number of exceptions to this. In instances where the only feasible source for a community is insufficient to meet this standard, consideration will be given to designing a system that will attempt to distribute the lower quantity of water on an equitable basis. This varies with each level of service.

All technical aspects of BWP are set forth in great detail in Section 5 of the BWP Administrative Procedures Manual entitled "Technical Manual." Specified therein is the material to be used, the format for design under all expected conditions, and the procedures for construction.

2. Water System Components

The technical aspects of each component is addressed below:

a. Sources: The Philippines is "water rich." The high annual precipitation insures the availability of water. In the case of ground water, the location of suitable aquifers is relatively well established. The local drillers have both the knowledge and the ability to construct producing wells. In some areas of the country, particularly near foothills, there is access to perennial springs. Other communities are adjacent to flowing surface water that is suitable for use with minimal treatment. It is only on the very small and remote islands where adequate water cannot be readily found.

b. Piping materials: Modern plastic materials are used almost exclusively in BWP systems. These products have proved to be suitable after many years of use throughout the U.S. Plastic is less expensive than the alternative materials, easily installed by unskilled rural workers, and very forgiving in that careful installation is not required to avoid pipe damage and breakage. The life expectancy of the plastic materials is equal to, or superior to, the longevity of alternative materials. Heavy galvanized steel pipe will be used in all cases where the pipe is installed above ground or otherwise exposed to physical damage. All plastic materials are locally produced to high quality standards and BWP specifications.

c. Storage: Steel standpipes are to be used in lieu of the traditional elevated steel or reinforced concrete storage tanks. Standpipes are easily constructed without special skills, do not require foundations (other than a gravel base), and provide an emergency storage of water. The standard design methodology precludes excessively high storage elevations. This provides ideal conditions for standpipes. The initial experience with standpipes has reduced costs by more than 50 percent of previously used elevated steel tanks.

d. Pumping Machinery: Small, low cost submersible pumping units are usually used. Flexible plastic column pipe supported by a steel cable is proposed for use. This technique allows inexperienced personnel to pull and reinstall a pump without special equipment. Small equipment of this type is readily available throughout the country.

3. System Construction

The excavation and backfilling is being done by local residents on force account. The pipe supplier furnishes, with the material, a trainer to instruct local personnel in the assembly of the material. This has proved to be satisfactory.

4. Design Methodology

Universally accepted engineering principles are utilized in the development of the design format. All hydraulic solutions are presented in tabular form, thereby precluding possible individual biases. Adequate designs are assured while minimizing the opportunity for overdesign. Design criteria, which is appropriate for the rural context, have been standardized. Residual system pressures are high enough to ensure safety, but in order to minimize energy costs are only high enough to assure that water will reach each intended delivery point. Design life is established in such a manner that the system will serve the existing population at something above the minimum requirements and remain suitable for an additional five years. The basic building blocks are provided so that with a minimum of additional construction each five years, the system can accommodate population growth.

5. Human Resources

A basic problem exists with respect to the capability of local government personnel to implement the program. To partially overcome the lack of skills, detailed guides have been drawn up for every phase of the program. The manuals cover all aspects of pipeline and engineering beginning at the early study stage and continuing through the period of training for a completed project. As helpful as they are, however, no guide can make up completely for the lack of field experience. The local staffers are almost invariably intelligent, articulate, and well educated. With guidance and training from experienced technicians, local personnel are capable of performing at satisfactory levels and acquiring additional skills in the process. The transfer of such skills is, in fact, the cornerstone and immediate objective of the program.

6. Costs

The methods employed to estimate costs are presented in Annex P. The averages for cost calculations of the individual components are as follows:

a. Source

- Typical deepwell = P90,000.00
- Natural spring = P10,000.00
- Surface water treatment = P 25.00 per capita

b. Pumping machinery

P7.00 per capita for each 100 ft. of lift.

c. Distribution materials

P23.10 per pound of material required.

d. Transmission pipes

P20.00 per pound of material required.

e. Labor

P2.50 per foot of pipe to be installed.

f. Storage

P15.00 per pound of steel required.

g. Service connections

- Level II - P500.00 per public faucet
- Level III-A - P150.00 per household

7. Cost Estimate Breakdown

The examples given in Annex H, Format for Cost Estimating BWP Water Systems, show the usage of the cost estimating system on representative subprojects. These examples are actual ongoing projects and therefore represent reality. It will be seen that the per capita costs for total system construction under the format is very low even for Level II. While the Level III-A system delivers water into each home, the per capita cost is less than the cost for a Level II system which delivers water through public faucets. Level III-A is yet to be proved in large numbers, but obviously represents a significant savings in capital expenditure. Both of the examples show systems that are fortunate enough to have very inexpensive source construction. Many systems will require costly deep wells. This could add as much as P50.00 per capita to the capital outlay regardless of the level of service.

8. Program Effect on Costs

It will be seen by the foregoing that the direct cost per capita would be less than P200 in the case of projects requiring significant source construction. This compares very favorably with the early experiences of BWP I. The average cost of the projects constructed prior to 1980 was in excess of P400 per capita.

9. Conclusion

From the technical standpoint, BWP II is definitely feasible. Design methodology has been demonstrated to be effective in providing sound designs at very low unit costs. Costs per capita for system construction is among the lowest in the world due to minimum wastage. The program fills a vital need nationwide. It even has the potential of constituting a breakthrough with worldwide application in providing low cost but adequate rural water systems.

B. ECONOMIC FEASIBILITY

As described earlier in this paper, the Barangay Water Program is designed in such a manner as to result in an institutional structure which is tested and capable of generating a large enough volume of projects aimed at resolving the nation's rural water problems over an acceptable period of time.

The program is essentially a public utility health program. As such it does not lend itself easily to a cost-benefit analysis. Thus, this section is concerned with the cost-effectiveness of the project as designed.

There are three dimensions to the problem, thus cost effectiveness is viewed from three perspectives: the magnitude and scope of the national problem; the Barangay Water Program as an institution, and the individual subprojects to be realized under this loan. Each will be discussed briefly below.

1. The Subprojects

Water systems (subprojects) to be constructed under this loan will deliver water in close proximity to the users' homes, (Levels I and II), or actually provide water inside the homes, (Level III-A). Such service is now being provided at per capita costs which are lower than those achieved by other agencies known within the country or elsewhere in the developing world. The preponderance of water systems constructed during the initial period of the loan will be of the Level II type; that is, systems using public faucets. Level III-A, a basic needs system, while showing great potential, is still experimental. Thus, to date its use has been limited to a few test cases. As governmental experience is gained with Level III-A, and as public awareness becomes more extensive, the new concept of Level III-A is expected to predominate.

For systems described above, direct construction costs are currently averaging less than P250 (\$33) per capita for Level II. As the number of Level III-A systems increase, however, the average direct costs for Level II and III-A systems will become substantially lower than P200 (\$27) per capita.

Historically, the waterworks construction in the Philippines has concentrated on urban areas. Therefore, a wealth of comparative rural data does not exist. It is noted, however, that current BWP costs are most favorable when compared to other agencies involved in the construction of water systems. (See Annex I, LWUA Cost Analysis.) Admittedly, the level of service provided to rural areas is lower than in urban areas; nevertheless, BWP service provides safe water and is sufficient to meet the basic human needs. The Barangay Water Program proposes to construct systems under this loan at the lowest costs which the present state of the art permits and still provide satisfactory alternatives to today's village water problems. This approach accommodates good basic systems, but allows no frills. The advances made so far are due to the use of modern, inexpensive but high quality materials, by the development of a methodology which precludes overdesign, and by the maximum utilization of existing institutional resources. Much more saving is still possible and it is expected that experimentation will continue to take place under this loan with a view toward further lowering costs. A cost reduction in the order of ten percent for all levels of service is still entirely plausible.

2. The Barangay Water Program

The implementation approach in the BWP is through local government planning and engineering offices. This approach capitalizes on the existing network of offices and capabilities thereby reducing the time and expense otherwise involved in setting up new or alternate operational units. With the basic organization structure already in place, the only costs associated with organizational development will be the operational budgets of the Barangay Water Program and the participating local government units. Over the four-year period of the loan, the sum of these costs will be P20.94 M (\$2.79 M)¹ for local government units, P32.5 M (\$4.33 M)² as a national counterpart, and a \$1.637 M³ grant provided by the USAID. Of these amounts, 75 percent of the LGU costs and 10 percent of the national contribution can be attributed to indirect (overhead) construction costs. This amount, that is, P20.18 M (\$12.69 M) represents 14.5 percent of the direct costs⁴ for water systems over the four-year life of the project.

The remaining costs associated with the program; that is, the remaining 25 percent of the local government contribution and the remaining 90 percent of the national contribution (a total of P45.53 M or \$6.07 M) are not attributable to the subprojects per se, but are rather considered institutional building costs related to the development of governmental capacity, a primary purpose of the loan.

In this latter regard, and by the conclusion of this loan period, an institution will exist which can by simple linear expansion and replication of tested methodology, construct as many as 5,000 small and self-sustaining water systems annually.

The creation of such an institution is a significant contribution in and of itself. To bring such an institution to fruition and concurrently proliferate water systems at costs competitive with, or lower than, costs known elsewhere in the world for similar projects is felt to be a substantial achievement.

3. The National Context

By utilizing the institutional structure, procedural means and methodologies to be perfected under this loan, it is felt that all of the rural population that can reasonably be reached can be served by 1994. In the absence of

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1. This figure represents the total of budget line items 3a, b, and c on page 30, Summary of Costs Table.
 2. This figure represents the costs reflected in budget line items 2a, b, c, and d on page 30.
 3. This figure represents costs shown in budget line item 1, b1 of page 30.
 4. 14.5 percent of the \$18.5 M loan for project construction.

more precise data, it may be assumed that 50 percent of the rural population not being served now will receive Level I (point source development) service. Present day costs peg Level I service at P50 (\$6.67) per capita. The remaining 50 percent of the rural populace will be reached by piped water systems costing P180 (\$24) per capita. Nationwide, this averages P115 (\$15.33) per capita for direct costs plus 14.5 percent for indirect costs bringing the total cost for piped water to approximately P130 (\$17) per capita. This figure compares favorably with WHO/IBRD per capita costs requirements of P439 (\$56), 1980 prices, referred to in paragraph 3 of Unclass State Cable 316235:

"On the basis of the best available data, which are unavoidably sketchy, WHO/IBRD estimate that providing a billion rural people with 'safe' water and improved sanitation will cost at least \$44 billion (1977 prices). Of this about two-thirds would be provided by the LDC's, the remaining one-third shared by donors. The IBRD and other donors plan to make increased contributions to this sector."

If the target in the Philippines is in the magnitude of 35 million beneficiaries, (see Annex I, Population-Service-Time Curve), the total rural water program requirement in 1980 terms would be in the magnitude of P4,585 M (\$609.7 M). Thus, the expenditure of P45.53 M (\$6.07 M) for institutional development represents only one percent of the required rural water program investment, a pittance compared to the institutional cost saving potential offered by the Barangay Water Program and its approach. (See Annex I, Cost Sampling of BWP Projects.)

The preceding annex demonstrates a continuous decline in the per capita costs of RWP subprojects. The per capita costs of BWP subprojects are even more noteworthy when compared to urban projects as Barangay Water systems are small and do not enjoy the advantages of economy of scale. It is expected that costs will continue to decline until an optimum mix of quality, level of service, and population coverage is attained.

4. Summary

The Barangay Water Program's approach and its present and potential results, are not only highly cost-effective, but they represent as well a major breakthrough in the supply of piped water at low cost. Considering cost-effectiveness and the impact of safe, plentiful, and conveniently located water on the health and economy of small rural villages, the investment in the BWP is wholly justifiable. The replicability of this program has relevance worldwide.

C. SOCIAL SOUNDNESS ANALYSIS

1. General

The social soundness of the BWP II project design has been assessed in light of the BWP I experience and is summarized below. Reaching the target group, choosing an appropriate technology, developing a channel for its diffusion, and incorporating incentives for its acceptance and maintenance by users were the organizing themes. Policy issues of manpower training, health education, system maintenance, and community involvement were also addressed and discussed fully in the analysis. (See Annex J.) The report drew upon the results of a comprehensive social soundness analysis prepared for the predecessor project and the findings of an indepth evaluation conducted in 1979. Both papers are included in the Supporting Documents.

2. Summary

The majority of beneficiaries to be affected by this project are employed as farmers, fishermen, vendors, or laborers. A sizeable percentage have no steady means of support. Most exist at, or slightly above, subsistence levels. The project will encompass people from almost every religious and cultural group in the country. The vast majority, however, are Christian lowland Filipino whose culture is relatively homogeneous despite the fact that they are split into seven major regional language groups. The Moslem minority (4.32 percent) has no cultural differences from the Christian majority insofar as water is concerned; nevertheless, special considerations will be employed while working in Moslem barangays to adapt the project to Moslem culture and mores.

Immediate benefits from BWP I have been the employment opportunities which resulted during the construction and operation of subprojects with contractors, technicians, and laborers among those directly benefiting. Approximately thirty barangay residents are employed during subproject construction and once a system is operational as many as three people may be employed by the Barangay Water Service Cooperative. Also, due to the temporary addition of salaried people in the community, secondary benefits such as improvement in local commerce and trade often result.

A barangay water supply system appears to particularly benefit women and children. In completed subprojects, women interviewed have stated that they now have more water and more time for such economic activities as gardening, pigs, and poultry. For example, in one BWP pilot project studied, the number of backyard vegetable gardens increased by 13 percent after the introduction of the water system. Housewives report that these gardens save them the equivalent of P2.00 per day in vegetable purchases and more for fruit. Any vegetables and fruit produced over the amount consumed generate additional income. In the same subproject, the number of commercial piggeries increased from 35 to 68--nearly 100 percent.

While health benefits are thought to accrue to communities having improved water supply and adequate environmental sanitation, such benefits are difficult to substantiate and quantify and can not be attributed with confidence to water and sanitation when many other factors are also changing. Knowing this, the Mission speaks with caution on the subject and acknowledges

the concerns shown by the Asia Bureau on this issue. Nevertheless, findings from BWP I in the area of health benefits are encouraging. Field observation of subprojects in operation enable the Mission to point to a number of tangible differences now present in BWP villages: household improvements such as showers and water-sealed toilets, the proliferation of gardens and pig and poultry projects which provide a more nutritious diet, greater personal cleanliness among the population, and an increase in the use of latrines. Consumer satisfaction and perception of benefits are also evident. It is common for villagers to offer unsolicited testimony to the program with statements attesting to reduced intestinal disorders and fewer skin problems. In response to inquiries, the people are emphatic that their general health has improved and this they attribute to safe and plentiful water. Given opportunity and encouragement to wash his hands, install a toilet, drink safe water, or grow vegetables, experience from BWP I indicates that the villager is doing so.

There are a number of qualitative development benefits which have been realized as a result of the project's implementation requirements and administrative procedures. For instance, in one province, introduction of a water system first required a special effort by provincial authorities to complete a delayed electrification project. In the same province, the Provincial Development Staff and the Governor voiced preference for the BWP approach to installing water systems as compared with other approaches. They cited as a reason, the "spin off" benefit of successfully introducing cooperative organization training into communities formerly resistant to the concept.

In order to distribute the benefits within barangays, the administrative procedures of BWP require that 90 percent of the households in a service area be willing to become members of a cooperative organized to manage the water system. The objective is to increase accessibility as well as viability. User acceptance of improved water systems within barangays is not unlike the process observed with other innovations such as electricity. Once subprojects are completed, cooperative membership increases rapidly. After one year, one of the pilot subprojects reported new households entering the cooperative at the rate of eight to ten percent per six month period.

Field experimentation has generated more appropriate technical options which would extend benefits to a broader beneficiary group. The usual big city approach of designing a system to allow virtual unlimited use and flow rates as long as the user pays, is inappropriate for BWP systems. The project's concern is to achieve the lowest possible unit cost that will provide adequate water to all consistent with the ability and willingness of the whole community to pay. Thus, in technology choice and system design, attention is focused on the four factors which directly affect the cost of a water system, i.e., quantity, pressure, flow rate, and location. How these variables are defined in any particular system determines the level of service. The project is flexible enough to accommodate a broad range of community water needs; national and provincial personnel do not dictate the type of project to be undertaken, but provide a range of alternatives based upon what is considered technically sound and economically feasible. The communities are guided in technology choice, but the final decision is theirs.

As to technology diffusion among communities, project experience has been that there is no need for a public information campaign to persuade barangays of the need for an improved domestic water supply. The rate at which the project

has expanded from participation of only seven provinces in 1977 to some forty-four local government units participating at the conclusion of the BWP I loan in 1980 suggests the popularity of water projects among local government units desiring to satisfy the demands of their constituencies.

Experience in the implementation of BWP I demonstrates that the project has high political and social acceptance. The program has given broad opportunities for community participation and the approach of working through cooperatives at the community level has been most encouraging and points to the viability of well-managed owner-user local institutions.

D. ENVIRONMENTAL CONCERNS

The Barangay Water Program provides water for domestic use to rural communities under 10,000 people. The long range goal of the program is to improve general health and productivity in the project areas and in so doing improve the quality of life. The immediate purpose of the program is to establish the capability of selected local governments to identify, plan, and install reliable, low cost water systems which can be maintained by cooperatives organized in benefiting communities. A purpose concomitant with the above is to proliferate the construction of small, community owned and managed water systems.

An Environmental Assessment was prepared for the first loan to the Barangay Water Program. In a joint USAID-GOP effort from April 1977 to March 1978, a US Environmental Specialist and the GOP Inter-Agency Committee on Ecological Studies analyzed the design, construction, operation, and maintenance phases of three representative subprojects of the program. Submitted in March of 1978, the draft report is on file in the Office of Capital Development, USAID/Philippines, and in the Asia Bureau, AID/Washington.¹ Copies of the draft and final EA accompany this document.

The Environmental Assessment concluded that the relatively insignificant adverse environmental effects of the Barangay Water Program could not offset the great health and socio-economic benefits that would accrue to the small rural communities participating in the program.² In addition to implementation without delay, the report recommended that the feasibility study for each project explicitly consider the capacity of the wastewater disposal system. Both recommendations have been acted upon by the Mission.

No significant changes have been introduced into the Barangay Water Program which would involve environmental issues not addressed in the first EA which was completed concurrent with the PID for the second project loan. The Mission will continue to monitor the effects of individual subprojects on the environment through field observation and project evaluation, but no further need is seen to conduct a separate EA for BWP II.

1. Ralph A. Luken and Inter-Agency Committee for Ecological Studies, "Environmental Assessment of the Barangay Water Project, Philippines." Draft, March, 1978.

2. Ibid, p. 54.

E. ADMINISTRATIVE FEASIBILITY

1. General

The administrative arrangements employed in implementing BWP I will be used for BWP II. The National Economic and Development Authority (NEDA) will represent the Government of the Philippines as the borrower. At the cabinet level, MLGCD will be the implementing agency and will, in turn, work through the participating local government units (LGUs). A Project Management Staff created under the BWP I Loan Agreement will continue the direct administration of the project for MLGCD. The staff currently functions under the leadership of the Provincial Development Assistance Project (PDAP), now a separate unit under the administrative control of the Ministry. The implementation procedure is briefly described below.

The LGUs select eligible barangays and prepare the plans, cost estimates, and specifications. After review and approval by MLGCD and USAID, the LGUs implement the subprojects using their own funds. Subproject selection, administration, and evaluation are the principal responsibility of the local development staffs, and subproject construction and major repair is the joint responsibility of the local engineering offices and the recipient communities.

MLGCD contracts a local Architecture and Engineering (A&E) firm to provide independent technical monitoring of the projects. The A&E is responsible for: 1) reviewing subproject designs, costs, and specifications, and recommending to the Ministry a reasonable capital cost amount for later reimbursement; 2) inspecting and monitoring construction to assure conformity with previously agreed upon costs and specifications; and 3) inspecting each subproject after completion and recommending either reimbursement or additional work on the subproject.

Once a completed subproject has been inspected and approved by the MLGCD, the LGU is reimbursed for the previously agreed upon fixed amount. Normally, this reimbursement represents 70 to 75 percent of the total subproject cost. Under the terms of the Loan Agreement, the GOP will receive a peso check for the agreed upon value of reimbursements. The complete procedures for implementing the subprojects are contained in the Administrative Procedures Manual. For a detailed description of the implementing agency and the USAID administrative arrangements, see Annex K of the Project Paper. Also, refer to Annex L of the Project Paper for the reimbursement procedures and the joint USAID-GOP FAR formats.

2. Institutional Assessment

The institutional structure through which BWP II is to be implemented is fundamentally sound. With the experience and technology gained from BWP I, both the national and local levels of participating governments have developed their respective administrative machineries and their organizational and technical skills to a level more than adequate to assure the success of a follow-on loan.

At the national level, the project has been institutionalized to a degree where substantial personnel changes will not critically affect its implementation.

This is because implementation policies and procedures have been greatly simplified and standardized to allow for easy and speedy familiarization by one entirely new to the project. As a result, the adverse effect of rapid personnel turnover is minimized.

At the local level, the government units' high level of planning and implementing capability attained through continued exposure to various PDAP programs has sustained them through the pilot and initial project years. The strategy of adopting the PDAP implementation approach for the BWP is largely responsible for the assimilation of the project into the mainstream of local governmental functions. The familiarity of target beneficiaries with the concept of operating mechanics of a service cooperative accounts for the program's general acceptability and operational success at the community level.

It must be pointed out, however, that there are deficiencies within the structure as well as within its organizational setting. Of primary importance are those deficiencies that affect the national implementing agency.

While there is a nucleus of highly motivated and qualified people on the BWP Project Management Staff, one of the problems facing the project is a difficulty in recruiting and retaining qualified personnel to perform the managerial, technical, and monitoring functions required of the project. This difficulty stems from the uncompetitiveness of salaries currently offered by government to the project personnel as well as periodic long delays in receiving payment.

Another implementation bottleneck has been the frequent change in A&E and the difficulty in rehiring a replacement firm on time. In BWP I, over a period of two years, the A&E was changed three times and in each instance there was a lapse of many months between the termination of services of one firm and the hiring of another. One or two months were always needed to orient the newly hired firm before its services could be fully utilized. Review and approval of subproject proposals were unduly delayed adversely affecting overall project implementation. Also, ongoing construction was inadequately monitored resulting in some initially substandard systems which have required remedial construction.

A closer analysis of the above mentioned problems shows them to be directly related to a weakness in the institutional structure at the national level, e.g. the project's subordinate location within the organizational hierarchy of MLCCD. In its current position, the project has only nominal control over a number of important administrative, financial, logistical, and budgetary matters. This denies and fragments its resources and reduces its capacity to respond to ongoing and scheduled activities. See proposed CP's and Covenants on page 38.

At the local level, the implementing institutions have demonstrated a satisfactory level of performance to justify their continued use. Deficiencies in performances resulted not from any major weakness in the structure itself, but more from the following factors:

- a. Lack of full and sustained management support to the project due to insufficient understanding of the project's concept and objectives.

- b. Bureaucratic bottlenecks in procurement of construction services and materials causing significant losses in implementation time.
- c. Lack of complete cooperation between the Development Staff and the Engineering Office often stemming from personality or political differences between their respective heads of offices. Virtually all programs must contend with this.
- d. Double slotting of personnel. Against program policies, the Water Resource Analysts, Waterworks Engineers, and Waterworks Technicians sometimes perform other than BWP related functions to the detriment of the project. As the project expands in terms of targeted sub-projects, this practice should be halted. In the case of the Water Resource Analysts and Waterworks Technicians, the problem is further aggravated by the delay in the approval by the appropriate government agencies of the permanent positions for incumbent personnel within the Project Development Staff and the Provincial Engineer's Office.

3. Assessment of Alternative Arrangements

Eventually the Barangay Water Program should be recognized by its performance as the principal agency for small community domestic water development. The program should then be seriously considered for conversion to the status of an autonomous government entity or corporation. In the meantime, there is no extra-ministerial administrative arrangement that would more adequately favor the development of the program's concepts. This is due to the immediate purpose of the program which is to strengthen local government capacities to plan, implement, and operate water systems. As such, local government units are the principal clientele of the program and no other governmental agency has more influence or possesses more ability to motivate and guide local government personnel than the MLGCD. Such influence by the Ministry has been put to good use in the past by the BWP and it will continue to be useful in expanding the project and developing the building blocks for more intensive future project activity. Once the project has institutionalized the BWP process in all provinces and chartered cities, an assessment should again be made of the relative advantages of becoming an autonomous agency or remaining as an independent unit within the MLGCD.

In January of this year, the President signed a decree creating the Rural Waterworks Development Corporation which will establish closer operational ties between the various programs working on the provision of water for small rural communities. The RWDC grows out of a recognition of the part of the GOP that a large segment of the population is without satisfactory water supply and that the rate at which communities are gaining access to water through existing programs is unacceptably slow. The RWDC is an independent government entity guided by a board of directors which is chaired by the First Lady, and composed of several ministers of state and agency heads. The board's principal function is to establish the guidelines, policies, priorities, and standards for the provision of water throughout the nation.

In addition to coordinating the efforts of other water agencies, the RWDC will operate an implementing arm that will actually provide water systems to small rural communities. The early objectives of the RWDC include the provision of water to a large number of barangays, primarily type I systems. Given the fact that RWDC as yet has a very limited staff and the problems

that BWP has experienced, their targets may prove optimistic. The initial activity will emphasize the coordination of other agencies already involved in the provision of rural water and, to the extent possible, strengthen their efforts in an attempt to accelerate water resource development. Although the RWDC is developing an approach and methodologies of its own, the Corporation is in its embryotic stage and it appears that many of its initial accomplishments will be through other agencies and with borrowed methodologies and procedures.

While it is difficult to predict the ultimate relationship between the BWP and the RWDC, it is generally felt by both USAID and national planners that all programs organized to serve small rural village water needs should be housed together and function as a single entity with uniform procedures and requirements. The current position of the BWP is that such a fusion of activities should occur gradually rather than abruptly. In the interim, the BWP will maintain a relationship of close coordination and cooperation with the RWDC and use its experience to positively influence the development of the eventual lead agency.

For the present, the viability of the BWP approach has been demonstrated. Local government units at the provincial and city level can be trained to plan, finance, organize, and install rural water systems which are cooperatively maintained by the recipient communities. What remains to be demonstrated is the ability of the program to expand coverage at an accelerated pace given the basic institutional framework which has been established. Successful program implementation in the period 1981-84 will establish a sound footing for future policies governing rural water supply.

The difficulties addressed within this section of the Project Paper give rise to the recommendations posed in Section IV, Conditions, Covenants, and Negotiating Status. Compliance with such conditions and covenants will satisfactorily remove the difficulties presented in this analysis.

III. FINANCIAL ANALYSIS AND PLAN

Under this Loan and Grant, the Government of the Philippines will provide operational, training, personnel, and general technical assistance costs to support the program at both the national and local government levels. The USAID, in turn, will provide project funding on a fixed amount reimbursable (FAR) basis for installed water systems and handpumps which meet the Barangay Water Program's specifications. The USAID will also provide specialized technical assistance to complement the locally available basic waterworks development skills.

The major financial requirements are: personnel, training, operations, technical assistance, and construction costs for water systems. Costs for the first three categories and certain basic technical assistance expenses will be borne entirely by the MLCGD and the participating local government units (LGUs). Such funding will be provided through regular budgetary allotments and procedures as has been the practice during the implementation of both the Pilot Program and the first Barangay Water Loan.

For the subproject construction costs, the funding procedures will be as follows: 1) Annual agreements will be reached between the MLCGD and the participating LGUs to do a specific number of subprojects on a fixed amount reimbursement basis. The LGU will then defray expenses for both the overhead costs and the direct construction costs utilizing its own funds. 3) Upon satisfactory completion of the subproject (subprojects must meet quality control standards and other technical specifications and must comply with the establishment of a viable community organization to manage and operate the system), the MLCGD will reimburse the LGU from national budgetary sources for the "direct costs" (POL, labor, equipment, and materials) in the amount previously agreed upon, but for a value not to exceed 75 percent of the total cost of the subproject. The Government of the Philippines, in turn, will be reimbursed periodically by the U.S. Government in loan drawdown accounts corresponding to reimbursements made to the LGUs by the MLCGD. (See Annex L, BWP I PIL #6, for detailed FAR procedures.)

Project management personnel and the USAID advisory group to the project are currently studying a variation on the FAR theme which would facilitate the participation of the less financially capable local government units, expedite project implementation on the part of all LGUs, and yet not sacrifice the advantages embodied in the FAR concept. Essentially, what is being studied is the possibility of staging subproject construction in segments so that small operational advances might be made. The first advance would be made at the outset of the first construction phase. Upon completion of this phase, inspection would occur, a rendition of accounts would be made, and another advance would be given upon presentation of a financial plan and PERT analysis for the subsequent construction phase.

Such an arrangement would be offered only to LGUs which have previously demonstrated that they merit the minor investment risk. Should this financial arrangement, after study, prove meritorious, a more complete procedure and proposal will be delineated for joint consideration by the USAID and the GOP as a feature of this loan.

All costs for the maintenance, operation, and repair of BWP systems, once they are operational and turned over to the communities, will be borne by the respective barangay water service cooperatives themselves. Operational expenses will be met by utilizing community funds deposited in escrow prior to the completion of construction. Subsequent operational expenses will be made from accumulated revenues gained from the collection of water fees.

The financial plan for the Barangay Water Program reflects the total costs of the project and the financial obligations of each GOP implementation level. Contributions toward total project funding will be from: 1) the national government, 2) the participating local government units, and 3) the USAID. The fixed amount reimbursable scheme will be a key financial feature for achieving the intended project physical and organizational outputs.

1. National Government Contribution

The National Government of the Philippines will provide funds to the MLGCD for the reimbursement of local government units for acceptably constructed waterworks systems. The BWP will provide from its own annual budgetary funds: 1) \$.331 million for training costs, 2) \$2.520 million for A&E and community organization services, 3) \$.403 million for salaries and allowances of the Project Management Team, and 4) \$1.084 million for operational support costs. The National Government will also provide LGUs with working capital representing 15 percent of the direct costs of the subprojects in advance of their construction. (Refer to the Summary Costs for Loan Period.)

2. Local Government Contribution

Each participating LGU will be expected to: 1) advance direct construction costs from its regular operating budget, savings, or borrowings, and 2) absorb construction overhead costs (design, subproject inspection, equipment maintenance, etc.). The former will be reimbursed from national funds. The latter, amounting to a peso equivalent of nearly \$3 million will not be reimbursed.

The selection criteria, as embodied in the Administrative Procedures Manual, will require each participating LGU to recruit, (or redesignate from their existing personnel complement), a minimum of five new technicians regarded as vital to successful implementation of the project. For the life of the project, this will amount to between \$6,500 and \$39,000 per LGU depending upon the number of years in this phase that it participates in the project. The overall sum will amount to \$1.37 M for all LGUs over the four-year period of the loan.

The costs of preparing the Water Resource Inventories, the Water Resource Development Plans, subsequent feasibility studies, and other planning documents will be borne from the general fund of the respective LGUs and are likewise reflected in the financial plan on the following pages.

3. Barangay Water Association Contribution

Subprojects will emanate from community requests and preliminarily appear in the Water Resource Inventory, the Five Year Water Resource Development Plan, and either the Capital Improvement or Local Government Investment Plan until they are finally selected for implementation.

Subprojects selected for implementation undergo a structural survey, feasibility study, and preliminary engineering review. The purpose of such steps is to verify willingness and capability of the community to participate in the program and to confirm such things as technical feasibility, loan repayment rates, and the adequacy of the target group. Community participation and contribution to the program begin at this preliminary planning juncture.

Each feasibility study must demonstrate sufficient financial viability to insure that the water cooperative membership will be able to amortize a portion (from 5 to 100 percent of the FAR) of the system's construction costs and cover the normal operational costs as well. Amortization of the principal, at 4 percent per annum interest rate, will be paid to the LGU by the water cooperative over a period of from ten to twenty years. These payments will be utilized in later years by the LGUs for the generation of more water systems using BWP procedures. Amortization payments are not reflected in this financial plan as part of the project.

4. USAID Contribution

During the implementation stages of the project, USAID will provide technical assistance through the Office of Capital Development and Engineering. The USAID contribution will be a direct-hire technician to serve as Project Officer in coordinating the overall development of the project. The Agency will also provide grant funds for \$1.35 million in specialized engineering skills not sufficiently available within country, e.g. hydrogeologists, well drilling specialists, and advanced water resource development experts. An additional \$.287 million is planned for commodities and to provide medium term host country and personal services contracts in the areas of community development, monitoring, training, management, and engineering. The total cost of the Barangay Water Project is \$30,042,377 with 67 percent being provided by USAID and 33 percent emanating from the GOP and participating local government bodies. Thus, this project meets Section 10a requirements for host contribution.

Due to a recent increase of \$3 million to the first project, BWP I, a number of subprojects planned and initiated in FY 1980 will carry into 1981 for construction purposes, thus drawdown against BWP II in 1981 will be considerably lower than in the ensuing three years. Nevertheless, it is necessary to bring the loan on line at the earliest possible date in FY 1981 for planning, accrual, and implementation purposes.

It is expected by the Mission and the GOP that an \$18.5 million loan agreement will be authorized by October, 1980, with NEEDA as the GOP signatory and borrower. The \$18.5 million loan agreement will call for a forty year repayment schedule with a grace period of ten years (at 2 percent per annum) and the amortization of principal over thirty years (at 3 percent per annum). The MLOCD will act as the implementing agency and the Project Management Staff of the Barangay Water Program will be responsible for the day-to-day execution of the project. Summary of Costs in Dollars for Loan Period is presented on page 30. For peso equivalent of the same chart, see Annex R.

5. Impact of Recurring Costs

a. National Level

The burden of financing the recurring costs of the Barangay Water Program at the national level is relatively minor given the magnitude of the program's outreach and the national priority assigned to domestic water resource development.

Due to the approach adopted by the Barangay Water Program--the development of local government units as the chief planning and implementing bodies--financial requirements by the national office are relatively small compared to similar cost items in other agencies. Under this approach, the Central Office of the BWP assumes the role for technology transfer, general program monitoring and management, and the provision of national standards and guidelines. But it is the local government units who are the "doers." This reduces the need for a large multifaceted organization at the national level to perform the detailed requirements associated with subproject implementation. The minimal personnel requirement at the national level in the BWP at present is 35 people. This compares with other national agencies involved in the delivery of such similar services as electrification, irrigation, and even water, in which the staff requirements are in the range of 300 to 500 people. Thus, recurring costs for project maintenance at the national level are considered both minimal and cost efficient.

Aside from the government's ability to maintain the Barangay Water Program is its willingness to do so. In this respect, there is every indication that the government is not only willing to continue the project at its current level, but is assigning even more importance to domestic water supply. This increased priority is evident in the recent establishment of the Rural Water Development Corporation (in which the Barangay Water Program will play a vital role), the designation of the First Lady as the Corporation's Chairperson, and the development of a massive program projected to cover the entire country with at least a minimal level of domestic water access by 1984. The government is planning expenditures in the magnitude of \$6 billion (\$790 M) for such a program and expects to generate such funding from a reordering of national priorities and from international donor inputs such as this loan. In this context, the recurring costs of financing the Barangay Water Program are not only negligible in terms of the overall program outlay, but also likely to be met given the high priority assigned to the domestic water sector.

The impact of the loan itself on the national economy would require a more sophisticated analysis, but the recommended terms of the loan and the economic benefits to be generated by the individual subprojects are such that a positive impact would be expected.

Review and approval of the loan proposal by the National Economic and Development Authority (NEDA) will constitute evidence that the Government of the Philippines has studied the proposal and has contemplated both the financial requirements for maintaining the project and the sources of revenue for later debt servicing commitments.

b. Local Government Level

The recurring financial impact of the project at the provincial and city level will be considerable but positive.

Most local government units have customarily maintained some form (however ineffective) of a water resource development program, usually a well rehabilitation program, and characteristically costly in terms of inputs/outputs. Nevertheless, most LGUs have traditionally sponsored the semblance of a water program costing in the range of ₱50,000 to ₱100,000 a year.

The cost of participation in the BWP is invariably lower than the continuance of such traditional efforts. Furthermore, participation in the BWP leads to greater financial capacity on the part of the LGU than have previous efforts. For example, an LGU will spend ₱77,000 annually for its personnel, training, administrative, and incidental costs in BWP. In return for such minor local investment, an LGU will receive from the national government a tentative subproject allocation ranging from ₱50,000 to ₱2,000,000 depending upon the stage of LGU participation and its adjudged capacity. The LGU will also receive, as a grant from the National Government, an amount of money equivalent to 15% of the tentative allocation to be used as working capital or seed money. This grant, then, will range between ₱53,000 and ₱300,000. After subproject construction is completed, provinces and cities will enter into loan agreements with recipient communities and eventually recover the entire capital outlay (tentative allocation) plus 4% interest for the entirety of the loan period which varies from 10 to 20 years. Furthermore, LGUs will be beneficiary to hand tools and certain excess property items such as vehicles, pumps, and well drilling units in support of their BWP activities.

Thus, the financial benefits of BWP participation overwhelmingly outweigh the recurring costs of such participation. In fact, the development of financial capacity is one of the facets of local government ability sought in the purpose statement of this paper. An argument more often forwarded is that local government units cannot afford not to participate in the program.

c. Barangay Level

The negative financial impact on the beneficiary families for paying water bills will be minimal. The format of the Barangay Water Program is arranged in such a manner that the monthly payment for water by each household will not exceed 5% of the estimated gross income, or ₱15, whichever is less. While this may seem substantial, it must be remembered that people in areas experiencing water problems are forced to purchase their water from vendors. This can cost from fifty centavos to six pesos per family each day even for small quantities.

This means that at present a family is probably spending as much as thirty pesos each month for about one cubic meter of water. Therefore, the expenditure of ₱15 for as much as fifteen cubic meters of water is a welcome change. No adverse financial impact is expected. In fact, early experiences in the BWP indicate that the abundance of conveniently located water permits economic activities which far exceed the relatively minor costs for water purchase through the Barangay Water Service Cooperatives.

BARANGAY WATER PROGRAM
SUMMARY OF COST FOR LOAN PERIOD

SOURCE/ITEM	1981	1982	1983	1984	Totals
1. USAID					
<u>a) Loan</u>					
- Capital Costs for Water System Construction (FAR Basis)	340,000	4,160,000	5,950,000	8,050,000	18,500,000
<u>b) Grant</u>					
1. Technical Assistance for US Engineering Consulting Firm (Institutional Contract)	480,000	480,000	260,000	130,000	1,350,000
2. Engineering, Training, Evaluation, Monitoring & Management Consultants (Host Country & Personal Services Contracts)	20,000	60,000	60,000	60,000	200,000
<u>c) Commodities</u>	20,000	67,000	--	--	87,000
2. <u>GOP</u>					
<u>National Government</u>					
a) Project Management Staff Salaries & Allowances	76,330	91,330	109,330	125,730	402,720
b) Technical Assistance					
1. Engineering Services	320,000	400,000	466,690	533,330	1,720,020
2. Community Organization and Training	133,000	200,000	200,000	266,670	799,670
c) Administration and Operational Support	200,300	265,870	292,400	325,730	1,084,300
d) Training					
1. Local Government Staff Development	70,670	75,330	82,670	89,330	318,000
2. Project Management Staff Development	2,930	3,200	3,470	3,730	13,330
e) Pass Reimbursement for Direct Construction Costs	340,000* (3,390,000)**	4,160,000* --	5,950,000* --	8,050,000* --	18,500,000* --
f) Grant-in-Aid (Seed Money)	51,000 (508,500)**	624,000 --	492,500 --	1,207,500 --	2,375,000 --
3. <u>Local Government</u>					
a) Personnel (Salaries)	250,000	306,244	371,242	446,181	1,373,667
b) Operations & Administrative Costs	64,530	79,070	95,870	115,200	354,670
c) Training					
1. Staff Development	96,800	118,670	143,730	172,800	532,000
2. Water Service Cooperatives	96,800	118,670	143,730	172,800	532,000
d) Overhead Construction Costs	(1,130,000)**	--	--	--	--
4. <u>Barangay Water Service Cooperatives and Committees***</u>					
TOTALS	2,420,360	7,049,384	9,071,632	11,699,001	30,042,377
GOP	1,362,360	2,282,384	2,801,632	3,459,001	9,905,377
US	860,000	4,767,000	6,270,000	8,240,000	20,137,000

*Non-Add loans. Sum is returned to the GOP on fixed amount reimbursable (FAR) basis

**Non-Add costs to BWP II. Figures represent seed money, project construction overhead, and FAR costs chargeable to BWP I commitments.

***Maintenance, repair and operation costs are borne by the respective Barangay Water Cooperatives and not reflected in this table

Line items include 10% escalation factor for inflation and 1% for contingencies

Cost based on: US\$1.00 = P7.50

GOP Contribution - 33%

U S Contribution - 67%

FOR BUDGET ANALYSIS, SEE ANNEX B

IV. IMPLEMENTATION PLAN

A. General Responsibilities

The implementing agency for the Barangay Water Project is the Ministry of Local Government and Community Development. Project inputs will be at the national, provincial, city, and barangay levels and primarily consist of training, technical assistance, and financial assistance for the construction of water systems.

Participating local government units will be charged with planning, surveying, designing, and constructing the barangay water systems and will also have the general responsibility for organizing and training the barangay water service cooperative (BWSC) membership.

The BWSCs will be responsible for the management, operation, and maintenance of their respective systems. If financially capable, as determined through feasibility studies, the BWSCs shall also be asked to amortize a portion of the systems' construction costs.

On system maintenance and repair, cooperation from the local engineering offices through their waterworks repair shops will insure support for second and third echelon repairs. The BWSCs themselves will bear the costs of such repairs when they are required. Working closely with local cooperatives, local government authorities will audit and inspect the systems and provide guidance and rationale for the adjustments as necessary during the operational phase. (See P/CET concepts and procedures, BWP Administrative Procedures Manual.)

B. Area Coverage

Participating local government units during the second phase of the Barangay Water Project will include the original BWP I participants and the remaining non-BWP PDAP provinces and CDAP cities. Their existing high level of planning and implementing capability developed through participation in BWP and other varied PDAP programs justify their inclusion in BWP II.

Previous participation in BWP and other PDAP programs, however, does not suffice as the sole selection criteria. Continued participation will also depend upon the individual local government's interest and ability to satisfy other requirements as outlined in the MLGCD Barangay Water Project Administrative Procedures. Principal among these requirements is the approval of current budget appropriations equal to the amount of the total subproject costs submitted for funding in the Annual Implementation Plan (AIP). (See Local Government Participation Requirements, Administrative Procedures Manual.) In addition to PDAP provinces and cities, other local government units demonstrating the willingness to meet the specified requirements will be eligible to participate. The projected number of participants are as follows:

No. of LGU Participants (cumulative)	<u>FY 1980</u>	<u>FY 1981</u>	<u>FY 1982</u>	<u>FY 1983</u>	<u>FY 1984</u>
	39	44	49	54	59

C. Barangay Water Subproject Selection and Construction

Subproject selection will be the prime responsibility of the local development staff. The selection process will be a two stage process and will consist of preliminary screening and a final and detailed feasibility analysis. The basic and more important selection criteria are as follows: (a) an immediate and visible need for a system; (b) the presence of electricity for deep wells or an adequate gravity source; (c) the potential for indigenous managerial capability within the community; (d) reasonable system cost; (e) the willingness of the community to own, manage, and operate the system; and (f) the ability of the community to shoulder the financial cost of system maintenance and operation. To obtain maximum interest, cooperation, and participation from recipient communities in project implementation, preferences in project selection will be given to subproject proposals that directly originate in the recipient communities themselves. This manifestation of need and interest may come in the form of a letter request to the development staff or in the form of a barangay or municipal resolution.

The actual design and construction of the various systems will be the responsibility of the local government units. The MLCED will employ the services of a local architectural and engineering firm, acceptable to USAID, to approve plans, monitor construction, and make final inspections of completed subprojects.

D. Process

In simplest terms, the implementation process begins by the admission of local government units (provinces and cities) to the program followed by their attendance to a number of training programs. The process continues through the accomplishment of a number of planning, organization, and construction activities which result in organized water systems and ultimately the development of local capacity to proliferate water systems. In this sense, the implementation process in BWP is both a means to an end and an end in itself.

Training activities are both formal and informal. They are described at length in both the In-depth Evaluation and the Administrative Procedures Manual.

Planning and implementation activities take place in accordance with the schedule which follows below. It is keyed to and time phased with the annual budget and planning cycle of the national government. The schedule lists two sets of requirements: one set for provinces and cities newly entering the program and a second set for local governments already participating in the program and already having attained a certain level of basic skills.

For the former group (new local governments), the first year's participation amounts to training, staffing, planning, developing facilities, and getting institutionally ready for fuller participation in the following year. New local governments also undertake a limited number of infrastructure projects during the first year, but such projects are usually Level I (handpumps) or small Level II or Level III-A systems. This type of infrastructure development provides an opportunity for local government units to practice newly acquired project implementation skills on relatively simple projects in advance of undertaking more complicated systems in subsequent years.

For the more advanced local government units, annual activities consist of up-

dating plans, conducting studies and inventories; implementing a number of water systems; and attending both special and refresher training programs. The latter training programs provide the vehicle for introducing new technology and communicating revised program procedures, and allows for the initial training of replacement personnel due to personnel turnover in the provinces and cities.

(See Annex M for Implementation Schedule of program activities. This schedule, or a slight variation of it, will be repeated each year through the four-year life of the project. It serves as a guide for local government units to follow during the course of the implementation year. In Annex N see the BWP Training Projection chart which shows the four year training schedule. Annex O is the Operational Framework chart which depicts the planning and implementation process and denotes the specific responsibility of each.)

V. MONITORING AND EVALUATION ARRANGEMENTS

A. General

Project monitoring will be used as a management tool. Information on project implementation will be continuously collected, analyzed, evaluated, and translated into useful reports for control, decision-making, and the evaluation of agency performance. Monitoring will be undertaken at the national, local, and barangay levels. As illustrated in Section Seven of the Administrative Procedural Manual, each participating agency's monitoring system is designed to meet its particular needs. As the national implementing agency, MLCCD's monitoring scheme covers the entire spectrum of the project, while that of the BWSC is limited to the facet of the project for which it is directly concerned, i.e., management and operation of the installed water system. Likewise, the LGU's scope of monitoring responsibilities extends only to areas where it has direct involvement.

For MLCCD, project monitoring will be undertaken by the Monitoring, Research, and Evaluation Division of the Project Management Staff. To facilitate routine data collection, a monitoring schedule indicating dates of visits and data output required will be prepared and followed. To assure data accuracy, there will be minimum reliance upon written reports from secondary sources.

The MLCCD contracts an Architecture and Engineering (A&E) firm to provide independent monitoring of subprojects. Under the direct supervision and control of the Project Management Staff, the A&E functions as an extension of the Engineering and Implementation Division. Responsibilities include:

- 1) review of the appropriateness of each subproject design, costs, and specifications and the recommendation of a reasonable sum for the capital costs and later reimbursements;
- 2) inspection and monitoring of construction to assure conformity to previously agreed upon plans, costs, and specifications;
- 3) inspection of each subproject after completion to recommend reimbursement or additional work; and
- 4) the provision of technical training for local government engineering and waterworks technical personnel

At the local level, the participating offices will maintain separate monitoring systems. Again, the scope of the systems will depend entirely on the information needs of each office. Data gathering will be the principal responsibility of the Water Resource Analyst in the PDS and the Waterworks Engineer in the PEO.

For the BWSC, the monitoring system will be performance-oriented with emphasis on the operational status of the system and the financial and operational condition of the cooperative. While each participating agency and organization has its own separate monitoring scheme, all schemes share the following characteristics:

1. Involvement of management in the design of the system - Management identifies specific information needs that will aid in control, direction, and decision-making; thus, the relevance of monitored data is assured.
2. Continued update and review of data output - This will assure data accuracy and provide management with the opportunity to assess the appropriateness and adequacy of the monitoring system in meeting the organization's changing needs.
3. Four basic procedural steps - 1) the collection of all relevant facts about completed and current project activities; 2) analysis and evaluation; 3) the conversion of facts into chart form to reveal trends; and 4) management review and decision-making

The above monitoring activities will provide an ongoing assessment of the project. The result of staff evaluation and review is the formulation of remedial measures or solutions to operational problems.

Aside from the monitoring activities, there will be three kinds of formal evaluations conducted. They are briefly described below.

1. MLGCD/PDAP Annual Evaluation

PDAP and MLGCD customarily conduct evaluations of all joint activities on an annual basis. Evaluation teams comprised of both field and office personnel visit all participating local government units and carefully review the progress of each of the major areas of project emphasis. The findings of such evaluations are tabulated, analyzed, and used as the basis for a two-day annual MLGCD/PDAP Evaluation Conference. In attendance are all participating provincial governors, mayors of chartered cities, and senior U.S. and Philippine government officials. The latter participation includes the Mission Director, the U.S. Ambassador, and senior cabinet ranking GOP officials.

2. Project-Specific Evaluations

An In-House Evaluation will be conducted in 1982 to measure the overall performance of the various levels of participating government, the adequacy of project procedures and policies, and project impact. Specifically, the evaluation seeks to:

- a. assess the institutional structure, its attendant personnel and operational procedures; the process and strategy set forth by the project; the level of engineering technology developed; the cost of subprojects; and the effectiveness of training programs
- b. quantify project outputs and make judgements with respect to their qualitative value
- c. determine the extent to which the project has contributed toward the building of local government capacity as stated in the project purpose

- d. identify the factors that affect the performance of local governments and suggest remedial measures to motivate higher levels of performance

The In-House Evaluation will be coordinated and directed by the Monitoring, Research, and Evaluation Division of the BWP. One year later, in 1983, an Inter-Agency Evaluation will be conducted with technical assistance from USAID and other collateral agencies. In 1984, an In-Depth Evaluation similar to the one conducted for BWP I will be conducted by an independent management consulting firm contracted by the MLGCD. Following final loan disbursements in 1986, an End-of-Project Evaluation will be conducted. Its focus will be more heavily weighted on the measurement of project social impact by verifiable indicators related to income, health, land usage, population patterns, and other social changes.

3. Subproject Evaluation

Each participating local government unit will be required to evaluate one subproject. This evaluation will be undertaken to determine:

- a. the effect of a new water supply system on the general health conditions of the community, including the incidence of water borne disease;
- b. the impact of the water system on the socioeconomic development of the community;
- c. the efficiency of the water supply system; and
- d. the accuracy of the project data, i.e., population, water demand, agricultural production, operation and maintenance costs.

A definitive evaluation of health benefits would require a complex research design if such benefits are to be attributed to the project itself in exclusion of all other environmental changes. Empirical evidence, on site observations, and discussions with villagers receiving BWP I water indicate that health benefits are occurring and that the villagers themselves perceive these benefits. Such observations prompt us to conduct by random sample, in addition to the indepth subproject evaluation that will be undertaken by each of the participating local government units, a separate evaluation which will attempt to measure health benefits. In this way, the degree of health benefit may be estimated as a function of total environmental change that accompanied the water installations. Such an approach may enable the setting of criteria for project design to increase the likelihood of health benefits in water projects.

An attempt will also be made to determine the demographic impact of safe water on specific beneficiaries with regard to changes in such relevant variables as female employment, time-allocation of women, health status of fecund women, and health status of children under five years of age.

The subprojects to be evaluated will be selected by MLGCD from among those initiated by the local government units during their third year of participation.

Representative large, medium, and small subprojects using both ground and surface water sources will be included in order to provide a valid sample for aggregating total project benefits as well as useful operational data for improving sub-system design, construction, and organization. (See Annex 3 for graphic presentation of monitoring responsibilities by agency.)

VI. CONDITIONS, COVENANTS, AND NEGOTIATING STATUS

General

The Barangay Water Program has expanded its geographic coverage of the country at a rate faster than originally envisioned. The size of the Ministry's Project Management Staff has also increased dramatically, but its growth has not been commensurate with program expansion. Thus, the field activities have outstripped the existing staff capability to fulfill all of the important field monitoring, training, and supervisory functions. This situation has been complicated by the program's location within the hierarchy of the Ministry of Local Government and Community Development. In its current position, the program has only nominal control over a number of its administrative, financial, logistic, and budgetary matters necessary for the operational effectiveness.

To facilitate the ongoing aspects of the program, only AID's standard conditions precedent will apply to grant funds provided under this Project Agreement.

In order to address the deficiencies indicated above, the following CP's and Covenants are considered desirable. They have all been discussed with appropriate GOP counterpart and Ministry officials. USAID will negotiate for their inclusion in the Project Agreement. Individually, however, only item "1.b." under Covenants is considered project critical. If for any reason item "1.b." is non-negotiable, a reduction in project scope and project objectives will be required.

1. Conditions Precedent to Loan Disbursement

a. The Borrower agrees to provide written assurances that the Project Management Staff will be expanded to a total strength of at least 15 members.

b. In order to complement the capacity of the Project Management Staff, the implementing agency will contract with a local firm to provide engineering design and construction review and monitoring services. The initial contract will be for a minimum period of two years.

c. The implementing agency will contract with a local institutional development firm to provide community organization and training services in furtherance of the activities of the Community Organization and Training Division of the Barangay Water Program. The initial contract will be for a minimum of two years.

d. The implementing agency will contract with a U.S. engineering firm to provide specialized waterworks engineering skills not readily available in the Philippines. The initial term of contract will be of at least two years duration.

2. Covenants

a. The implementing agency covenants that all 35 program positions

mentioned in paragraph "1.a." above will be filled with professionals by January 31, 1981. The implementing agency further covenants to maintain the staff at a level of at least 35 professionals until all AID Loan funds provided in this agreement have been disbursed.

b. The implementing agency covenants that it will establish, by January 1981, the BWP as an independent operating unit within the MLGCD, operating directly under the Office of the Minister. The program will have its own key budgetary inclusion (KBI) and possess full authority over its personnel, vehicles, equipment, and financial resources.

c. The implementing agency covenants to maintain engineering services of the type specified in paragraph "1.b." above without interruption until all AID Loan funds provided in this agreement have been disbursed.

e. The implementing agency covenants to maintain technical institutional development services of the type specified in paragraph "1.c." above without interruption until all AID Loan funds provided in this agreement have been disbursed.

e. The implementing agency covenants to maintain U.S. consulting services of the type specified in paragraph "1.d." above until all AID Loan funds provided in this agreement have been disbursed.

f. The implementing agency covenants to limit the expansion of the program to no more than ten local government units per year, unless the Project Management Staff is commensurately increased to permit an orderly expansion of the program's activities.

g. The implementing agency covenants to conduct annual re-certification of participating provinces in order to demonstrate that the respective provinces have complied as follows:

1. Hired the recommended number and type of personnel in both the Provincial Development Staff and Provincial Engineer's Offices.
2. Participated in all scheduled training programs.
3. Prepared both a Provincial Water Resource Inventory and a Provincial Water Resource Development Plan.
4. Undertaken feasibility studies for each barangay subproject in accordance with the Barangay Water Administrative Procedures Booklet No. 2 or its subsequent revised editions.
5. Organized and trained all participating barangay water associations in advance of subproject construction.
6. Designed and constructed subprojects in accordance with the adopted administrative procedures and in accordance with specifications, plans, and costs agreed upon by a local architectural and engineering firm.

7. Provided adequate follow-on training, supervision, and evaluation of all barangay water cooperatives and subprojects.
8. Maintained functional waterworks repair shops with complete tool inventories and in compliance with excess property agreements.
9. Maintained all systems and facilities constructed under this loan in operational condition.
10. Established a Provincial or City Evaluation Team (P/CET) in accordance with the Program Administrative Procedures.
11. Selected one evaluation subproject per local government unit for in-depth evaluation.

ANNEX A
LOGICAL FRAMEWORK

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project: 4 Years
From FY 1981 to FY 1984
Total U.S. Funding \$20,137,000
Date Prepared: February 15, 1980

Project Title & Number: BARANGAY WATER PROJECT II

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS																																																																																																						
<p>Program or Sector Goal: The broader objective to which this project contributes: (A-1)</p> <p>To improve the general health of the residents in the service area of the Barangay Water Program.</p>	<p>Measures of Goal Achievement: (A-2)</p> <p>Within three years after the installation of the Barangay Water System there will be:</p> <ol style="list-style-type: none"> 1. No cholera or typhoid outbreak directly traceable to project water supply. 2. A 50% decrease in gastro-enteritis. 3. A decrease in reported skin disease cases (scab and strep) of at least 50%. 	<p>(A-3)</p> <ol style="list-style-type: none"> 1. By initial study and re-evaluation of one subproject in each participating local government unit. 2. By project evaluation. 	<p>Assumptions for achieving goal targets: (A-4)</p> <p>An adequate supply of safe water is the major requirement for control and elimination of waterborne diseases.</p>																																																																																																						
<p>Project Purpose: (B-1)</p> <ol style="list-style-type: none"> 1. To provide safe, reliable, low-cost water systems or facilities to selected small rural communities (under 10,000 population). 2. To develop national and local government capacity to plan, organize, finance, and install Barangay Cooperative Water Systems with an indigenous maintenance and management capacity. 	<p>Conditions that will indicate purpose has been achieved: End-of-Project status: (B-2)</p> <ol style="list-style-type: none"> 1. All installed systems will be collecting sufficient fees to assure continuing operations. 2. The average cost of water does not exceed 1% of the average family income. 3. Quality testing is being performed regularly on each system. 4. At least 5% of the residents are using the installed systems as their primary source of potable water. 5. The existence of an established and functional control office with at least 15 trained project management staff personnel. 6. Existence of 10 Provincial/City Development Staffs that can identify potential barangay water systems. 7. At least 10 Provincial/City Development Staffs are capable of designing & installing barangay water systems & providing technical assistance for the water systems. 	<p>(B-3)</p> <ol style="list-style-type: none"> 1. Evaluation 2. Reports, Surveys, Inventories 3. Field inspections 4. Physical counts and actual measurements 5. Periodic audits 	<p>Assumptions for achieving purpose: (B-4)</p> <ol style="list-style-type: none"> 1. Program-developed methodology is a successful approach to water service delivery, particularly in terms of community level organization, and responsibility for operation, maintenance, and repair. 2. The authority and control over planning and implementing subprojects will be retained by local government units. 																																																																																																						
<p>Project Outputs: (C-1)</p> <ol style="list-style-type: none"> 1. Training Programs conducted 2. LG Personnel Trained 3. Person Hours of Training Conducted 4. LGU Participating 5. LG Task Forces Formed 6. Water Resource Inventories Prepared 7. Five-Year Water Resource Dev. Plans Prepared 8. Feasibility Studies Conducted 9. Water Systems Designed 10. Waterworks Repair Shops Established 11. P/C Evaluation Teams Established 12. IMSC's Organized (Level I) 13. IMSC's Organized (Level II and Level III-A) <p>Infrastructure Development</p> <ol style="list-style-type: none"> 1. Water Facilities (Level II) 2. Water Systems (Level I, and Level III-A) 	<p>Magnitude of Outputs: (C-2)</p> <table border="1"> <thead> <tr> <th></th> <th>1981</th> <th>1982</th> <th>1983</th> <th>1984</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>1. Training Programs conducted</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>400</td> </tr> <tr> <td>2. LG Personnel Trained</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>400</td> </tr> <tr> <td>3. Person Hours of Training Conducted</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>400</td> </tr> <tr> <td>4. LGU Participating</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>400</td> </tr> <tr> <td>5. LG Task Forces Formed</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>400</td> </tr> <tr> <td>6. Water Resource Inventories Prepared</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>400</td> </tr> <tr> <td>7. Five-Year Water Resource Dev. Plans Prepared</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>400</td> </tr> <tr> <td>8. Feasibility Studies Conducted</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>400</td> </tr> <tr> <td>9. Water Systems Designed</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>400</td> </tr> <tr> <td>10. Waterworks Repair Shops Established</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>400</td> </tr> <tr> <td>11. P/C Evaluation Teams Established</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>400</td> </tr> <tr> <td>12. IMSC's Organized (Level I)</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>400</td> </tr> <tr> <td>13. IMSC's Organized (Level II and Level III-A)</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>400</td> </tr> <tr> <td>Infrastructure Development</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>400</td> </tr> <tr> <td>1. Water Facilities (Level II)</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>400</td> </tr> <tr> <td>2. Water Systems (Level I, and Level III-A)</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>400</td> </tr> </tbody> </table>		1981	1982	1983	1984	Total	1. Training Programs conducted	100	100	100	100	400	2. LG Personnel Trained	100	100	100	100	400	3. Person Hours of Training Conducted	100	100	100	100	400	4. LGU Participating	100	100	100	100	400	5. LG Task Forces Formed	100	100	100	100	400	6. Water Resource Inventories Prepared	100	100	100	100	400	7. Five-Year Water Resource Dev. Plans Prepared	100	100	100	100	400	8. Feasibility Studies Conducted	100	100	100	100	400	9. Water Systems Designed	100	100	100	100	400	10. Waterworks Repair Shops Established	100	100	100	100	400	11. P/C Evaluation Teams Established	100	100	100	100	400	12. IMSC's Organized (Level I)	100	100	100	100	400	13. IMSC's Organized (Level II and Level III-A)	100	100	100	100	400	Infrastructure Development	100	100	100	100	400	1. Water Facilities (Level II)	100	100	100	100	400	2. Water Systems (Level I, and Level III-A)	100	100	100	100	400	<p>(C-3)</p> <ol style="list-style-type: none"> 1. BMP Monitoring Reports (MIS) 2. Field observations 3. Certified reimbursements for completed projects 4. USAID & GOP audit/inspections 5. Physical Counts 6. A & E Reports 	<p>Assumptions for achieving outputs: (C-4)</p> <p>The number of potentially feasible projects to be identified at the barangay level will exceed the actual number of projects to be executed through this project.</p>
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<p>Project Inputs: (D-1)</p> <ol style="list-style-type: none"> 1. Personnel 2. Materials 3. Equipment 4. Services 5. Other 	<p>Implementation Target (Type and Quantity) (D-2)</p> <table border="1"> <thead> <tr> <th></th> <th>1981</th> <th>1982</th> <th>1983</th> <th>1984</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>1. Personnel</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>400</td> </tr> <tr> <td>2. Materials</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>400</td> </tr> <tr> <td>3. Equipment</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>400</td> </tr> <tr> <td>4. Services</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>400</td> </tr> <tr> <td>5. Other</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>400</td> </tr> </tbody> </table>		1981	1982	1983	1984	Total	1. Personnel	100	100	100	100	400	2. Materials	100	100	100	100	400	3. Equipment	100	100	100	100	400	4. Services	100	100	100	100	400	5. Other	100	100	100	100	400	<p>(D-3)</p> <ol style="list-style-type: none"> 1. Project Monitoring Data 2. Financial Audits 3. Project Evaluations 4. Annual LGU Recertification Inspections 5. Loan Drawdowns 6. Joint FAR Agreements 	<p>Assumptions for providing inputs: (D-4)</p> <p>The National Government will continue to place high priority on domestic water resource development.</p>																																																																		
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ANNEX B

STATUTORY CHECKLIST

STATUTORY CHECKLIST

5C(1) - COUNTRY CHECKLIST

Listed below are, first, statutory criteria applicable generally to FAA funds, and then criteria applicable to individual fund sources: Development Assistance and Economic Support Fund.

A. GENERAL CRITERIA FOR COUNTRY ELIGIBILITY

- | | |
|--|----------------|
| 1. <u>FAA Sec. 116.</u> Can it be demonstrated that contemplated assistance will directly benefit the needy? If not, has the Department of State determined that this government has engaged in a consistent pattern of gross violations of internationally recognized human rights? | Yes |
| 2. <u>FAA Sec. 481.</u> Has it been determined that the government of the recipient country has failed to take adequate steps to prevent narcotics drugs and other controlled substances (as defined by the Comprehensive Drug Abuse Prevention and Control Act of 1970) produced or processed, in whole or in part, in such country, or transported through such country, from being sold illegally within the jurisdiction of such country to U.S. Government personnel or their dependents, or from entering the U.S. unlawfully? | No |
| 3. <u>FAA Sec. 620 (b).</u> If assistance is to a government, has the Secretary of State determined that it is not dominated or controlled by the international Communist movement? | Yes |
| 4. <u>FAA Sec. 620(c).</u> If assistance is to a government, is the government liable as debtor or unconditional guarantor or any debt to a U.S. citizen for goods or services furnished or ordered where (a) such citizen has exhausted available legal remedies and (b) the debt is not denied or contested by such government? | a. No
b. No |
| 5. <u>FAA Sec. 620(e) (1).</u> If assistance is to a government, has it (including government agencies or subdivisions) taken any action which has the effect of nationalizing, expropriating, or otherwise seizing ownership or control of property of U.S. citizens or entities beneficially owned by them without taking steps to discharge its obligations toward such citizens or entities? | No |
| 6. <u>FAA Sec. 620(a), 620(f), 6200, FY80 App. Act. Sec. (511, 512 and 513.)</u> Is recipient country a Communist country? Will assistance be provided to Angola, Cambodia, Cuba, Laos or Vietnam? Will assistance be provided to Afghanistan or Mozambique without a waiver? | No |
| 7. <u>FAA Sec. 620(i).</u> Is recipient country in any way involved in (a) subversion of, or military aggression against, the United States or any country receiving U.S. assistance, or (b) the planning of such subversion or aggression? | a. No
b. No |
| 8. <u>FAA Sec. 620(j).</u> Has the country permitted, or failed to take adequate measures to prevent, the damage or destruction, by mob action, of U.S. property? | No |

9. FAA Sec. 620(i). If the country has failed to institute the investment guarantee program for the specific risks of expropriation, inconvertibility or confiscation, has the AID Administrator within the past year considered denying assistance to such government for this reason? **N/A**
10. FAA Sec. 620(o); Fishermen's Protective Act of 1967, as amended, Sec. 5. If country has seized, or imposed any penalty or sanction against, any U.S. fishing activities in international waters. **N/A**
- a. has any deduction required by the Fishermen's Protective Act been made?
- b. has complete denial of assistance been considered by AID Administrator?
11. FAA Sec. 620; FY 80 App. Act Sec. (518.)
- (a) Is the government of the recipient country in default for more than six months on interest or principal of any AID loan to the country? **a. No**
- (b) Is country in default exceeding one year on interest or principal on U.S. loan under program for which App. Act appropriates funds? **b. No**
12. FAA Sec. 620(s). If contemplated assistance is development loan or from Economic Support Fund, has the Administrator taken into account the percentage of the country's budget which is for military expenditures, the amount of foreign exchange spent on military equipment and the amount spent for the purchase of sophisticated weapons systems? (An affirmative answer may refer to the record of the annual "Taking Into Consideration" memo: "Yes, taken into account by the Administrator at time of approval of Agency OYB." This approval by the Administrator of the Operational Year Budget can be the basis for an affirmative answer during the fiscal year unless significant changes in circumstances occur.) **Yes**
13. FAA Sec. 620(t). Has the country severed diplomatic relations with the United States? If so, have they been resumed and have new bilateral assistance agreements been negotiated and entered into since such resumption? **No**
14. FAA Sec. 620(u). What is the payment status of the country's U.N. obligations? If the country is in arrears, were such arrearages taken into account by the AID Administrator in determining the current AID operational Year Budget? **No access**
15. FAA Sec. 620A, FY 80 App. Act Sec. (521.) Has the country granted sanctuary from proscription to any individual or group which has committed an act of international terrorism? Has the country granted sanctuary from prosecution to any individual or group which has committed a war crime? **No to both**
16. FAA Sec. 666. Does the country object, on basis of race, religion, national origin or sex, to the presence of any officer or employee of the U.S. there to carry out economic development program under FAA? **No**
17. FAA Sec. 669, 670. Has the country, after August 3, 1977, delivered or received nuclear enrichment or reprocessing equipment, materials, or technology, without specified arrangements or safeguards? Has it detonated a nuclear device after August 3, 1977, although not a "nuclear-weapon State" under the nonproliferation treaty? **No to both**

B. FINDING SOURCE CRITERIA FOR COUNTRY ELIGIBILITY

1. Development Assistance Country Criteria

a. FAA Sec. 102(b) (4). Have criteria been established and taken into account to assess commitment progress of country in effectively involving the poor in development, on such indexes as: (1) increase in agricultural, (2) reduced infant mortality, (3) control of population growth, (4) equality of income distribution, (5) reduction of unemployment, and (6) increased literacy. **Yes to all**

b. FAA Sec. 104(d) (1); IDC Act of 1979. If appropriate, is this development (including Sahel) activity designed to build motivation for smaller families through modification of economic and social conditions supportive of the desire for large families in programs such as education in and out of school, nutrition, disease control, maternal and child health services, agricultural production, rural development, assistance to urban poor and through community-based development programs which give recognition to people motivated to limit the size of their families? **Yes**

2. Economic Support Fund Country Criteria

a. FAA Sec. 502B. Has the country (a) engaged in a consistent pattern of gross violations of internationally recognized human rights or (b) made such significant improvements in its human rights record that furnishing such assistance is in the national interest? **a. No**
b. Yes

d. FAA Sec. 533(a). Will assistance under the Southern Africa program be provided to Angola, Mozambique, Tanzania, or Zambia? If so, has President waived prohibition against the assistance by determining that such assistance will further U.S. foreign policy interests? **N/A**

c. FAA Sec. 609. If commodities are to be granted so that sale proceeds will accrue to the recipient country, have Special Account (counterpart) arrangements been made? **Yes**

(d) FY 80 App. Act Sec. (510). Will assistance be provided 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? **No**

(e) FAA Sec. 620B, P.L. 94-329 Sec. 406. Will ESF be furnished to Argentina or Chile? **N/A**

5C(2) - PROJECT CHECKLIST

A. GENERAL CRITERIA FOR PROJECT

1. FY 80 App. Act Unnumbered, FAA Sec. 634A, Sec. 653(b), (a). Describe how authorizing and appropriations Committees of Senate and House have been or will be notified concerning the project, (a) is assistance within (Operational Year Budget) country or international organization allocation reported to Congress (or not more than \$1 million over that figure)?

a. **Via Congressional Presentation submitted by AID**
b. **Yes**

2. FAA Sec. 611(a) (1). Prior to obligation in excess of \$100,000, will there be (a) engineering, financial, and other plans necessary to carry out the assistance and (b) a reasonably firm estimate 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 80 App. Act Sec. 301. If for water or water-related land resource construction, has project met the standards and criteria as per the Principles and Standards for Planning Water and Related Land Resources dated October 25, 1973?

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 of 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 project will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture and commerce; and (f) strengthen trade unions.

a. N/A

b. Will provide impetus for development of supporting industry - pipes, pumps, equipment, etc.

c. Barangay Water Service Coop are crucial component of the project.

d. Monopolistic practices of rural water vendors discouraged.

e. Increases productivity of water-related household economic activities, e.g. gardening livestock and cottage industry.

f. N/A

9. FAA Sec. 601(b). Information and conclusion 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

3. FAA Sec. 612(b); Sec. 636(h). 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 to meet the cost of contractual and other services.

All local contractual and other services (with the exception of one engineering contract) will be paid out of total currencies contributed by the GOP or USAID. If additional technical assistance is required, it could be funded under the loan.

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 80 App. Act Sec. (521). 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

B. FUNDING CRITERIA FOR PROJECT

1. Development Assistance Project Criteria

a. FAA Sec. 102(b) (1), (2), (3)
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

The project will establish self-sustaining, appropriate capacity for local level development of water systems which will collectively bring the poor into the monetary economy while improving their productivity. 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.

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 economy of developing countries and the improvement of women's status; and (e) utilize and encourage regional cooperation by developing countries;

b. FAA Sec. 103, 103A, 104, 105, 106, 107.
Is assistance being made available? (Include only applicable paragraph which corresponds to source of funds used. If more than one fund source is used for project, include relevant paragraph for each fund source.)

(1) (103) for agriculture, rural development or nutrition; if so (a) extent to which activity is specifically designed to increase productivity and income of rural poor, (103A) if for agricultural research, full account shall be taken of the needs of small farmers, and extent of field testing to adapt basic research to local conditions shall be made, (b) extent to which assistance is used in coordination with programs carried out under Sec. 104 to help improve nutrition of the people of developing countries through encouragement of increased production of crops with greater nutritional value, improvement of planning, research, and education with respect to nutrition, particularly with reference to improvement and expanded use of indigenously produced foodstuffs, and the undertaking of pilot or demonstration programs explicitly addressing the problem of malnutrition of poor and vulnerable people, and (c) extent to which activity increases national food security by improving food policies and management and by strengthening national

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 all components of the project.

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

e. BWP II is potentially transferable to other regional countries.

food reserves, with particular concern for the needs of the poor, through measures encouraging domestic production, building national food reserves, expanding available storage facilities, reducing post harvest food losses, and improving food distribution.

(2) (104) for population planning under sec. 104(b) or health under sec. 104(c); if so, a. extent to which activity emphasizes low-cost, integrated delivery systems for health, nutrition and family planning for the poorest people, with particular attention to the needs of mothers and young children, using paramedical and auxiliary medical personnel, clinics and health posts, commercial distribution systems and other modes of community research.

N/A

(4) (105) for education, public administration, or human resources development; if so, extent to which activity strengthens nonformal education, makes formal education more relevant, especially for rural families and urban poor, or strengthens management capability of institutions enabling the poor to participate in development; and b. extent to which assistance provides advanced education and training of people in developing countries in such disciplines as are required for planning and implementation of public and private development activities.

(5) (106) for technical assistance, energy, research, reconstruction, and selected development problems; if so, extent activity is: (1) (a) concerned with data collection and analysis, the training of skilled personnel, research on and development of suitable energy sources, and pilot projects to test new methods of energy production; and (b) facilitative of geological and geophysical survey of potential oil, natural gas, and coal reserves and to encourage exploration for potential oil, natural gas, and coal reserves.

(11) technical cooperation and development, especially with U.S. private and voluntary, or regional and international development, organizations;

(iii) research into, and evaluation of, economic development processes and techniques,

(iv) reconstruction after natural or manmade disaster;

(v) for special development problems, and to enable proper utilization of earlier U.S. infrastructure, etc., assistance,

(vi) for programs of urban development, especially small labor-intensive enterprises, marketing systems, and financial or other institutions to help urban poor participate in economic and social development.

(d) (107) Is appropriate effort placed 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.)

c. 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 has the latter cost-sharing requirement been waived for a "relatively least developed" country)? **Yes**

d. FAA Sec. 110(b). Will grant capital assistance be disbursed for project over more than 3 years? If so, has justification satisfactory to Congress been made, and efforts for other financing, or is the recipient country "relatively least developed"? **No**

e. 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.

f. 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?

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 associations in proper use and construction of their systems. Most country professionals in economics, engineering and public management are drawn on to organize and train water coops. The experience gained from the water association will support civic education & training in skills required for effective participation in the government processes essential to self-government.

g. Yes

2. Development Assistance Project Criteria
(Loans Only)

a. FAA Sec. 122(b). Information and conclusion on capacity of the country to repay the loan, at a reasonable rate of interest.

Available

b. FAA Sec. 620(d). If assistance is for any productive enterprise which will compete with U.S. enterprises, is there an agreement by the recipient country to prevent export to the U.S. of more than 20% of the enterprise's annual production during the life of the loan?

N/A

3. Project Criteria Solely for Economic Support Fund

a. FAA Sec. 531(a). Will this assistance promote economic or political stability? To the extent possible, does it reflect the policy directions of section 102?

N/A

b. FAA Sec. 531(c). Will assistance under this chapter be used for military, or paramilitary activities?

N/A

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 U.S. marine insurance companies, will commodities be insured in the United States against marine risk with a company or companies authorized to do a marine insurance business in the U.S.

Yes

4. FAA Sec. 604(e). 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?

Yes

5. FAA Sec. 608(b). Will U.S. Government excess property be utilized wherever practicable in lieu of the procurement of new items?

Yes

6. FAA Sec. 603. Compliance with require-
 ment 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 takers) financed shall
 be transported on privately owned U.S.-flag
 commercial vessels to the extent that such
 vessels are available at fair and reasonable
 rates. Project complies

7. FAA Sec. 621. If technical assistance is
 financed, to the fullest extent practicable
 will such assistance, goods and professional
 and other services from private enterprise,
 be furnished on a contract basis? If the faci-
 lities 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

8. International Air Transport. Fair Competitive
 Practices Act, 1974. If air transportation of per-
 sons or property is financed on grant basis, will
 provision be made that U.S.-flag carriers will be
 utilized to the extent such service is available? Yes

9. FY 80 App. Act Sec. (505) Does the contract
 for procurement contain a provision authorizing the
 termination of such contract for the convenience
 of the United States? Yes

B. Construction

1. FAA Sec. 601(d). If a capital (e.g., construction) Yes
 project, are engineering and professional services of
 U.S. firms and their affiliates to be used to the
 maximum extent consistent with the national interest?

2. FAA Sec. 611(c). If contracts for construction Yes
 are to be financed, will they be let on a competitive
 basis to maximum extent practicable?

3. FAA Sec. 620(k). Is, for construction of productive N/A
 enterprise, will aggregate value of assistance to be
 furnished by the U.S. not exceed \$100 million?

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? **Yes**
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. FAA Sec. 636(i). Is financing not permitted to be used, without waiver, for purchase, sale, longterm lease, exchange or guaranty of motor vehicles manufactured outside the U.S. **Yes**
5. Will arrangements preclude use of financing:
- a. FAA Sec. 104(f). To pay for performance of abortions as a method of family planning or to, motivate or coerce persons to practice abortions; to pay for performance of involuntary sterilization as a method of family planning, or to coerce or provide financial incentive to any person to undergo sterilization? **N/A**
- b. FAA Sec. 620(g). To compensate owners for expropriated nationalized property? **N/A**
- c. 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**
- d. FAA Sec. 662. For CIA activities? **N/A**
- e. FY 80 App. Act Sec. (504). To pay pensions, etc., for military personnel? **N/A**
- f. FY 80 App. Act Sec. (506). To pay U.M. assessments? **N/A**
- g. FY 80 App. Act Sec. (507). To carry out provisions of section 503 (transfer of FAA funds to multi-lateral organizations for lending.) **N/A**
- h. FY 80 App. Act Sec. (511). To finance the export of nuclear equipment, fuel, or technology or to train foreign nationals in nuclear fields? **N/A**
- i. FY 80 App. Act Sec. (515). To be used for publicity or propaganda purposes within U.S. not authorized by Congress? **N/A**

ANNEX C

MISSION DIRECTOR'S 611(e) CERTIFICATION

U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT
Manila, Philippines

Ramon Magsaysay Center
1680 Roxas Boulevard

Telephone: 59-80-11

CERTIFICATION PURSUANT TO SECTION 611 (e)
OF THE FOREIGN ASSISTANCE ACT OF 1961, AS AMENDED

I, ANTHONY M. SCHWARZWALDER, 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 judgment, the Philippines has both the financial capability and the human resources to effectively maintain and utilize the proposed Barangay Water II Project.

The judgment is based upon the project analysis as detailed in the Barangay Water II Project Paper and is subject to the conditions imposed therein.

Anthony M. Schwarzwald
Anthony M. Schwarzwald
Director, USAID/Philippines

24 Jan. '80
Date

ANNEX D

BORROWER/GRANTEE'S APPLICATION FOR ASSISTANCE

UNCLASSIFIED
Department of State

INCOMING
TELEGRAM

PAGE 01
ACTION AID-35

MANILA 12399 260912Z

CHRON COPY

013540 AID885

ACTION OFFICE ASPT-01
INFO AAAS-01 ASEM-01 ASDP-02 CH6-01 PPCE-01 PPPB-02 GC-01
PPEA-01 GCAS-01 GCFL-01 FM-02 ASPD-03 ASTR-01 ENGR-02
CH8-01 RELO-01 MAST-01 PDPR-01 /025 A4

INFO OCT-01 SSO-00 /036 W

-----001332 260918Z /13

O 260900Z JUN 80
FM AMEMBASSY MANILA
TO SECSTATE WASHDC IMMEDIATE 2287

UNCLAS MANILA 12399

AIDAC

E. O. 12065: N/A
SUBJECT: BARANGAY WATER II PROJECT

1. USAID IN RECEIPT OF GOP LETTER OF REQUEST FROM MINISTER SICAT FOR SUBJECT LOAN AND GRANT. FOLLOWING IS TEXT OF LETTER QUOTE DEAR MR. SCHWARZWALDER THIS REFERS TO USAID LETTER OF 22 MAY 1980 TOGETHER WITH THE PROJECT PAPER FOR THE BARANGAY WATER II PROJECT.

FOLLOWING CONSULTATION WITH THE MINISTRY OF LOCAL GOVERNMENT AND COMMUNITY DEVELOPMENT, THIS OFFICE IS PLEASED TO ENDORSE THE REQUEST FOR THE \$18.5 M LOAN AND \$1.637 M GRANT PROPOSED FOR THE PROJECT.

WE WOULD, HOWEVER, LIKE TO RESERVE OUR POSITION ON SOME OF THE REQUIREMENTS, PARTICULARLY ON THE COVENANTS, DURING THE LOAN NEGOTIATION. UNQUOTE.

2. NEDA MAY BE IN POSITION TO NEGOTIATE LOAN/GRANT AGREEMENT SO THAT AGREEMENT COULD BE SIGNED ON JUNE 30, 1980. IN ORDER TO DO THIS WE WILL NEED CABLED TEXT OF AUTHORIZATION BY OPENING OF BUSINESS IN MANILA JUNE 30. RUSENTHAL

UNCLASSIFIED

ANNEX E

PID APPROVAL MESSAGE

UNCLASSIFIED

STATE 165216

VV MJA000EHK241
RR RUMJMA
DE RUEHC #5016 1807729
ZNR UUUUU ZZH
R 282354Z JUN 78
FM SECSTATE WASHDC
TO AMEMBASSY MANILA 7632
BT
UNCLAS STATE 165216

Handwritten initials and signatures:
M
AD
File

29 JUN 78
TOR: 2746
CN: 24556
ACTION: AQII
INFO: AME DCM
EC ADM CRU
17RC

AIDAC

E.O. 11652: N/A

TAGS:

SUBJECT: BARANGAY WATER II (492-0333)

1. APAC REVIEWED PID FOR BARANGAY WATER II JUNE 12. APAC APPROVED PID, IDENTIFYING ISSUES BELOW FOR FURTHER ACTION OR FOR CONSIDERATION IN PROJECT PAPER (PP).

2. APAC UNDERSTANDS THAT DURING PHASE I (PAGES 1 AND 2 OF PID), PILOT BARANGAY SYSTEMS WERE SET UP WITH USAID TECHNICAL ASSISTANCE BUT GOP FUNDING; ONE OF THEM PROVIDED OVER 100 HOUSEHOLD CONNECTIONS AND ONLY ONE STANDPIPE FOR COMMUNITY USE. APAC IS CONCERNED THAT AS AID FUNDS UTILIZED FOR FURTHER TECHNICAL ASSISTANCE AND FOR CONSTRUCTION COSTS, THE SOCIAL SOUNDNESS OF SYSTEMS NOT BE OVERLOOKED. APAC RECOGNIZES THAT VILLAGERS MUST MEET COSTS OF SYSTEM OPERATIONS AND THAT THE MORE AFFLUENT WHO GET HOUSEHOLD CONNECTIONS MAY APPROPRIATELY CONTRIBUTE TOWARD TOTAL COMMUNITY NEEDS IF BURDEN OF COST EQUITABLY DISTRIBUTED THROUGH DIFFERENCES IN RATE SCHEDULES. HOWEVER, APAC CONCERN IS THAT ON-GOING PROJECT TECHNICAL ASSISTANCE AND DESIGN OF AID-ASSISTED FUTURE SYSTEMS BE ORIENTED TO SERVING ADEQUATELY WATER NEEDS OF POORER FAMILIES OF COMMUNITY. APAC UNDERSTANDS MISSION HAS SIMILAR CONCERNS, ACCORDINGLY IMPORTANT THAT EVALUATIONS OF BARANGAY WATER I AND PP FOR

BARANGAY WATER II SPECIFICALLY ADDRESS HOW SOCIAL SOUNDNESS AND EQUITY ARE ACHIEVED BETWEEN THOSE RECEIVING HOUSEHOLD CONNECTIONS AND THE WHOLE COMMUNITY.

3. APAC QUESTIONED WHETHER PLANNED PHASE-OUT OF EXTERNAL FUNDING AS FORESEEN IN PHASE IV (PID, PAGE 2) AND THE DEGREE OF NON-AID FUNDING ANTICIPATED OVER NEXT TEN YEARS CAN BE REALIZED. SELF-HELP AND OTHER DONOR SUPPORT CALLED FOR IN BARANGAY WATER PROJECTS ARE EXCELLENT. HOWEVER, THE VAST REQUIREMENTS OF 14,000 BARANGAYS ARE CLEARLY BEYOND LOCAL RESOURCES. APAC NOTES THAT FUND FOR LOCAL GOVERNMENT DEVELOPMENT (FLGD) IS AMONG POTENTIAL SOURCES OF SUCH FINANCES. WE REQUEST THAT PP FOR FLGD PROJECT INCLUDE OR BE SUPPLEMENTED WITH SOME FINANCIAL PROJECTIONS AND ANALYSIS OF SOURCES OF DOMESTIC AND EXTERNAL FINANCE CONTEMPLATED OVER LIFE OF AID PROJECTS NOW UNDER CONSIDERATION FOR SUCH COMMUNITY NEEDS AS WATER, ROADS, SCHOOLS, ETC.

DIV	...
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TD	
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AMB	
CSB	
CSO	
CSM	
CSG	
CSA	
CSF	
DC	
AC	
CD	
HRD	
PO	
RD	
HS	
AMER	
YCU	

4. AHAC ALSO CONCERNED THAT RELATIONSHIP OF INSTITUTION BUILDING TO FINANCING OF LOCAL COMMUNITY NEEDS BE MADE CLEARER. CONSEQUENTLY, THE TWO PURPOSES SHOWN ON THE PID PAGESHEET COULD BE REVERSED. THIS WOULD HAVE THE MEETING OF SAFE WATER SUPPLY NEEDS TAKE CONCEPTUAL PRECEDENCE OVER INSTITUTIONAL DEVELOPMENT. IF A SINGLE FINANCIAL ROUTE (FEGD) IS TAKEN TO MEET ALL COMMUNITY NEEDS, WHY ARE INSTITUTIONAL APPROACHES TAKEN SEPARATELY TO WATER, ROADS, HEALTH, ETC? PPS FOR PROJECTS TO DELIVER SUCH BENEFITS TO SMALLER COMMUNITIES SHOULD ADDRESS WHETHER THESE COMMUNITIES CAN SUPPORT SO MANY DISTINCT INSTITUTIONAL DEVELOPMENT REQUIREMENTS.

5. FOR THE EVALUATION OF BARANGAY WATER I AND THE PP FOR BARANGAY WATER II, APAC REQUESTS THAT PROVISIONS BE MADE TO CONTINUOUSLY EVALUATE INSTITUTIONAL BENEFITS AND PROBLEMS. THE HEALTH BENEFITS MAY, IN SOME INSTANCES, BE EVALUATED ONLY ONCE TO ESTABLISH THAT THE WATER SUPPLY IMPROVEMENTS HAVE ACHIEVED THIS PURPOSE. APAC WOULD, HOWEVER, APPRECIATE INFORMATION AS TO WHAT PROVISION IS MADE TO TEST WATER SUPPLY IN THESE PROJECTS TO ASSURE THAT QUALITY CALLED FOR IN DESIGN DOES NOT DETERIORATE AS SYSTEM IS IN USE. VANCE

BT

#5216

NNNN

UNCLASSIFIED

STATE 16501.6

ANNEX F

TEN YEAR PROGRAM STRATEGY

BARANGAY WATER PROGRAM
10-YEAR PROJECTION
"DECADE IN BARANGAY WATER"

23

	PRE-IMP	PHASE I	PHASE II	PHASE III
FISCAL YEAR	77	78 - 79 - 80	81 - 82 - 83 - 84	1985-1990
Size of Community Served	300 - 5000	Up to 5000	Up to 10,000	Up to 15,000
Focus	Develop and Test Program Concepts	*Pilot & Refine Procedures *Expand to New LGU's and New Communities	*Perfect Procedures *Expand Remaining LGU's *Increase Size of Community Served	*Expand to New LGU's and New Communities *Increase Community Size *Accelerate Subproject Development
Source of Funding and Amounts	National Funds \$1,142,000	1. USAID Barangay Water Loan I US\$6,000,000 2. National Government* 3. Local Government* *Combined Contribution of US\$4,824,000	1. USAID Barangay Water Loan II US\$18,500,000 2. National Funding* 3. Local Government* *Combined Contribution of US\$9,702,380	Loan I 1. International Donors (IBRD, ADB, etc.) US\$50,000,000 2. National Government 3. Local Government

ANNEX G

PARTICIPATING LOCAL GOVERNMENT UNITS

LOCAL GOVERNMENT UNITS PARTICIPATING IN THE BARANGAY WATER PROGRAM

<u>Provinces</u>		<u>Cities</u>
1. La Union	15. So. Cotabato	1. Dagupan
2. Pangasinan	16. Misamis Oriental	2. Roxas
3. Pampanga	17. Cebu	3. Puerto Princesa
4. Bataan	18. Agusan del Sur	4. Naga
5. Bulacan	19. Samar	5. General Santos
6. Batangas	20. Zambales	6. Butuan
7. Quezon	21. Sorsogon	7. Cagayan de Oro
8. Camarines Sur	22. Zulu	8. Angeles City
9. Palawan	23. Aklan	9. Batangas City
10. Mindoro Or.	24. Albay	10. Legaspi City
11. Aklan	25. Agusan Norte	11. Lucena City
12. Capiz	26. Cagayan	12. Zamboanga City
13. Iloilo	27. Mindoro Occ.	13. Tangub City
14. Davao Norte		

ANNEX H

FORMAT FOR COST ESTIMATING

BWP WATER SYSTEMS

EXAMPLE #1FORMAT FOR COST ESTIMATING
BWP WATER SYSTEMSProv. PALAWAN
Munic. ARACELI
Barangay CALANDASANCOST BREAKDOWNNo. of Households 129 Population 903 Level II1. Source

_____	Dia. Well _____	Ft. Deep _____	P _____	
✓	Spring Box and Holding Tank		P <u>10,000</u>	
	Surface Water Diversion		P _____	
	Slow Sand Filter _____	Sq. Ft. _____	P _____	<u>P10,000</u>

2. Pumping Machinery

_____	GPM at _____	TDH & _____	H.P. _____	P <u>0</u>
-------	--------------	-------------	------------	------------

3. Distribution Materials

_____	Ft.	3/8" Tubing = _____	lbs
<u>210</u>	"	1/2" " = <u>17</u>	lbs
	"	3/4" " = _____	lbs
<u>2358</u>	"	1" " = <u>448</u>	lbs
	"	1 1/2" " = _____	lbs
<u>794</u>	"	1 1/2" " = <u>318</u>	lbs
<u>279</u>	"	2" " = <u>167</u>	lbs
<u>105</u>	"	2 1/2" " = <u>100</u>	lbs
	"	3" " = _____	lbs
	"	4" " = _____	lbs

Total 1050 lbs x 1.05 = 1102.5 lbs
at P20.00 per pound x 1.10 for valves & ftgs.

P24,2554. Transmission Pipeline

2086 Ft. of 2 1/2" & 1 1/2" Dia. Pipe = 1691 lbs
at P20.00 per pound =

P33,8265. Labor

5832 Ft. total pipeline ÷ 12 ft. of
excavation per man day = 486 man days.
Plus equal man days for install. & backfill =
Total 972 man days at P20.00 per man day

P19,4406. Storage

10 Ft. Dia. Standpipe 10 Ft. High
= 3000 lbs at P15.00 per pound =
_____ Ft. High Earth Mound (if any) =

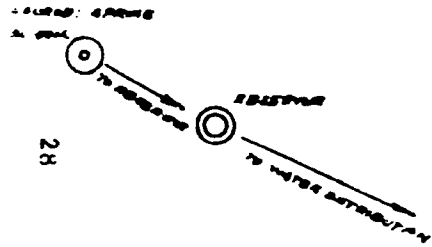
P45,000P45,0007. Connections

14 Level II Standposts at
P500.00 each =
_____ Level III-A Connections at
P _____ Each =

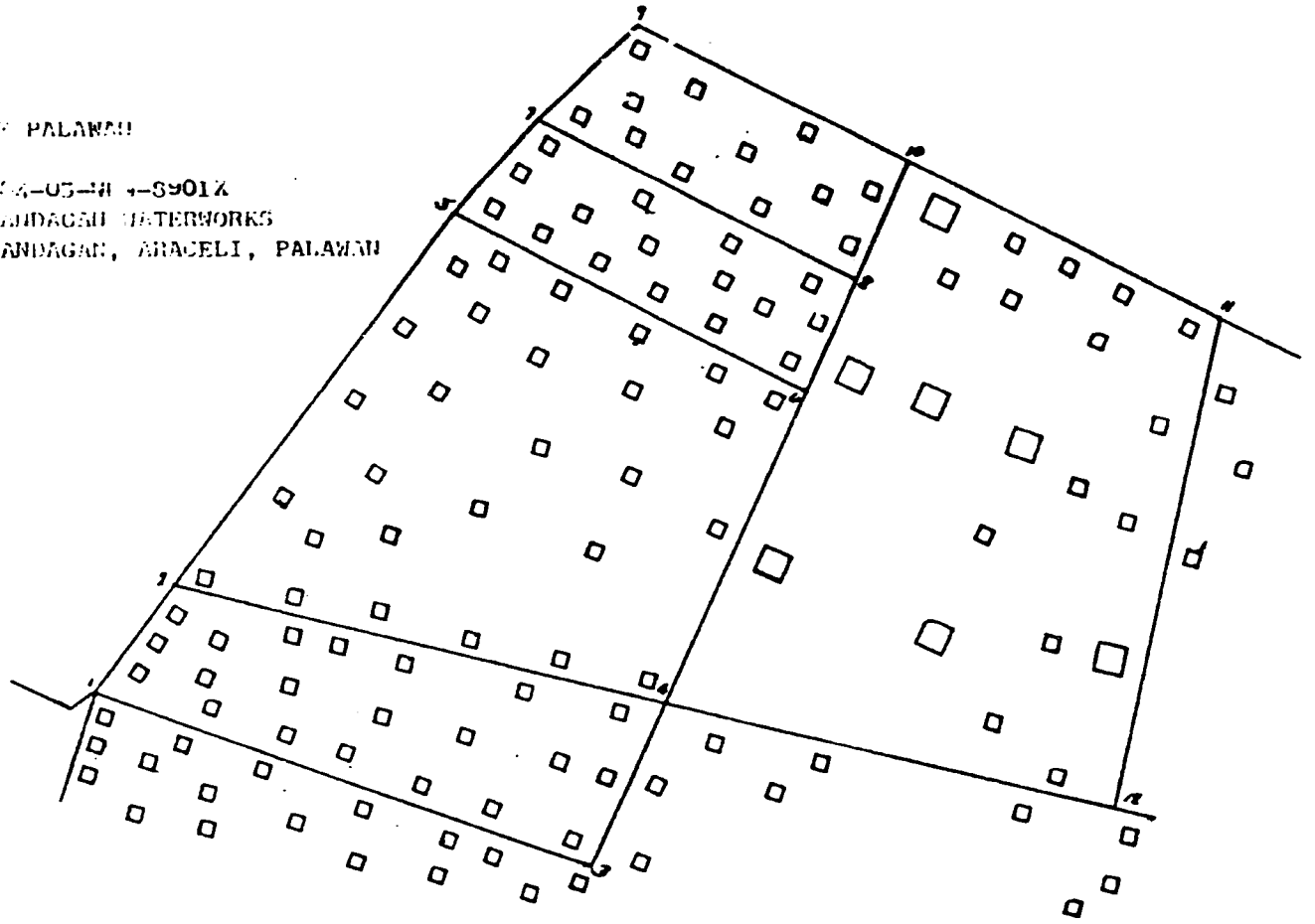
P7000P7000Total Direct Cost = P139,521154 P/Cap.

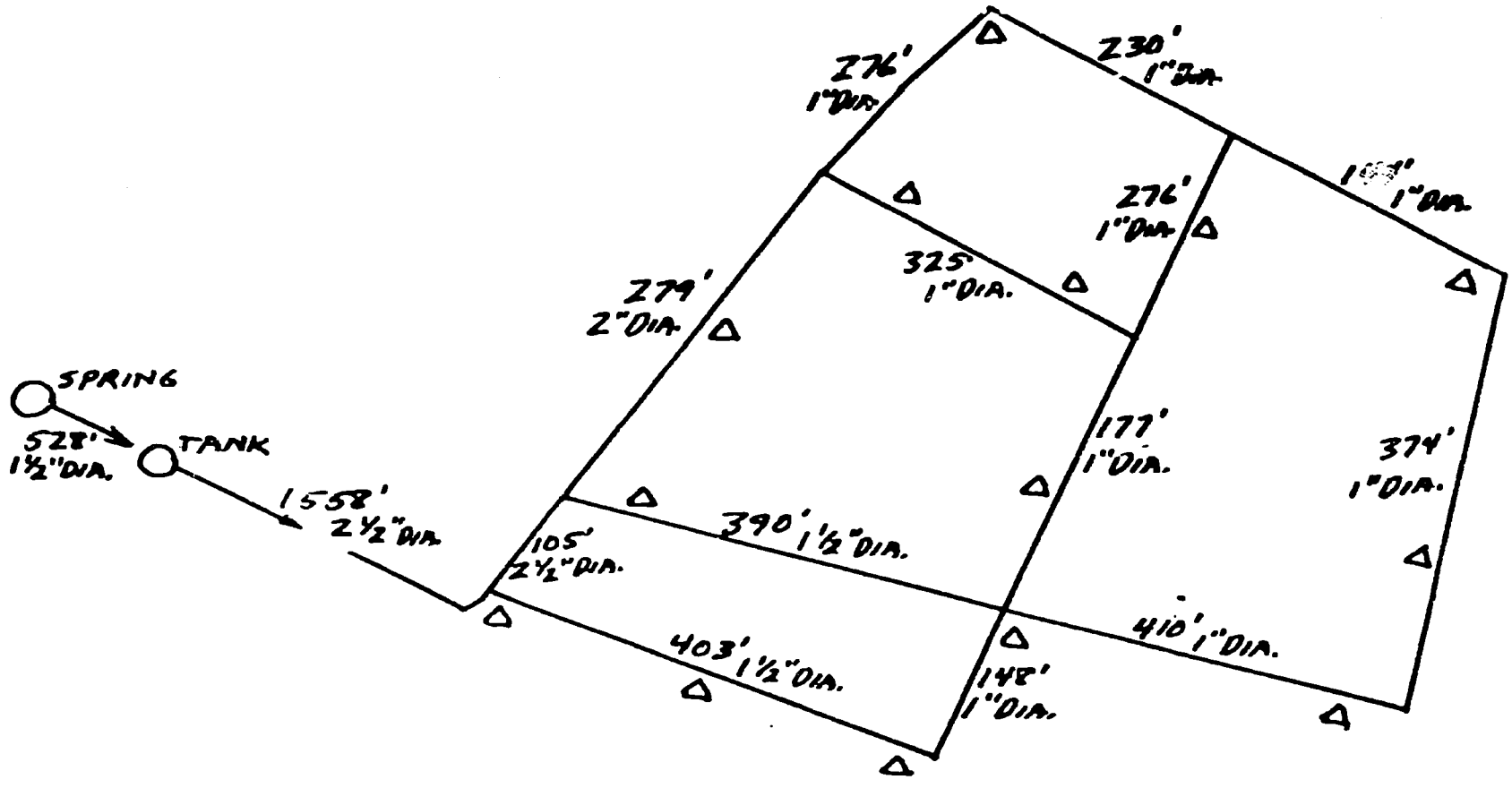
PROVINCE OF PALAWAN

PROJECT NO. : 66-04-05-H +-S901X
PROJECT TITLE: CALANDAGAN WATERWORKS
LOCATION : CALANDAGAN, ARACELI, PALAWAN



28





Δ = PUBLIC FAUCET

PIPELINE SYSTEM

EXAMPLE #2

Prov. CAPIZ
Munic. CASANAYAN
Barangay CASANAYAN

COST ESTIMATION

No. of Households 250 Population 1750 Level III-A

1. Source

_____ Dia. Well _____ Ft. Deep P _____
 Spring Box and Holding Tank P _____
 Surface Water Diversion P _____
 ✓ ~~Slow Sand Filter~~ ~~SAFETY RADIAL COLLECTOR~~ 10,000 P 10,000

2. Pumping Machinery

30 GPM at 25' TDH & 1/2 H.P. P 4,000

3. Distribution Materials

<u>11250</u>	Ft.	<u>3/8"</u>	Tubing	=	<u>675</u>	lbs
_____	"	<u>1/2"</u>	"	=	_____	lbs
_____	"	<u>3/4"</u>	"	=	_____	lbs
<u>3394</u>	"	<u>1"</u>	"	=	<u>645</u>	lbs
<u>1557</u>	"	<u>1 1/4"</u>	"	=	<u>467</u>	lbs
<u>295</u>	"	<u>1 1/2"</u>	"	=	<u>118</u>	lbs
<u>1771</u>	"	<u>2"</u>	"	=	<u>1063</u>	lbs
<u>492</u>	"	<u>2 1/2"</u>	"	=	<u>467</u>	lbs
_____	"	<u>3"</u>	"	=	_____	lbs
_____	"	<u>4"</u>	"	=	_____	lbs

Total 7435 lbs x 1.05 = 3607 lbs
at 20.00 per pound x 1.10 for valves & fittings. P 79,348

4. Transmission Pipeline

550 Ft. of 1 1/2 Dia. Pipe = 220 lbs
at 20.00 per pound = P 4,400

5. Labor

8059 Ft. total pipeline ÷ 12 ft. of excavation per man day = 672 man days.
Plus equal man days for install. & backfill =
Total 1344 man days at 20.00 per man day P 26,880

6. Storage

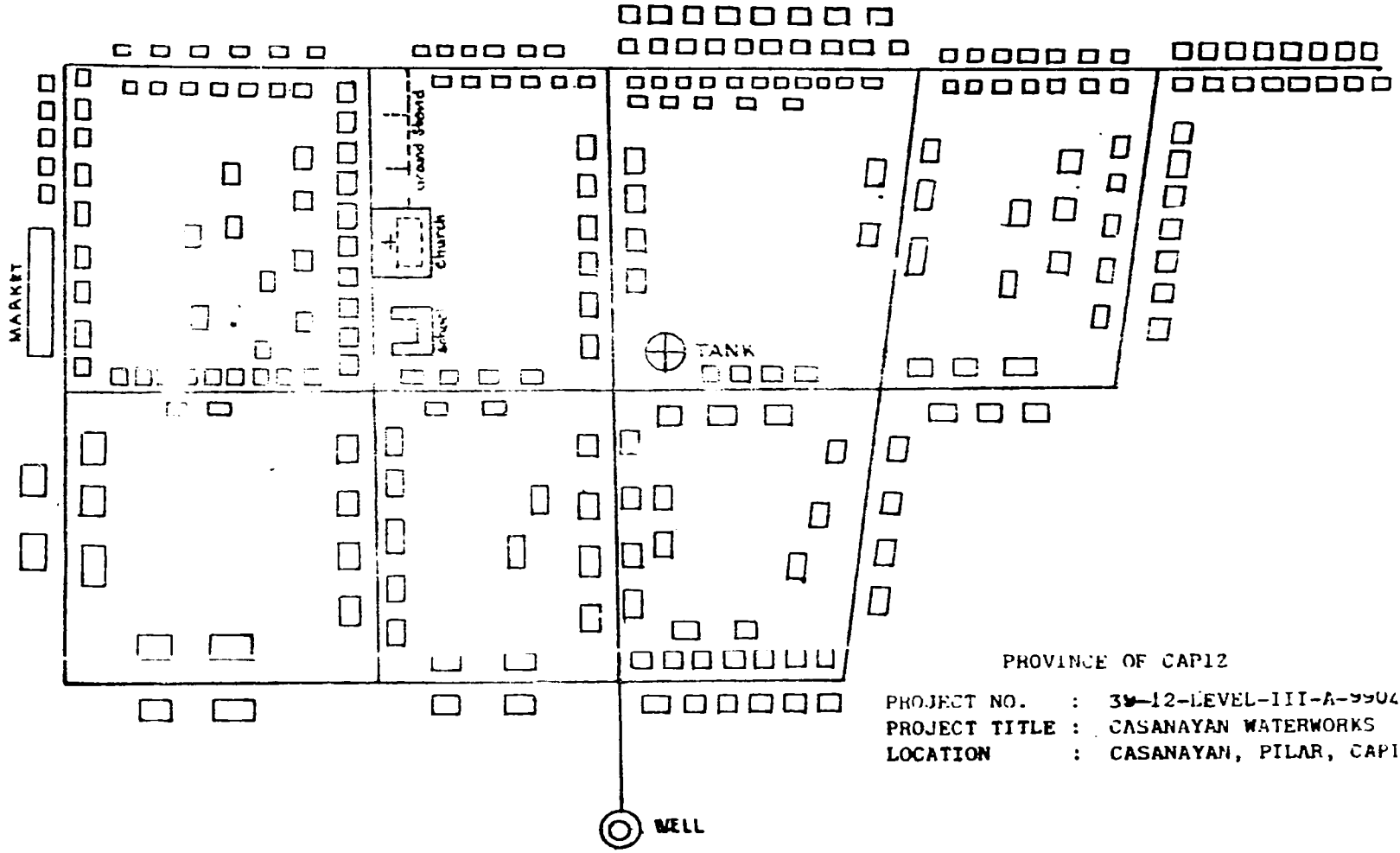
5 Ft. Dia. _____ Ft. High
= 3312 lbs. at 15.00 per pound = P 49,680
2.7 Ft. High Earth Mound (if any) = P 3,000 P 52,680

7. Connections

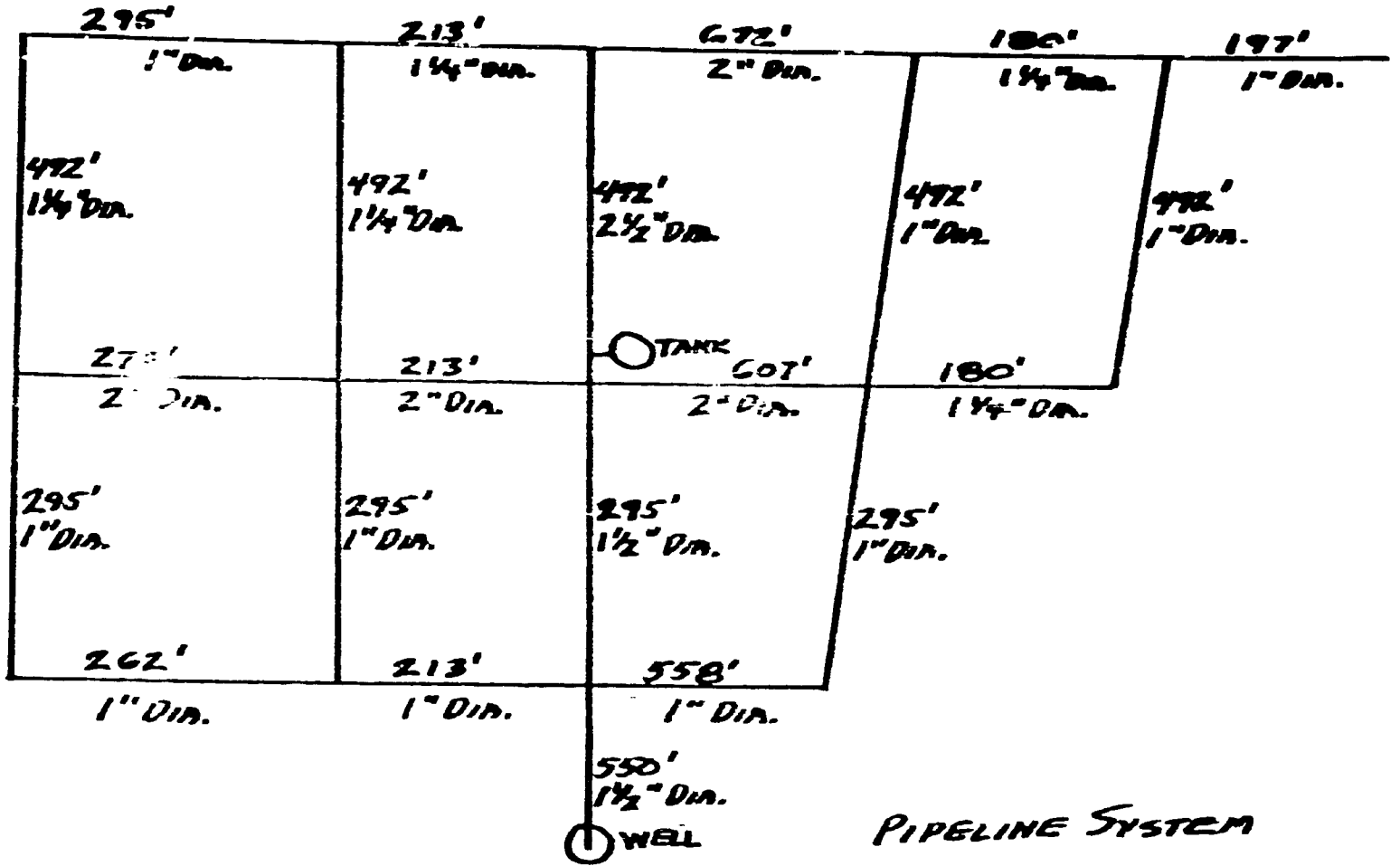
_____ Level II Standposts at P _____ each = P _____
250 Level III-A Connections at P 150.00 Each = P 37,500 P 37,500

Total Direct Cost = P 214,816

122 P/Cap.



PROVINCE OF CAPIZ
PROJECT NO. : 39-12-LEVEL-III-A-9904
PROJECT TITLE : CASANAYAN WATERWORKS
LOCATION : CASANAYAN, PILAR, CAPIZ

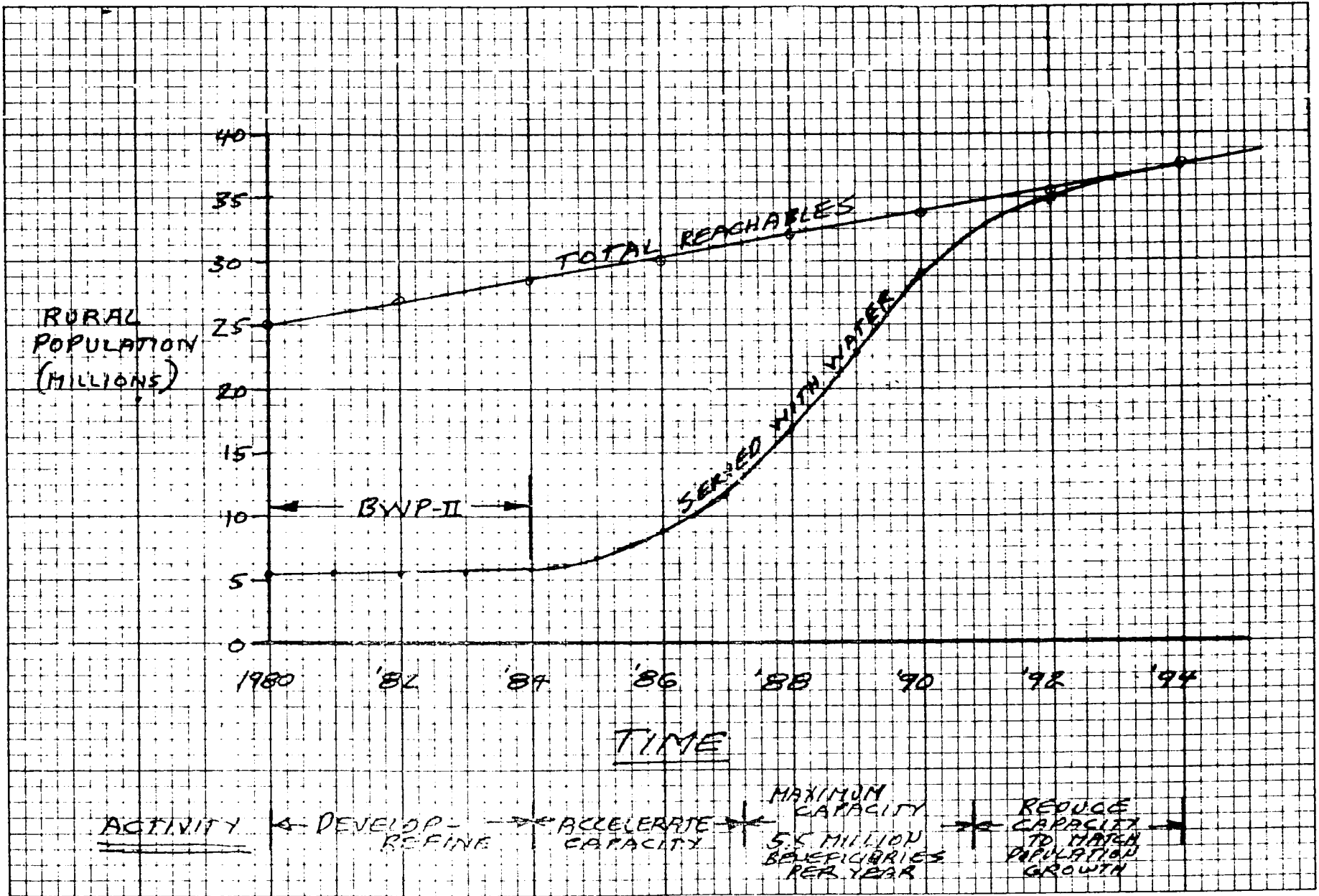


ANNEX I

**LWUA COST ANALYSIS
POPULATION-SERVICE-TIME CURVE
COST SAMPLING OF BWP PROJECTS**

LWUA COST
ANALYSISLocal Water Utilities Administration (LWUA)

<u>USAID Comprehensive Projects</u>	<u>Design Population</u>	<u>Direct Cost P1000</u>	<u>P/Cap</u>
San Pablo	80,800	41,860	518
Escolod	160,000	91,770	574
Davao	310,000	99,820	322
Cagayan de Oro	161,000	51,520	320
Tacloban	135,400	88,550	54
			478 Ave. (\$63.73)
<u>Asian Development Bank Projects</u>			
Misamis Occidental	40,400	32,200	797
Butuan City	57,700	48,300	837
Camarines Norte	72,000	53,600	744
Zamboanga	105,000	82,100	782
			790 Ave. (\$105.33)
<u>IBRD Projects</u>			
Cabanatuan	63,000	55,200	876
La Union	26,400	24,200	917
Baguio	96,200	78,700	818
Lipa City	33,900	25,900	764
Tarlac	41,400	38,500	930
Lucena	78,900	59,100	749
			842 Ave. (\$112.27)
<u>Interim Demonstration Projects</u>			
Urdaneta	10,590	5,000	472
Silay	15,630	6,600	422
Gapan	12,880	7,000	543
Calamba	11,530	7,200	624
Bangued	10,120	3,500	346
San Fernando	16,980	13,300	783
Tabaco	41,300	18,800	455
Sorsogon	27,200	10,300	379
San Juan	7,028	3,700	528
Mati	9,530	3,900	410
Camiling	11,500	3,400	295
Los Banos	20,690	12,100	584
Bislig	20,300	14,600	719
Paniqui	12,800	5,200	406
Cotabato	22,080	10,200	462
Roxas	28,390	13,400	472
Baybay	11,130	6,800	611
Olongapo	98,030	56,800	580
			505 Ave. (\$67.33)



ANNEX I
COST SAMPLING OF BWP PROJECTS

BARANGAY WATER PROGRAM (USAID/MLGCD)

<u>Pilot Projects</u>	<u>Design Population</u>	<u>Direct Cost ₱1000</u>	<u>₱/Cap.</u>
Malvar, Batangas	1221	703	576
Lolomboy, Bulacan			
Ariston Bantog, Pangasinan	2138	547	256
Ibajay, Aklan			
<u>1978 Projects</u>			
New Pangasinan, So. Cotabato	399	186	467
Maloco-Capilijan, Aklan	1994	583	390
Concepcion, Palawan	341	433	1270
Kimaya, Misamis Or.	1902	365	192
La Filipina, Davao	3482	549	158
San Juan, Bulacan	2569	783	305
Talaga, Batangas	2048	816	398
Luyen-Torres, Pangasinan	991	443	447
Capitangan, Bataan	2569	606	236
Matabungkay, Batangas	1248	653	523
New Iloilo, So. Cotabato	966	368	381
			<u>433 Ave. (\$57.79)</u>
<u>1979 Projects</u>			
Bunsuran, Bulacan	1902	412	217
Lucsuhin, Batangas	1217	431	354
Calandagan, Palawan	1020	374	307
Liminangcong, Palawan	1624	537	330
Buenlag, Pangasinan	3681	557	151
Dampil, Misamis Oriental	1642	405	246
Emmanual, Batangas	956	356	373
Bungol, La Union	946	552	583
			<u>320 Ave. (\$42.67)</u>
<u>1980 Projects</u>			
San Simon, Cagayan de Oro City	454	52.5	116
Baikingan, Cagayan de Oro City	923	131.2	142
Serella-Badiang, Iloilo	940	253	269
Sinogbuan, Iloilo	766	271	354
Buga, Iloilo	1573	169	107
Punta Silum, Misamis Oriental	1576	278	176
Looc, Misamis Oriental	812	189	233
San Juan, Surigao	1199	220	183
Cararayan, Naga City	849	262	308
Anda (Pob), Pangasinan	1413	410	290
Alor, Pangasinan	1963	540	275
Coramay, Palawan	1047	473	451
Faong, Palawan	1631	652	399
Binuangan, Bulacan	1177	450	126
San Gabriel, Bulacan	2138	554	260
			<u>246 Ave. (\$32.80)</u>

ANNEX J

SOCIAL SOUNDNESS ANALYSIS

SOCIAL SOUNDNESS ANALYSIS

The social soundness of the BWP II project design will be assessed in light of the BWP I experience. Reaching the target group, choosing an appropriate technology, developing a channel for its diffusion, and incorporating incentives for its acceptance and maintenance by users are the organizing themes. Policy issues of manpower training, health education, system maintenance, and community involvement are addressed in context. The discussion draws upon the results of a comprehensive social soundness analysis prepared for the predecessor project¹ and the findings of an in-depth evaluation conducted in 1979.² Both papers are included in the Supporting Documents.

Reaching the Target Group

The Beneficiaries - The overwhelming majority of communities in the Philippines are in need of and will benefit from a domestic water supply project. Small communities of 10,000 or less fall neither under the coverage of the Metropolitan Waterworks and Sewerage Systems (MWSS), which is for Metro Manila only, nor under the relatively recently established Local Water Utilities Authority (LWUA), which is for larger communities of about 15,000 or more. Consequently, these small communities have been chosen as the primary targets for the Barangay Water Project.

Most barangay residents to be affected by this project are employed as farmers, fishermen, vendors, or laborers. A sizeable percentage have no steady means of support. Most exist at, or slightly above, subsistence levels. The project will encompass people from almost every religious and cultural group in the country. The vast majority, however, are Christian lowland Filipino (88 percent of the population) whose culture is relatively homogeneous despite the fact that they are split into seven major regional language groups. The Moslem minority (4.32 percent) has no cultural differences from the Christian majority insofar as water is concerned; nevertheless, special considerations will be employed while working in Moslem barangays to adapt the project to Moslem culture and mores.

Social Consequences and Benefit Incidence - In his social soundness analysis of BWP I, Orr observes:

Experience has been that citizens have always appreciated an improved water source. One governor noted that while he rarely received thanks for other important infrastructure projects such as roads and irrigation canals, Barangay residents never failed to give him loud vocal appreciation for the wells and pumps which were regarded more personally.

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1. Orr, Kenneth G., Social Analysis, The Barangay Water Project, September 15, 1976.
 2. Economic Development Foundation, "Evaluation of the Barangay Water Project", December, 1979.

One explanation for the higher value placed on water projects may be the short term benefits that accompany such infrastructure. Indeed, Orr's field work revealed that while GOP officials in the Philippines tend to emphasize the longer term health and economic benefits of an improved drinking water system, barangay residents interviewed tended to emphasize the short term or more immediate benefits such as freedom from privation, time and effort saved from no longer having to haul water, and the prestige the barangay would gain by modernizing its water system. However, Orr's analysis preceded project implementation. Interviews two years later with provincial officials and barangay residents who have participated in the project demonstrate greater awareness of long term benefits as well as short term benefits.

Among immediate benefits noted are the employment opportunities created during construction and operation phases of subproject implementation.¹ The direct beneficiaries are planners, managers, contractors, technicians, and laborers. During construction, usually 30 local residents are employed at the minimum wage of ₱10 per day for a 3-month period, or longer. Once a system is operational, as many as three individuals may be employed by the Barangay Water Service Cooperative to carry out management, administrative, operational, and maintenance tasks. Due to the temporary addition of salaried people in the community, short-term employment opportunities often result in secondary benefits such as improvement in local commerce and trade.

A barangay water supply system appears to particularly benefit women and children. In completed subprojects, women interviewed have stated that they now have more water and more time for such economic activities as gardening, pigs, and poultry. For example, in one BWP pilot project studied, the number of backyard vegetable gardens increased by 13 percent after the introduction of the water system. Housewives report that these gardens save them the equivalent of ₱2.00 per day in vegetable purchases and more for fruit. Any vegetables and fruit produced over the amount consumed generate additional income. In the same subproject, the number of commercial piggeries increased from 35 to 68--nearly 100 percent. Commercial piggeries have at least five sows, and a conservative estimate is that each sow produce two piglets per year. Since piglets are sold for ₱120-₱200 each, the additional income is at least ₱1200-₱2000 per year. If kept until maturity (10 months), each pig could be sold for ₱900-₱1200. Considering at least 50 percent net profit, real income would increase by ₱4500-₱6000. Another popular economic activity noticeable in the pilot systems is small-scale tree nurseries, usually small backyard plots numbering 400 to 600 seedlings and yielding from ₱4.00 to ₱6.00 net profit each per seedling. Because a larger sample of subprojects will be available for study later, a more thorough investigation of the secondary economic effects of water supply systems will be possible at the end of BWP I.

Among the health benefits which result from an adequate, reliable supply of safe water is the prevention of water-related diseases. The most common facility

1. Environmental Assessment of the Barangay Water Supply Project, May, 1978.

2. Diaz, Nery, Interview with Secretary-Treasurers of BWSC of Lolomboy, Bulacan; San Pedro, Batangas; Ariston-Bantog, Pangasinan, July, 1979.

for sanitary excreta disposal in the Philippines is the water-seal latrine; less prevalent are open pit latrines. In a 1978 survey of 22 provinces, 20 provinces reported that over 50 percent of their dwellings were equipped with at least a pit latrine.¹ Twelve provinces (over half of the 22 surveyed) reported 70 percent or more dwellings were equipped with at least pit latrines. Considering rural areas alone, the percentages would, of course, be lower; however, provincial officials interviewed reported a marked increase in the number of water-sealed toilets installed after introduction of an accessible water system. Thus, over time, one could expect that diseases related to improper waste disposal such as dysentery, cholera, and helminthiasis or parasitic worm infestation will be drastically reduced in benefiting communities.

Although the use of latrines and toilets is widespread and meets less cultural resistance than in many other developing countries, the project's requirement of a Provincial Evaluation Team to periodically monitor completed subprojects assures repeated educational messages on the importance of waste disposal facilities and the proper handling of water. It should be noted that interviews in the field found considerable concern for consumption of rain water collected from roofs or reservoirs believed to be contaminated by insecticides sprayed to protect banana and coffee crops. Piped water systems, of course, offer an alternative to the rain barrel.

There are a number of qualitative development benefits which have been realized as a result of the project's implementation requirements and administrative procedures. For instance, in one province, introduction of a water system first required a special effort by provincial authorities to complete a delayed electrification project. In the same province, the Provincial Development Staff and the Governor voiced preference for the BWP approach to installing water systems as compared with other approaches. They cited as a reason, the "spin off" benefit of successfully introducing cooperative organization training into communities formerly resistant to the concept.²

Indeed, according to BWP procedure, the cooperative is assigned the authority to sign off on a completed subproject before a province can be reimbursed from the national government for the system's capital costs. This provides the barangays with leverage they are not unwilling to exploit. Project experience has been that communities will refuse to sign for the turnover of a system unless all construction meets their approval and they are furnished with an accurate account of input costs. The result is that provincial authorities desiring reimbursement on a timely basis must exercise care in the selection of qualified contractors and practice vigilance in monitoring system completion or risk delayed reimbursement for their investments.

Distribution of Benefits among Barangays - As originally conceived, the BWP provided Level III (individual house connections) service. Although the project is targeted to deprived rural communities, during the Pilot Phase, provinces

1. Diaz, Nery, collection of data for Health Region, PDAP, CY 1978.

2. Interview with PDC and Governor of Davao Province, October, 1979.

tended to select middle low-income communities to benefit rather than the lowest of the low-income group. The political dynamics of the situation are that in most provinces some municipalities have access to an organized water system. Pangasinan, for example, reports that out of 45 municipalities in its jurisdiction, only 25 have organized water systems. In Bulacan, the wealthiest province in all the Philippines, 6 out of 24 municipalities lack water. As centers of high population concentration and potential economic growth, the political imperative is to serve these centers first. However, they are frequently too small to be served by LWUA or too large to be served by BWP.

Economically, the more urbanized, middle low-income groups are a lower risk group for loan repayment. Also, the higher concentration of homes presents economies of scale that permit lower per capita costs and a higher number of beneficiaries per dollar investment. Thus, provinces argue that emphasizing the lowest, low-income groups while ignoring the needs of the higher low-income groups is both politically and economically risky. To those who would respond that the higher income group could afford to hire someone to install a system, the reply is that this would indeed be done if reliable private groups with organizational skills and service orientation actually existed in the rural and relatively isolated areas of the country. Nevertheless, there are a number of criteria adopted by the project which ensure service to the lowest low-income groups as well as middle low-income groups:

- a. The project has expanded service levels to populations of 10,000 and under. The urban fringe areas are expected to benefit most from this adjustment, and local government units will be more highly motivated to support the project because of the increased political benefits.
- b. The project no longer offers metered individual house connections. Simpler systems with public faucets or deep wells and handpumps are options, but emphasis is placed on Level II (public faucets) systems which are designed with the potential of being upgraded to house connections at the expense of the individual household. Also, an innovative Level III-A service (described below) which does not require a costly meter will permit poorer households to opt for individual connections.
- c. Standardization in procedures and design criteria has resulted in lower per capita costs, thus expanding the size of the potential beneficiary group.
- d. The feasibility study format has been modified to include a survey tool which preliminary field tests show provides a reasonably accurate assessment of beneficiaries' income levels while greatly reducing manpower requirements to conduct income surveys thus speeding up the process of expanding the program to other communities.

Distribution of Benefits within Barangays - The administrative procedures of BWP require that 90 percent of the households in a service area be willing to become members of a cooperative organized to manage the water system. The objective is to increase accessibility as well as viability. User acceptance of improved water systems within barangays is not unlike the process observed with other innovations such as electricity. Once subprojects are completed, cooperative membership increases rapidly. After one year, one of the pilot subprojects reports new households entering the cooperative at the rate of 8 to 10

percent per six month period.

Another phenomena observed is that most individuals desire individual house connections immediately after system installation. However, either the non-availability of meters or the high capital outlay required at one time for parts and installation prohibits the majority of households from immediately connecting. Poorer families have been observed purchasing water on a daily basis at a rate that in one month costs them twice the monthly water bill of a household with an individual connection. But once the cooperative has accepted responsibility for the water system, one of the first policy issues debated is how to expand membership which would result in a more favorable economy of scale and lower rates for members. The most frequent resolution proposed before the board of directors is that the cooperative should purchase meters and permit households to pay for them on an installment basis. In this way, both membership and participation in benefits are increased.

Development of Appropriate Technology Options - Field experimentation has generated more appropriate technical options which would extend benefits to a broader beneficiary group. The usual big city approach of designing a system to allow virtual unlimited use and flow rates as long as the user pays, is inappropriate for RWP systems. The project's concern is to achieve the lowest possible unit cost that will provide adequate water to all consistent with the ability and willingness of the whole community to pay. Thus, in technology choice and system design, attention is focused on the four factors which directly affect the cost of a water system, i.e., quantity, pressure, flow rate, and location. How these variables are defined in any particular system determines the level of service. The project is flexible enough to accommodate a broad range of community water needs; national and provincial personnel do not dictate the type of project to be undertaken, but provide a range of alternatives based upon what is considered technically sound and economically feasible. The communities are guided in technology choice, but the final decision is theirs.

Technology Diffusion to the Community - The following strategy is used to present the project to the community in a manner which would avoid misunderstanding:

- a. The MLGCD trains provincial officials in project policies, procedures, and guidelines.
- b. The MLGCD representatives and provincial authorities inform the barangay leadership of the nature of the project as part of planning procedures.
- c. The barangay leadership holds an assembly to explain the project to the people.
- d. The barangay officially petitions the provincial or city government to be included in the project.
- e. Once a petition is approved by the provincial government, the barangay is given orientation on the formation of a cooperative to be followed by training on management, operation, and repair of the water system.
- d. Once the subproject is completed, monitoring is carried out by a Provincial or City Evaluation Team which conducts periodic visits to the community.

During the implementation of BWP I, some problems were encountered with the community's understanding of the level of service being offered by the project. Even with repeated presentations, some barangays expected individual connections to be installed without cost. Further investigation revealed that while community members often understand what is offered, they attempt to negotiate something more favorable. As discussed previously, the "turn-over" of the system is the strategic time in which the community attempts to push further in its demands. The situation is resolved after considerable discussion with both provincial and barangay authorities presenting their negotiable and non-negotiable positions, and each compromising on some issues.

Technology Diffusion among Communities - Project experience has been that there is no need for a public information campaign to persuade barangays of the need for an improved domestic water supply. The rate at which the project has expanded from participation of only seven provinces in 1977 to some fifty local government units participating at the conclusion of the BWP I loan in 1980 suggests the popularity of water projects among local government units desiring to satisfy the demands of their constituencies.

Strong horizontal information networks ensure that once a subproject is completed, many neighboring communities request the same facility. In addition, newspaper articles reporting system inaugurations result in many new requests each week. The spread of the Barangay Water Project is not as dependent upon user acceptability as it is on the GOP's ability to keep pace with the demand. The number of subprojects a province is able to initiate each year is limited mostly by lack of provincial income, limited staff, and a concern for "balanced" development which precludes concentrating all resources on one program. Experience to date, however, suggests that local government units can be expected to complete as many as six subprojects per year after two years experience. Maintaining this rate of subproject installation is possible even after USAID funding terminates due to the funds generated by repayments of loans on projects already completed.

Technology Adoption by Users

Starting with President Magsaysay's "Liberty Well" program during his anti-HUK campaign in the mid 1950's, the installation of deep wells and water distribution systems has been a major infrastructure program on the part of the Philippine Government. Thousands of such wells were drilled and some small distribution systems were installed. The majority have since become inoperable due to three basic failings: lack of formal organization to manage the facilities at the community level, substandard equipment for the intended purpose, and the failure to provide maintenance or repair backstopping offices at the provincial or municipal level. Barangay residents viewed the wells as government property and expected the government to maintain and repair them. It is for this reason that a cooperative organization at the community level was designed as the heart of the BWP, and that the subproject has been designed in such a way that a portion of the cost of the well and distribution system is borne by the users. The cooperatives have a key role in the selection, design, and installation of systems. As employees of the cooperatives, a manager and a small staff are trained to run the day-to-day operation. A division of the Provincial Engineer's Office (Waterworks Repair Shop) has been created to give technical back-up support to the cooperatives. The expense for replacement parts is passed on to cooperative

members. Furthermore, superior materials and equipment are being used, eg. PVC, PE, and P.B. are used in lieu of G.I. pipes. Also, multifamily improved hand-pumps are utilized instead of household pumps for communal use.

Conclusion - Experience in the implementation of BWP I demonstrates that the project has high political and social acceptance. The program has given broad opportunities for community participation and the approach of working through cooperatives at the community level has been very encouraging and points to the viability of well-managed owner-user local institutions.

ANNEX K

IMPLEMENTING AGENCY AND

USAID ADMINISTRATIVE ARRANGEMENTS

**DESCRIPTION OF THE IMPLEMENTING AGENCY
and the
USAID ADMINISTRATIVE ARRANGEMENTS**

IMPLEMENTING ORGANIZATIONS AT THE NATIONAL LEVEL (See Charts 1 and 2.)

Ministry of Local Government and Community Development (MLGCD) - The MLGCD is a line agency of the Government of the Philippines responsible for the administration and management of local governments, i.e., provincial, city, municipal, and barangay administrations. The Ministry is divided into three operating bureaus: the Bureau of Local Government (BLG), the Bureau of Community Development (BCD), and the Bureau of Cooperative Development (BCOD). Relative to the administration of the Barangay Water Project, the Ministry coordinates with other national agencies involved in the provision of domestic water such as the Local Water Utilities Administration (LWUA), the Ministry of Health (MOH), the Ministry of Public Works (MPW), the Metropolitan Waterworks and Sewerage Systems (MWSS), the National Electrification Administration (NEA), and the National Water Resources Council (NWRC). These agencies have contributed substantially to the evolution and implementation of both the Pilot Phase and Phase I of the BWP. The interaction of these agencies has resulted in the rationalization of rural water programs in the Philippines, especially in the areas of program jurisdiction and policies. It is expected that such cooperation will continue.

At the local level, the MLGCD is represented by the local Development Officers. In PDAP provinces and cities, the Development Officer and his staff coordinate on all developmental activities. In the implementation of BWP, the Development Officer has been assigned specific review and processing responsibilities regarding all community water supply projects proposed in his area of jurisdiction.

Provincial Development Assistance Project - Directly under the Office of the Deputy Minister for Local Government, the Provincial Development Assistance Project (PDAP) serves as the umbrella that oversees the operations of four USAID assisted projects: Rural Roads Program, City Development Assistance Project, Real Property Tax Administration, and the Barangay Water Project. Formerly with the Office of the Executive Secretary to the President, PDAP is now under the administrative control of MLGCD. PDAP is responsible for developing and field testing systems, techniques, and procedures needed to improve the management and administration of local government bodies throughout the Philippines. PDAP provides four basic types of assistance to participating local governments: 1) technical; 2) training - both formal and informal courses on all facets of local development planning and the implementation of infrastructure projects; 3) commodity - excess property for equipment pools and specialized office and quality control equipment for the Provincial Engineers Office; and 4) limited loans for the construction of equipment pool facilities. It is anticipated that PDAP will continue to provide direction and technical support to BWP.

THE BARANGAY WATER PROGRAM (See Charts 3, 4, and 5.)

Project Management Staff - Within MLGCD, a Project Management Staff which was created as a condition to the disbursement of loan funds under BWP I, is responsible for overseeing project implementation. During implementation of BWP I, the initial nine member unit expanded to a staff of 42 and was reorganized into three distinct divisions: Engineering and Implementation, Organization and Training; and Monitoring, Research, and Evaluation. These changes were aimed at attaining a more appropriate organizational structure. In BWP II, changes will be limited to improving the quality and increasing the size of the staff. The organizational structure will remain relatively the same; however, it will be reinforced with a local firm for cooperative and institutional development and a U.S. engineering firm.

The Engineering and Implementation Division exercises control over the technical aspects of project development and implementation. Responsibilities include: 1) developing and updating technical manuals that prescribe guidelines and procedures for the design, cost estimates, construction, and operation and maintenance of rural water systems; 2) receiving, reviewing, and approving subproject proposals; and 3) monitoring the construction and operating performance of installed systems. Monitoring is currently carried out with the assistance of a local Architecture and Engineering firm contracted by the MLGCD. The Division also collaborates with the Training Division in the development and execution of technical training programs.

Because training is one of the major components of the BWP, a separate training division was created. The Organization and Training Division focuses its efforts on the following: 1) developing, planning, and conducting multi-level training programs; 2) assisting and supervising local government units and training of BWSCs; and 3) devising programs to promote staff development for both the central Project Management Staff and local government officials.

The creation of the Monitoring, Research and Evaluation Division was one of the major recommendations of the first In-House Program Evaluation. The Division's responsibilities are to: 1) conduct continuing assessment of the appropriateness of the program's concept, approach, and implementation procedures and improve them when necessary; 2) establish and maintain a management information system with data gathering procedures and computer technology for data storage and retrieval; 3) review subproject proposals and conduct program evaluation, both general and specific; and 4) monitor the accomplishment of all local government planning, training, construction, organization, and institutional requirements.

PROVINCES AND CITIES (See Charts 6, 7, and 8.)

Implementing Organizations at the Local Level

A central concept in the BWP is to build upon existing personnel capability in participating local government units. All local governments are required to organize a Development Committee (Task Force) consisting of representatives of national and local agencies concerned with the province's socioeconomic development. This Committee, which is chaired by the Governor, or city Mayor, provides policy guidance and overall coordination for local development activities

in both the public and private sectors. The Development Staff (PDS or CDS) and the Engineering Office (EO) function as the support and implementing arms of the Committee and it is through these offices that the BWP operates at the local level.

The role of the Project Development Staff in the BWP is: 1) subproject selection after preliminary screening and socioeconomic and financial feasibility studies; 2) organization and training of the Barangay Water Service Cooperatives (BWSCs); and 3) continued monitoring of the BWSCs' administration and financial operation. A Water Resource Analyst and a Training Officer are required additions to the staff if a province desires to participate in the BWP, but the original core staff positions of the local government also have a significant role and contribute heavily in subproject implementation. Under BWP I, 39 Water Resource Analysts and 39 Training Officers worked with the project.

The Provincial Engineering Office (PEO) is directly responsible to the Governor for the design, planning, implementation, and maintenance of provincial infrastructure projects. In BWP, the PEO prepares the preliminary engineering report, the final plans, and the cost estimates of subprojects. Construction may be accomplished through force account or by contractors. Under the BWP, the Provincial Engineer is required to add at least one sanitary or civil engineer and at least two waterworks technicians to his staff. Under BWP I, 39 engineers and 78 water technicians were added to the staffs of 39 local government units.

An important component of the PEO is the Provincial Equipment Pool which provides motor vehicular, heavy, and shop equipment support to the various construction and maintenance activities of the province. One of the functional units within the Equipment Pool is the Waterworks Repair Shop, developed and institutionalized through the initiative of the BWP. The Waterworks Repair Shop extends repair, maintenance, training, and construction services to completed and ongoing BWP and other waterworks projects. The BWP requires the shop's establishment as a condition to continuing program participation. It is funded through grants of tools and equipment obtained through the AID assisted Excess Property Project. The BWP trains the attendant technicians in all aspects of waterworks operations and repair.

BARANGAY WATER SERVICE COOPERATIVE (See Organization Charts 9 and 10.)

Implementing Organizations at the Barangay Level

At the community level, Barangay Water Service Cooperatives organized and trained by the local government units and accredited by the Bureau of Cooperative Development provide technical and administrative services for the operation of constructed systems. The BWSC is collectively managed by an elected Board of Directors which formulates general policies. Day-to-day operation of the system is entrusted to a management staff usually consisting of a general manager (System Superintendent), Bookkeeper/Cashier, and Operator/Bill Collector. As a non-stock corporate body, the BWSC derives its funds from members by contribution or assessment of fees for services rendered. Under BWP I, 142 BWSCs will be organized; under BWP II, the number will increase to 500.

USAID Administrative Arrangements

The implementation, management, and monitoring of the project for AID will be the responsibility of the Chief of the Office of Capital Development (OCD). This

office will have the general responsibility for additional loan negotiations, for the approval of engineering consulting firms, and for monitoring the disbursements under the loan.

The Office of Capital Development is both a staff and line office of the USAID Mission to the Philippines. It contains the Mission Engineer and is directly responsible for the design, planning, programming, and coordination of activities relating to water resources and general engineering programs. Within the Office of Capital Development is the EWP staff, which functions as AID's counterpart of the GOP's Project Management staff. Consisting of a Project Manager and five technical personnel with varied qualifications, its responsibilities include the monitoring of and the provision of advisory services to every facet of project implementation.

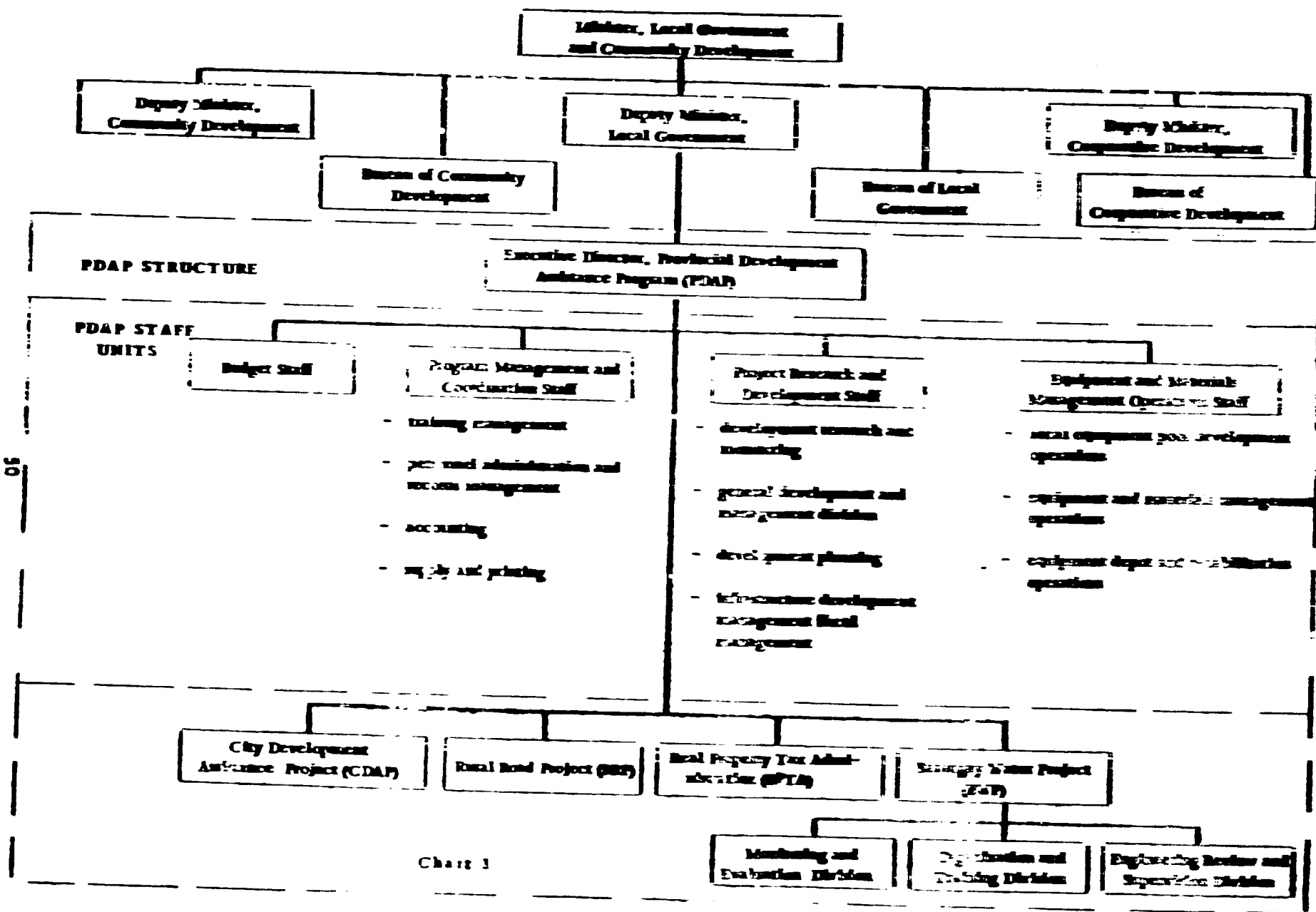


Chart 1

50

INSTITUTIONAL LINKAGES OF THE BWP

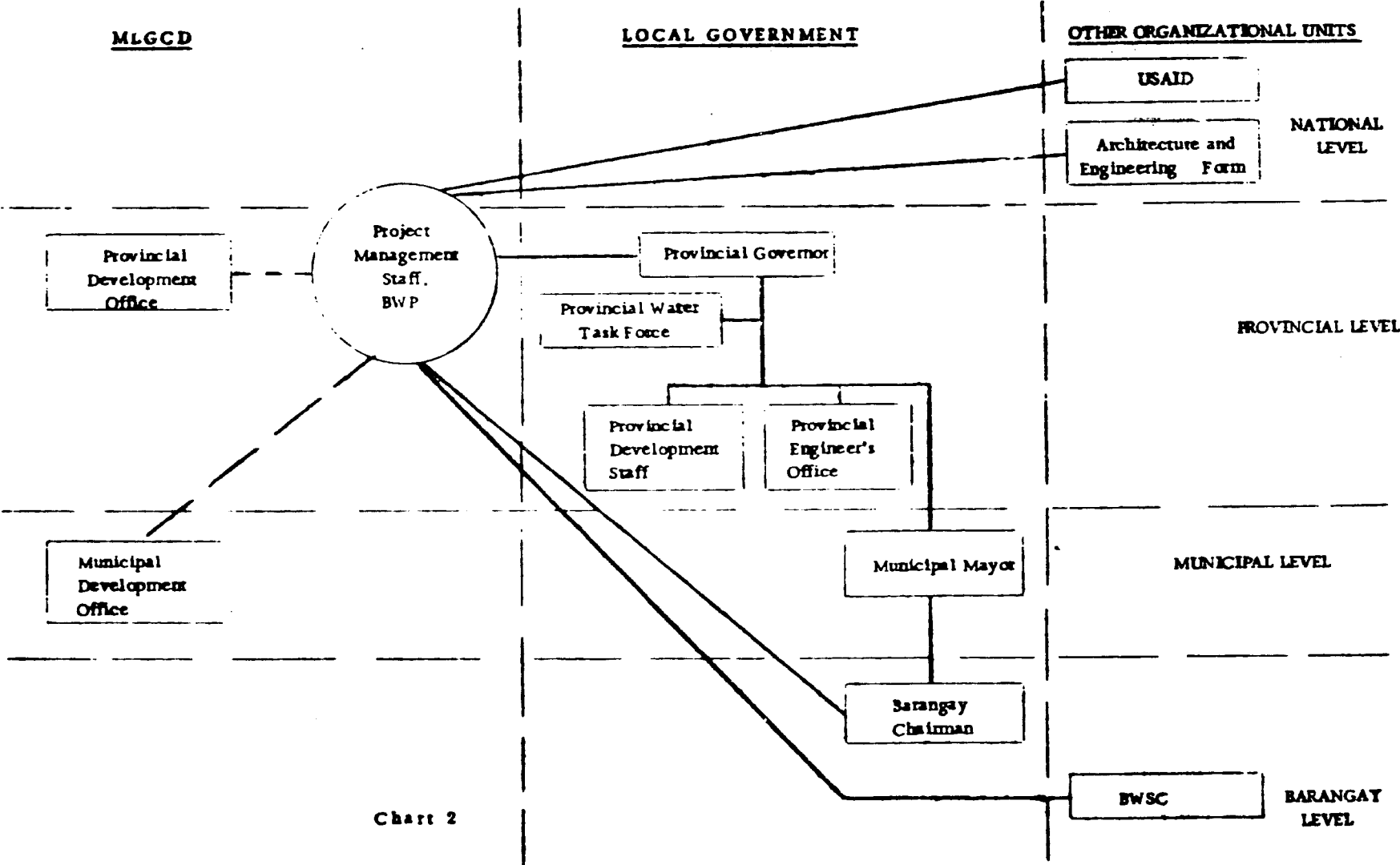
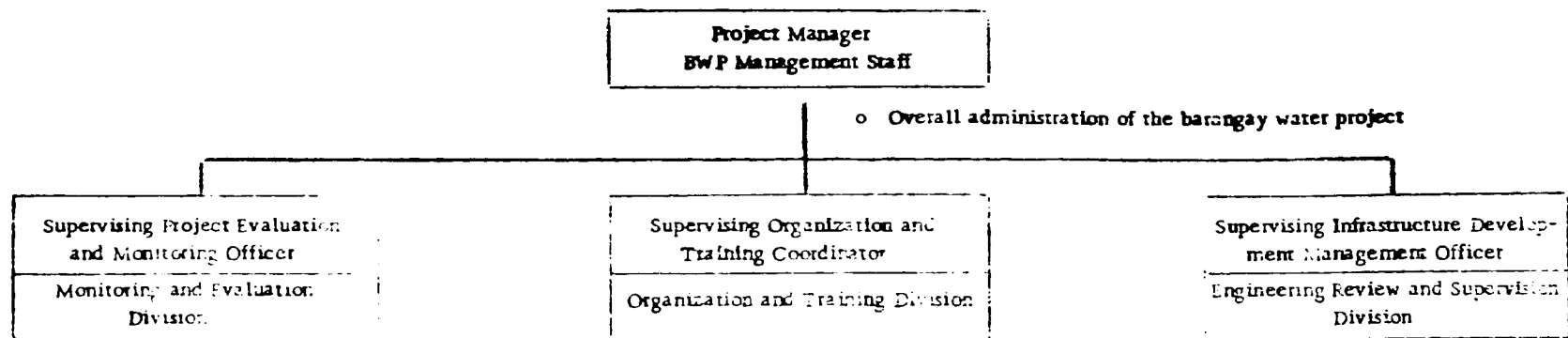


Chart 2

**ORGANIZATION STRUCTURE
PROJECT MANAGEMENT STAFF**



o Overall administration of the barangay water project

52

- o Development and implementation of monitoring system at all levels
- o Evaluation of feasibility study reports on proposed sub projects
- o Conduct of studies related to project implementation
- o Development of policies and procedures on program implementation
- o Project planning

- o Development and implementation of training programs for local government units pertinent to water programs
- o Development of curricula for training projects at all levels
- o Scheduling and designing of annual training programs
- o Maintenance of registry of resource speakers
- o Assistance to local government units and supervision in the organization and training of barangay water service cooperative (BWSC) members
- o Monitoring of BWSC status of activities
- o Development of training guides for use of government units
- o In house staff development

- o Assistance in the setting up and development of infrastructure task force of local government
- o Advice in the conduct of preliminary engineering reports and detailed engineering
- o Development of design manuals for waterworks construction, maintenance and standardization procedures
- o Supervision and monitoring of construction and installation of waterworks system
- o Evaluation of water projects for improvement purposes
- o Review of preliminary engineering reports

Chart 3

**ORGANIZATION CHART
PROJECT MANAGEMENT STAFF**

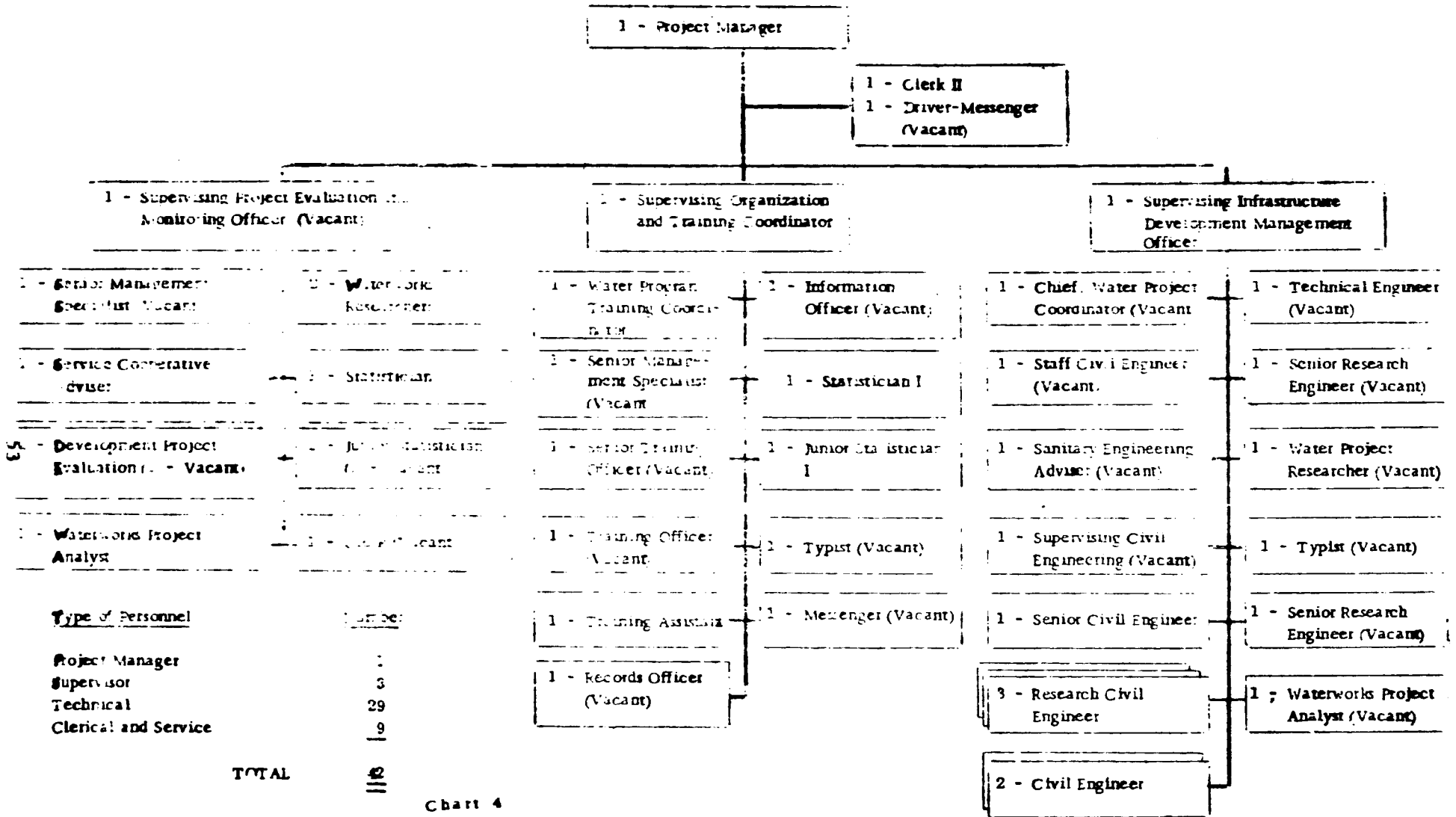


Chart 4

45

**PROJECT ORGANIZATION
A & E FIRM
(TECHNIKS PLANNERS, INC.)**

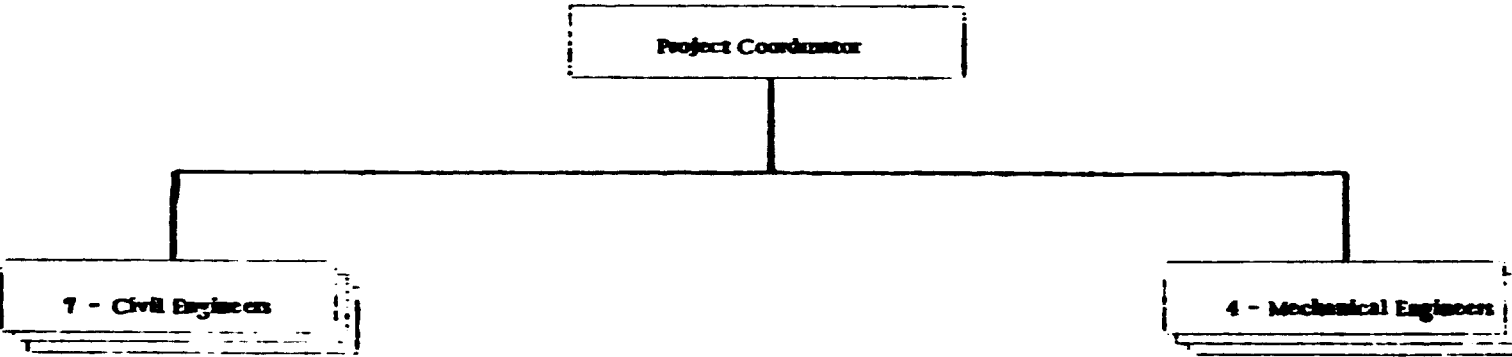
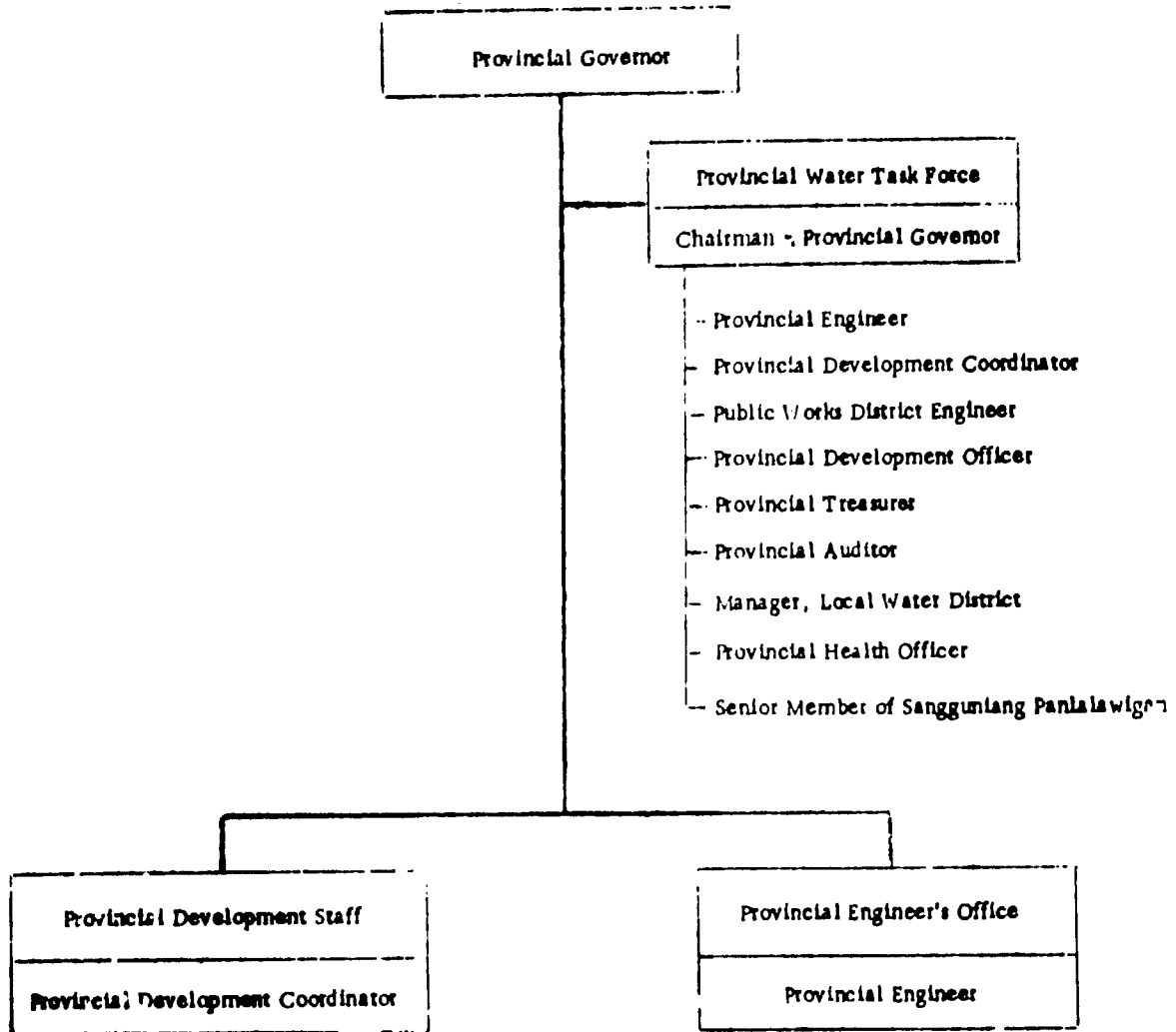


Chart 5

Chart 6

**RELATIONSHIPS OF ORGANIZATIONAL
UNITS AT THE PROVINCIAL LEVEL**



**ORGANIZATION STRUCTURE
PROVINCIAL DEVELOPMENT STAFF**

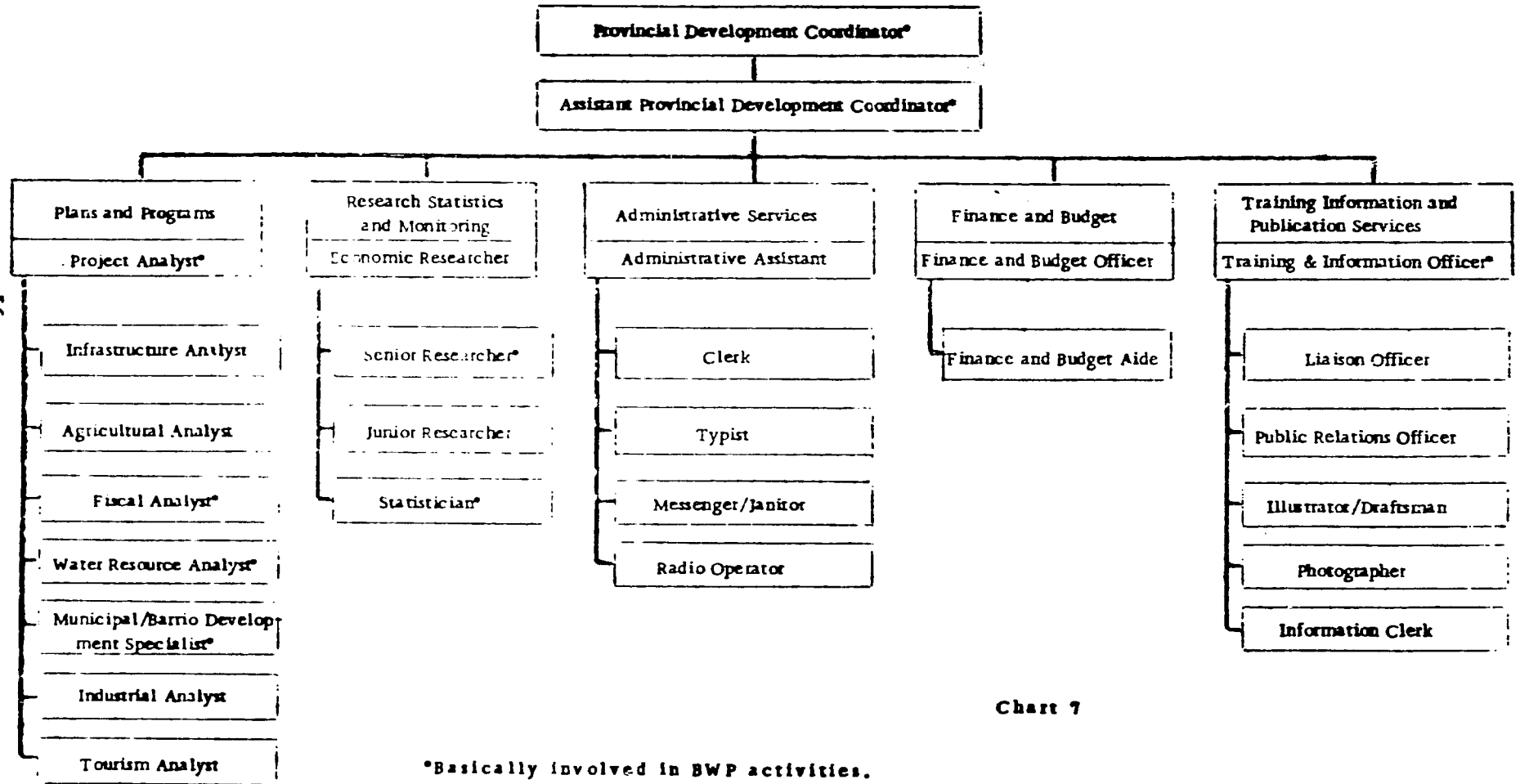


Chart 7

*Basically involved in BWP activities.

**ORGANIZATION STRUCTURE
PROVINCIAL ENGINEERS OFFICE**

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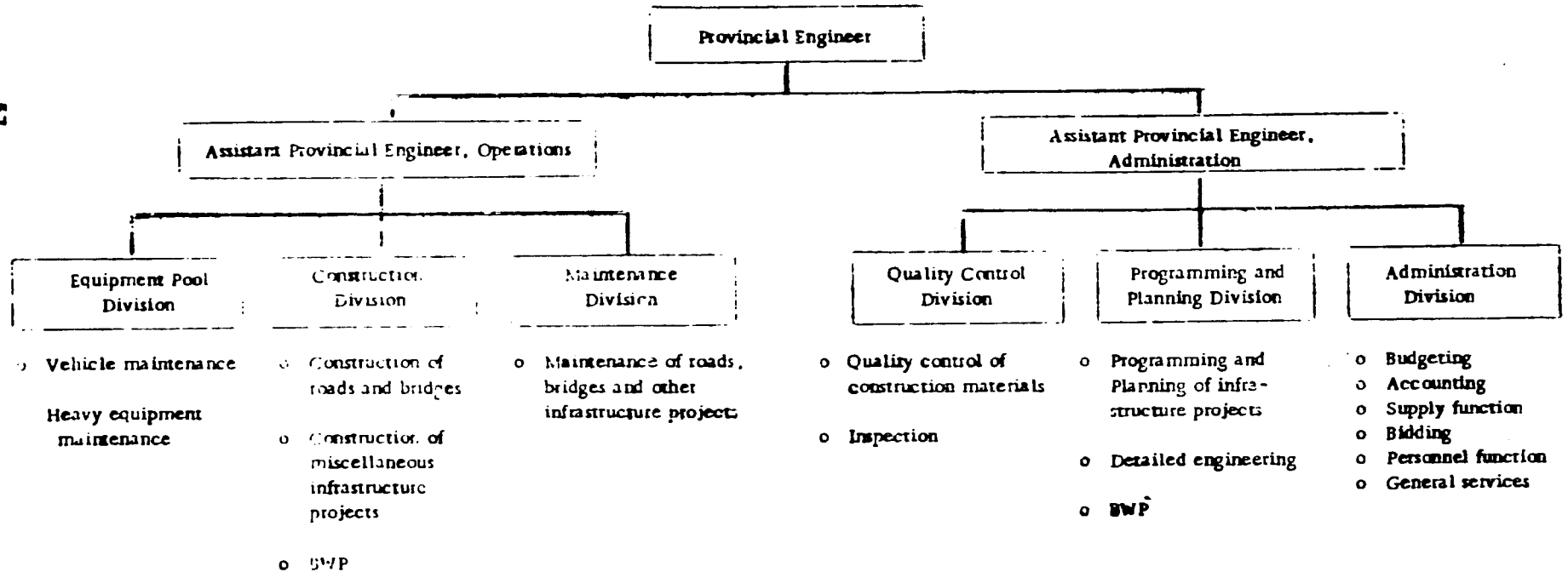
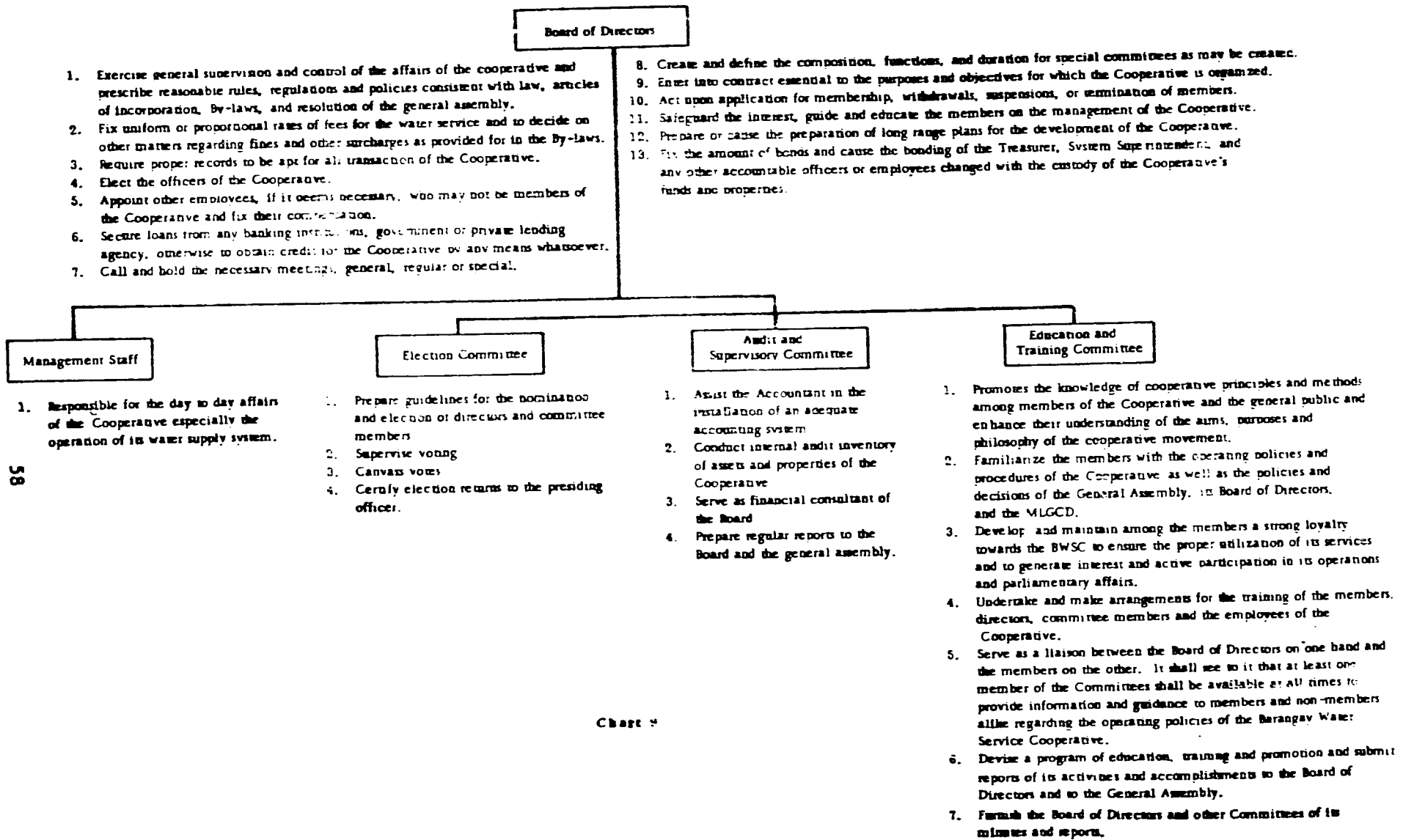


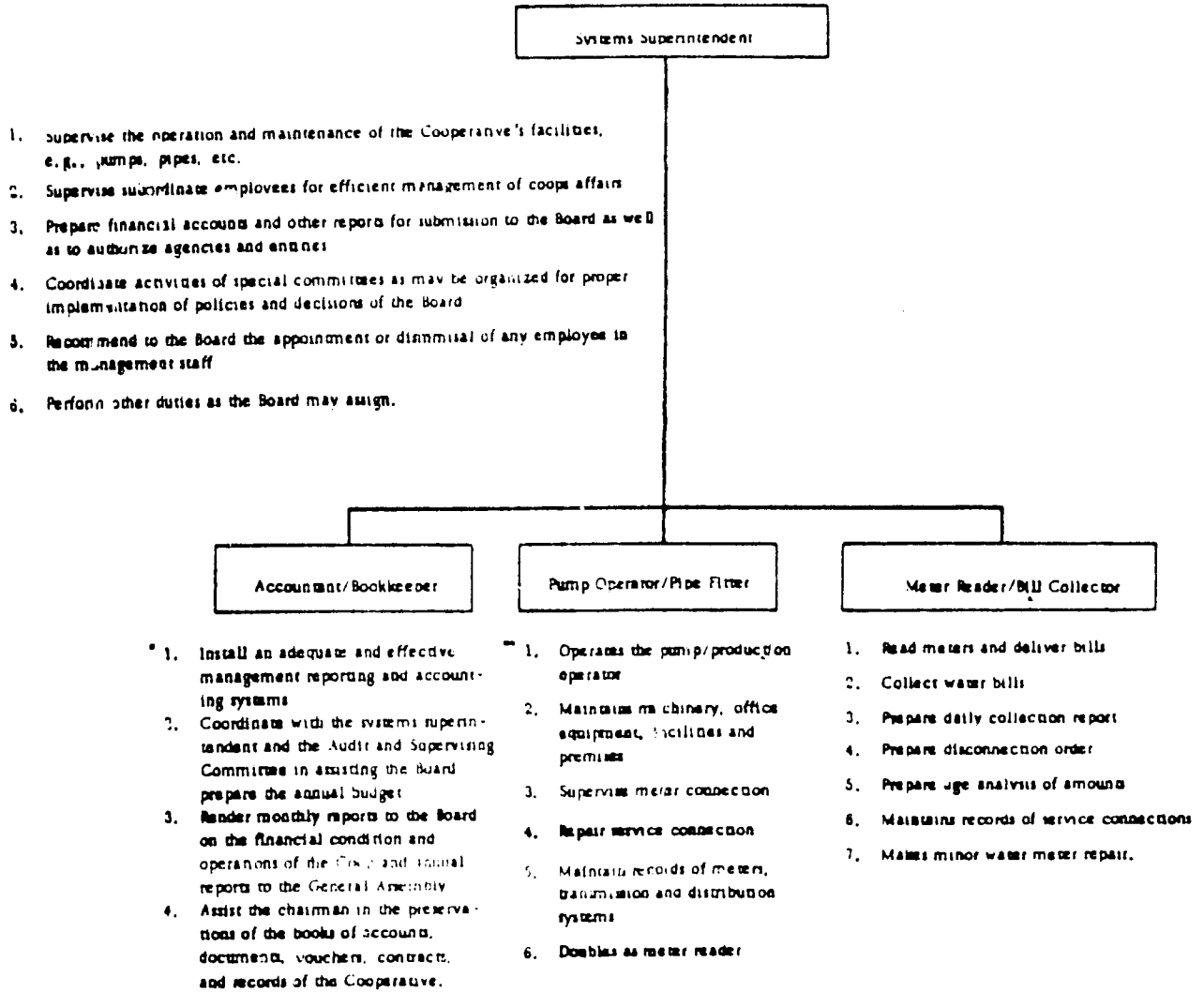
Chart 8

BARANGAY WATER SERVICE COOPERATIVE
ORGANIZATION AND FUNCTION CHART



HARANAGAY WATER SERVICE COOPERATIVE

ORGANIZATION AND FUNCTION CHART OF THE MANAGEMENT STAFF



* Per Booklet No. 6

** Formulated by Lolombay Waterworks Association

ANNEX L

BWP I PIL #6 DETAILED FAR PROCEDURES

U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT
Manila, Philippines

Ramon Magsaysay Center
1680 Roxas Boulevard

Telephone: 59-80-11

October 18, 1979

Mr. B.G. Villavicencio
Director, External Assistance Staff
National Economic & Development Authority
Padre Faura, Manila

SUBJECT: AID Loan 492-U-049
Barangay Water Project I
Project No. 492-0291
Project Implementation Letter No. 6

Dear Ben:

This letter prescribes the procedures that will be followed for reimbursement of the Barangay Water Project, pursuant to Article 8 of AID Loan No. 492-U-049.

A. Introduction

AID participates in the Barangay Water Project to assist the Government of the Philippines in its program of developing the institutional capabilities of provincial and city governments. Under this project, AID loan funds are to be used to reimburse the GOP for a portion of the cost of the construction of subprojects (waterworks systems) identified, planned, implemented and evaluated by the participating provinces in accordance with the provisions of the loan agreements. An estimate of the total and direct subproject costs is agreed by MLGCD and the provinces for each subproject before construction begins and a form BW-10 is executed signifying MLGCD's conformity with the proposed costs and granting the authority to proceed with subproject construction. Not more than 75% of this estimated total cost is reimbursable to the provinces. USAID's specific concurrence and review is required if a province's reimbursement portion exceeds peso equivalent of \$40,000.

USAID will also enter into a FAR agreement (BW-10A) for all subprojects prior to the issuance of the authority for the province to commence construction. The agreed estimated direct cost in the BW-10 is designated the "agreed amount"

for reimbursement by GOP. The GOP reimburses the provinces the "agreed amount" in Philippine currency when the subproject is completed in accordance with approved plans and specifications. AID reimburses the "agreed amount," (not to exceed 75 percent of the total cost of the subproject) to the GOP in pesos, by check payable to the agency or institution designated by the Borrower or Payee. A dollar equivalent for the pesos disbursed is charged to the AID Loan. This amount is calculated using the USDO's exchange rate on the date which the check is drawn.

B. Description of Documents

The following forms/documents used in the implementation of the Barangay Water Program are described below for ready reference:

1. **EW-10A - Fixed Amount Reimbursement Agreement.**- This document is an internal document. It serves as a joint agreement between the Implementing Agency and USAID for individual subprojects. It further provides subproject cost data for computer purposes for both MLGCD and USAID.
2. **EW-10 - Authority to Proceed.**- The issuance of this document signifies the MLGCD's conformity with the individual subproject plans, costs, and specifications and grants the local government unit concerned the authority to proceed with construction of the given water system.
3. **Form EW-14 - Final Inspection Report.**- This document will serve as the "Certification" by the participating provinces, approved by the engineering firm, that the subproject, for which reimbursement is requested, has been completed in accordance with previously agreed upon plans, costs and specifications.
4. **Form EW-16. - Reimbursement Payment.**- This document shall serve as "Certification" by MLGCD that it has reimbursed the participating provinces on a grant basis for the "agreed amounts" with respect to their completed subprojects.
5. **Standard Form 1034 - U.S. Government Public Voucher for Purchases and Services other than Personal,** prepared by MLGCD.

C. Reimbursement by AID


The following are the procedures to be followed in the reimbursement of funds under subject AID Loan:

1. After conducting the final inspection of a completed subproject, the participating provinces and the Engineering Firm will accomplish Form BW-14, Final Inspection Report, and transmit it to MLGCD.
2. MLGCD will forward the accomplished Form BW-14 for each completed subproject to USAID for review and acceptance. Prior to USAID acceptance of a completed subproject for reimbursement, USAID may, at its option, inspect the subproject within thirty (30) days of USAID's receipt of MLGCD's final acceptance. The purpose of such inspection is to determine whether such subproject was completed in accordance with agreed plans and specifications, the USAID/MLGCD subproject FAR Agreement, the project implementation agreement and the Loan Agreement. USAID, in turn, will notify MLGCD in writing of its acceptance of completed subprojects for reimbursements.
3. After USAID acceptance of the completed subprojects, MLGCD will prepare and submit a reimbursement request to the Borrower. Each reimbursement request will include a listing of subprojects completed in accordance with agreed plans and specifications and accepted by USAID for reimbursement. For each reimbursement request, MLGCD will attach, in addition to copies of duly executed BW-14-Final Inspection Report, copies of Form BW-16 - Reimbursement Payment, duly executed by MLGCD and the participating provinces. Each reimbursement request will be certified by MLGCD as having been built according to plans, specification and contracts previously reviewed by USAID.
4. In the event USAID has not exercised its option to inspect a subproject, and subsequent to its reimbursement it is found not to meet specifications originally agreed upon, this failure may result in USAID's offsetting previous payments made for this subproject. Such offsetting will be done by subtracting reimbursed payments from amounts in ensuing reimbursement claims unless reasons for non-compliance with specifications and plans are acceptable to USAID or are removed by remedial action.
5. After review and endorsement by the Borrower, and MLGCD, the Borrower should submit the formal letter request to USAID for reimbursement together with payment instructions.

The letter request shall enclose with it the MLSCB's certification that it has not heretofore applied or received reimbursement for the cost of any of the items for which reimbursement is requested, and will not obtain such reimbursement from the proceeds of any other loan, credit or grant available to the Borrower or MLSCB.

6. Upon receipt, USAID will process the formal request for payment.

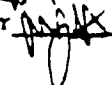
Sincerely yours,


William F. McDonald
Chief, Office of Capital
Development

Cleanroom:

FO: 

OC: 

OCD: MHacker 


cc: SO, FO, OC

OCB, OLAD

ASIA/FO, AID/W

OSR

MLSCB : GNepomuceno

CCBrady,  : 10/18/79
OCD

Date: _____

BARANGAY WATER PROJECT

FIXED AMOUNT REIMBURSEMENT AGREEMENT

1. AID Loan Number: 492-U-049
2. Fixed Amount Reimbursement Agreement No.: FARA - 049 _____
3. Location: Province _____
Municipality _____
Barangay _____

4. Subproject Description:

A. Subproject Physical Features

- | | |
|--|---------------------------------------|
| 1) Source: Deepwell <input type="checkbox"/> Spring <input type="checkbox"/> | 7) _____ Ft. of Transmission Distance |
| Treatment <input type="checkbox"/> | 8) _____ Ft. of 1" Pipe |
| 2) _____ GPM Pump | 9) _____ Ft. of 1-1/4" Pipe |
| 3) _____ Ft. Dia. Standpipe Storage | 10) _____ Ft. of 1-1/2" Pipe |
| 4) _____ Public Faucets | 11) _____ Ft. of 2" Pipe |
| 5) _____ Direct HH Connections, Metered | 12) _____ Ft. of 2-1/2" Pipe |
| 6) _____ Low Flow HH Connections with Storage | 13) _____ Ft. of Pipe over 2" |

B. Subproject Financial Status

- 1) Number of households to be served _____
- 2) Present population to be served _____
- 3) Projected population in year ten _____
- 4) Assumed monthly income per household ₱ _____
- 5) Projected average monthly water bill ₱ _____
- 6) Amortization over _____ years is _____%
- 7) Cost of the completed system per capita ₱ _____

5. Cost Data Summary (Estimates and USAID Fixed Amount Reimbursement):

- | | |
|-------------------------------|----------|
| A. Source | ₱ _____ |
| B. Storage | _____ |
| C. Transmission | _____ |
| D. Distribution | _____ |
| E. Subproject Total | ₱ _____ |
| F. Agreed Reimbursable Amount | ₱ _____* |

*The USAID Reimbursement amount represents _____ based upon the Dollar/Peso conversion rate of \$1 = ₱7.50. Final reimbursement will, in no case, exceed this dollar amount, except by amendment of this FAR Agreement.

6. Subproject Completion Date:
7. Terminal Date for Disbursement Requests:
8. Fixed Amount Reimbursement (FAR) Procedures:
 - A. Fixed amount reimbursement in the amount of ₱ _____ will be made upon completion and final inspection as described in the administrative procedures for the Barangay Water Program and as specified in the Project Agreement. Construction completion is scheduled for _____ and will be funded by BWP from the FY 19____ allocation.
 - B. All construction covered under this subproject will be eligible for reimbursement after completion of the above items of work and AID certification of final acceptance of the completed subproject.
 - C. After AID acceptance of the subproject, completed as per approved plans and specifications, request(s) for reimbursement will be submitted by MLCCD to the National Economic and Development Authority with accompanying certificates of payment, certificate of final acceptance duly signed by the construction supervisor and pictures of the completed work. Upon receipt by USAID of a formal request for direct reimbursement from NEDA with supporting documents for the completed subproject, USAID will arrange to have the check(s) issued pursuant to instructions included in NEDA's Letter of Request for Reimbursement.
 - D. Reimbursement will be made in pesos. The dollar value of each reimbursement to be charged against the AID loan will be calculated using the prevailing rate of exchange of the U.S. Treasury's Regional Disbursing Office in Manila on the date of reimbursement.

William F. McDonald
Chief, Office of Capital
Development
USAID/Manila

Salvador P. Socrates
Deputy Minister
Ministry of Local Government
and Community Development

ANNEX M

IMPLEMENTATION SCHEDULE

BARANGAY WATER PROGRAM

LOAN II

PRE-IMPLEMENTATION SCHEDULE

1980

- | | |
|---|----------------------|
| 1. Submission of Water Resource Inventory and 5-Year Water Resource Development Plan by 1980 LGU's | January 31 |
| 2. Orientation briefing for new (1981) LGU's (field visit) | February 1-15 |
| 3. Submission of AIP of 1980 LGU's with Feasibility Studies, Preliminary Engineering Report and Annual Implementation Plan Agreements | February 29 |
| 4. Organization of BWSC of 1980 projects | Upon approval of AIP |
| 5. Submission of Memo of Agreement between MLGCD and 1981 LGU's | March 14 |
| 6. Orientation Seminar for MLGCD field personnel | March 11-15 |
| 7. Submission of detailed plans, specifications and cost estimates of 1980 projects together with documentation requirements such as:
a) Application for water rights
b) Acquisition of right-of-way
c) BWSC registration papers
d) Application for loans from LGUs by BWSCs
e) Memorandum of Agreement between LGU and BWSC | March 31 |
| 8. Training for Trainers 1980 LGU | April 8-16 |
| 9. Initiate construction of 1980 projects | April 15 |
| 10. Completion of all 1980 projects | June 30 |
| 11. Water Resource Inventory and Development Planning Seminar for 1981 LGUs | July 1-5 |
| 12. Submission of documentation requirements by 1981 LGUs such as:
a) Administrative order creating Water Resource Task Forces
b) Appointment or designation papers of Water Resource Analysts, Waterworks Engineers, and Waterworks technicians | July 1 |

- | | |
|--|--|
| 13. Structural Survey and Feasibility Study
Training for 1981 LGU's | July 15-18 |
| 14. Seminar-Workshop on Design and Construction
Water Supply Systems for 1981 LGU's | July 15-19 |
| 15. Training for Trainers 1981 LGU's | August 4-8 |
| 16. Waterworks Technicians Skills Training
for 1980 and 1981 LGU's | September 1-15 |
| 17. Submission of 1981 AIP with Feasibility
Studies, Preliminary Engineering Report,
and 1981 Annual Implementation Plan
Agreement. | October 1 |
| 18. Organization of BWSC of 1981 projects | Upon approval of AIP |
| 19. Submission of detailed plans, specifications
and cost estimates of 1981 projects together
with documentation requirements such as:
a) Application for water rights
b) Acquisition of right-of-way
c) BWSC registration papers
d) Application for loan for LGU by BWSC
e) Memo of Agreement between LGU and BWSC | December 12 |
| 20. Completion of all 1980 projects | November 30 |
| 21. Pre-operational Training for BWSC of 1980 projects | Two weeks prior to
Completion of Projects |
| 22. Turn-over of 1980 projects to BWSC's and signing
of Loan Agreement between LGU and BWSC | Upon completion
of projects |
| 23. Post completion training for BWSC
of 1980 projects | Upon turn-over of
projects to BWSC's |
| 24. Creation of P/CEI and initiation of
Visitation Schedule | Upon completion of
first project |

IMPLEMENTATION SCHEDULE

1981-1982-1983-1984

- | | |
|---|--|
| 1. Initiate construction of projects for current year | 1st week February |
| 2. Submission of AIP with Feasibility Studies, Preliminary Engineering Report and Annual Implementation Plan Agreement for Year One | 3rd week September |
| 3. Organization of BWSC of year One projects | Upon approval of AIP |
| 4. Recertification activities (for participation in year One) | November |
| 5. Pre-operational Training for BWSC of projects for current year | 2 weeks prior to completion of project |
| 6. Completion of projects for current year | 4th week November |
| 7. Post-completion Training for BWSC of projects for current year | Immediately upon completion of project |
| 8. Creation of Provincial/City Evaluation Team and submission of Schedule of Visits | Upon completion of project |
| 9. Turn-over of project to BWSC and signing of of Loan Agreement between LGU and BWSC | Upon completion of project |
| 10. Submission of detailed plans, specifications and cost estimates for year one projects | 1st week December |
| 11. Submission of BWSC registration papers of Year One projects together with: | |
| a) application for water rights | |
| b) acquisition of right-of-way | |
| c) application for loan from LGU by BWSC | |
| d) Memo of Agreement between LGU and BWSC | |

IMPLEMENTATION SCHEDULE

1981-1982-1983-1984

(Pre-Participation Requirements for Incoming LGU's)

(Year Minus One)

- | | |
|--|----------------------|
| 1. Certification of new LGUs | January |
| 2. Orientation Seminar and Signing of Memo of Agreement between MLGCD and LGUs | 1st week February |
| 3. General Planning Seminar | 1st week June |
| 4. Submission of documentation requirements such as: | 1st week June |
| a) Administrative Order creating the Water Resource Task Force | |
| b) Appointment/designation papers of Water Resource Analyst and Waterworks Engineer | |
| 5. Feasibility Study Seminar-Workshop | 1st week July |
| 6. Design and Construction of Water Supply Systems Seminar-Workshop | 1st week July |
| 7. Submission of Water Resource Inventory and 5-Year Water Resource Development Plan | 1st week August |
| 8. Corps of Trainers Training | 1st week August |
| 9. Waterworks Technicians Special Skills Training and Submission of Appointment/designation papers of waterworks technicians | 1st week September |
| 10. Submission of AIP with Feasibility Study, Preliminary Engineering Report and Annual Implementation Plan Agreement | 3rd week September |
| 11. Organization of BWSC's | Upon approval of AIP |
| 12. Submission of detailed plans, specifications and cost estimates | 1st week December |
| 13. Submission of BWSC registration papers together with: | 1st week December |
| a) application for water rights | |
| b) acquisition of right-of-way | |
| c) application for loan from LGU by BWSC | |
| d) Memo of Agreement between LGU and BWSC | |

ANNEX N

TRAINING PROJECTION CHART

BARANGAY WATER PROGRAM TRAINING PROJECTION

	B Y Y E A R				<u>Totals</u>
	<u>CY 81</u>	<u>CY 82</u>	<u>CY 83</u>	<u>CY 84</u>	
No. of Training Programs	9	9	9	9	36
No. of LG Personnel Trained	354	384	414	444	1,596
No. of Person Hours Training	14,440	14,440	14,440	14,440	57,760
No. of LGU's	44	49	54	59	59*
Water Service Committees Formed (Level I)	265	478	529	1,031**	2,303
BWSC's Organized (Level II and IIIA)	103	101	122	181***	507

- *All local government units will be eligible to participate who are willing to meet BWP requirements
- **Barangay Water Service Committees
- ***Barangay Water Coops

ANNEX O

PROJECT OPERATIONAL FRAMEWORK

ANNEX P
COST ANALYSIS

COST ANALYSIS

For the purpose of estimating the costs of subprojects in the Barangay Water Program, each component is treated on a formulated basis. Because of the many variables involved, it is not possible to be more specific without becoming somewhat unwieldy.

A sufficient degree of conservatism has been built into the following values. This allows for normal contingency factors. Experience demonstrated their validity.

The individual components and their various estimating treatments are:

- source
- pumping machinery
- distribution materials
- transmission labor
- storage
- connections

a. Source: Most communities must rely upon groundwater for their source of supply. The construction of a deep well is done by private contractors. The factors that enter into the costing are depth, diameter, type of construction, early formation encountered, and remoteness of site. In the Barangay Water Project, most sites are remote. Formations are generally not overly difficult to penetrate, gravel envelope construction will usually be required, and depths will vary between 100 ft. and 600 ft. Typically, a well will be 6 in. in diameter, gravel packed, and 300 ft. deep. At current rates, such a well will cost ₱90,000.

Also utilized in some cases are natural springs. These can be developed for ₱10,000 or less.

In the event surface water is utilized, it is necessary to construct water diversion works and a slow sand filtration facility. As the size and capacity of such a facility is based upon the population to be served, the cost can be stated in a per capita basis. Very simplified construction methods are utilized with a minimum of reinforced concrete and controls. Although slow sand filtration facilities have not yet been constructed under BWP I, it is estimated that the cost of construction will be in the order of ₱25 per capita. This figure includes the cost of a diversion structure.

b. Pumping Machinery: The cost of pumping machinery is relatively proportional to the installed horsepower. This, in turn, is proportional to the population (12.5 GPM per thousand population) and the required head of pressure. At the present cost of ₱7,000 per horsepower, the cost per capita is ₱7 for pumping machinery for each 100 ft. of pumping head required.

c. Distribution Materials: The design methodology that has been developed for BWP is such that it is a relatively simple matter to quantify the amount and size of the various pipes required to construct a system. The basic cost of pipe is proportionate to its weight. In other words, its marketing is basically by the pound. Very accurate cost estimating is being done simply by calculating the total weight of the required pipes. Experience shows that pipe materials can be delivered to the job site for about ₱20.00 per pound.

No more than 5 percent of the purchased material is unused due to waste or damage. To allow for this, the total calculated weight is increased by 5 percent.

The supplier of the pipe materials is also required to furnish, as a package, all necessary valves, fittings, and repair items to complete the system. The cost of these items does not exceed 10 percent of the value of the pipe. For estimating purposes, then, the cost of the piping material is established by multiplying the computed pipe weight by 105 percent, then by ₱20.00, then by 110 percent. This is essentially the same as using ₱23.10 per computed pound.

d. Transmission Pipes: When groundwater is utilized by deep well, the production facility is usually located within the community thereby eliminating the need for transmission pipes. Such is not the case for springs or surface water. In these cases, the source is almost invariably remote from the community. The cost of a transmission pipeline is dependent upon three variables: the population of the community, the distance involved, and the relative elevations of the source and the community. Systems are designed to achieve high utilization of such facilities. Transmission pipelines are expected to flow continuously and are sized to meet the needs of the community with the population projected for 20 years, by providing 15 gallons of water per capita per day. This translates to 21.2 gallons per minute flow requirement for each 1000 present population. A preliminary engineering investigation establishes the elevations and distances involved. Reference to a simple flow chart reveals the minimum pipe size required. Like distribution pipes, the estimated pipe cost is readily determined by calculating the weight of material involved. Since a transmission pipeline does not have the requirement for valves or fittings to any significant extent, no additional allowance is made for them. Installation labor is calculated the same as for the distribution pipes.

e. Labor: This consists of excavation, assembly of pipes and fittings, then backfill. For estimating purposes it is assumed that one man day is required to excavate a typical pipe trench 30 in. deep by 12 ft. long. Pipe assembly and backfill take less time than does excavation, but for estimating purposes is considered to be equal. This means two man days for each 12 ft. of pipe to be installed. Estimating labor cost then involves simply dividing the total footage of pipe to be installed by 12 and multiplying by the daily labor rate. At present, the usual daily labor rate is ₱15.00 or less.

f. Storage: A standardized design for storage tanks has been adopted. The standard is a simple standpipe that requires no foundation and whose size is dictated by the population of the community. Experience has demonstrated that the installed cost of these tanks is proportionate to the weight of the steel utilized. Recent costs are less than ₱15.00 per pound. The standard design handbook used by BWP engineers gives the weight of each size tank.

g. Service Connections: There are three different kinds of connections, but only two of them are normally used by the BWP. Level II uses a 1/2" connection to a public faucet of standard design. It is equipped with a meter, a galvanized pipe riser, a brass faucet, and a concrete apron. The labor and material to install each such facility is slightly less than ₱500. Level II is the BWP standard.

Level III-A is an allowed alternative. It consists of individual household connections of a very small size and includes an individual household storage container with a capacity of 30 gallons. No meters are used in these low-flow connections. The labor to install the service piping and the household storage container is to be provided by each household and is not included in the estimate. The labor to make the connection to the main line plus all materials total P150.00 for each connection.

Level III connections are not authorized under BWP. They are full-sized individual household connections utilizing individual meters.

ANNEX Q

A. TRAINING SCHEDULE FOR 1980

B. TRAINING SCHEDULE FOR 1981-1985

C. RESUME OF TRAINING 1977-1979

TRAINING SCHEDULE OF BARANGAY WATER PROGRAM
CY 1980

TRAINING ACTIVITY	DATE	DURATION	PARTICIPATING PROVs/CITIES	PARTICIPANT/NO.	SITE
1. Orientation Seminar for A. Regional Directors, Supervising Cooperative Development Officers	March 11-12 1980	2 days	12 Regions	RDOs - 12 SCODOs - 12 Sub- Total 24	Baguio City
B. Provincial Development Officers/Cooperative Development Officers City Development Officers/Community Development Officers-I	March 18-20 1980	5 days	Local Government Units of 1979, 1980 & 1981 projects	PDOs/CDOs - 38 CODOs/CDO-Is - 38 Sub-total - 76	-do-
C. Local Officials	March 25-27	3 days	Local Government Units of 1981 Projects	Governors/Mayors - 5 Treasurers - 5 Engineers - 5 PDCs/CDCs - 5 Sub-total 20	Cebu City
2. Trainer's Training Course A. Phase I	April 8-12 1980	5 days	L.G. Units for 1980 Proj.: Abra, Agusan Norte, Albay, Angeles City, Batangas City Cagayan Valley, Legaspi City, Lu- cena City, Negros Occ., Sorsogon, Zamboanga City, Tangub City, Agusan Sur.	Training Officers -13 Water Resource Analysts -13 Fiscal Analysts -13 Sub-total -39	Davao City

TRAINING ACTIVITY	DATE	DURATION	PARTICIPATING PROVs/CITIES	PARTICIPANT/NO.	SITE
B. Phase II	April 14-16 1980	3 days	-do-	Municipal Development Officers - 45	Davao City
3. Water Resource Inventory and Development Planning Seminar	July 1-5 1980	5 days	5 New Local Go- vernment Units for 1981 Project	Waterworks Engrs - 5 Waterworks Analysts - 5 Project Analysts - 5 Sub-total 15	Naga City
4. Structural Survey and Feasibility Study	July 14-16 1980	3 days	5 New Local Go- vernment Units for 1981 Project	Training Officers-5 Water Resource Analysts -5 Fiscal Analysts -5 CDO -I -5 Sub-total 20	Angeles City
5. Seminar-Workshop Design & Construction of Water Supply System	July 14-18 1980	6 days	5 New Local Go- vernment Units for 1981 Project	Waterworks Engrs -5 Head/Planning & Programming -5 Head Construction Division -5 Sub-total 15	Angeles City

TRAINING ACTIVITY	DATE	DURATION	PARTICIPATING PROVs/CITIES	PARTICIPANT/No.	SITE
6. Trainor's Training Course for 1981 L.G. A. Phase I	Aug.	5 days	5 New Local Government Units for 1981 Project	Training Officers-5 Water Resource Analyst 5 Fiscal Analysts -5 MDOs -5 Sub-total 20	Lucena City
7. Waterworks Technicians Skills Training for 1980 and 1981 L.G.	Sept. 1-7 1980	7 days	20 Local Government Units for 1980 and 1981 Projects	Waterworks Techs 20 Plumbers 20 Mechanics 20 Electricians 20 Sub-total 80	Batangas City
8. Supervisory Functions on: A. Pre-Operational Training: for BWSC of 1979 Projects	Jan- Feb. 1980	2 mos.	Akian, Batangas, Bataan, Davao Norte, Pangasinan: Iloilo, Misamic Oriental, Palawan:	Local Government Units Targeted for 1978 and 1979.	
B. Post-Completion Training for BWSC of 1979 Projects					

TRAINING ACTIVITY	DATE	DURATION	PARTICIPATING PROVS/CITIES	PARTICIPANT/NO.	SITE
9. Supervisory functions	: March-	: 3 months	: Local Government	: Agusan Sur, Butuan; Ca-	:
A. Organization of BWSC	: May	:	: Units Targeted for	: Agusan de Oro; Camarines	:
	:	:	: 1980 and 1981.	: Sur; Cebu; Dagupan City;	:
	:	:	: Also 1979 L.G.	: General Santos; Mindoro	:
	:	:	: units without	: Or; Naga; Pampanga;	:
	:	:	: BWSC	: Puerto Princesa; Quezon;	:
	:	:	:	: Roxas; Samar; Zambales;	:
	:	:	:	: Abra; Agusan Norte;	:
	:	:	:	: Albay; Angeles City;	:
	:	:	:	: Batangas City; Cagayan	:
	:	:	:	: Valley; Legaspi; Lucena	:
	:	:	:	: City, Mindoro Occ.;	:
	:	:	:	: Sorsogon; Zamboanga	:
	:	:	:	: City	:
10. Check-up and Follow-up on BWSC Operations	: July	: 5 mos.	: Local Government	: All BWSCs	:
	: to	:	: Units with Organ-	:	:
	: Nov.	:	: ized and Opera-	:	:
	: 1980	:	: tional BWSCs.	:	:
	:	:	:	:	:
	:	:	:	:	:
	:	:	:	:	:

BARANGAY WATER PROGRAM TRAINING AND ORGANIZATION FIVE-YEAR PLAN
CY 1981 - 1985

85

TRAINING ACTIVITY	DATE	DURATION	PARTICIPATING PROVINCES	PARTICIPANT/NO.
1. Orientation Seminar for A. Local Officials/ PDOs and SCODOs	: Mar. 26- : 28, 1981	: 3 days	: 5 New Local Government : Units for 1982 Projects	: Governors/Mayors - 5
				: Treasurers - 5
				: Engineers - 5
				: PDOs/CDOs - 5
				: CODOs/CDOsI - 5
				: PDCs/CDCs - 5
				: Sub-total 30
2. Water Resource Inventory and Development Planning Seminar	: June 3-7 : 1981	: 5 days	: 5 New Local Government : Units for 1982 Projects	: Water Resource Analysts - 5
				: Waterworks Engrs - 5
				: Proj. Analysts - 5
				: Sub-total -15
3. Structural Survey and Feasibility Study	: July 8-10 : 1981	: 3 days	: 5 New Local Government : Units for 1982 Projects	: Training Officers - 5
				: Water Resource Analysts - 5
				: Fiscal Analysts - 5
				: CDO - I - 5
				: Sub-total -20

TRAINING ACTIVITY	DATE	DURATION	PARTICIPATING PROVINCES/CITIES	PARTICIPANT/NO.
4. Seminar-Workshops Design and Construction of Water Supply System	July 8-19 1981	2 weeks	5 New Local Government Units for 1982 projects	Waterworks Engr. - 5 Head, Planning & Programming - 5 Head, Construction Division - 5 Sub-total - 15
5. Trainer's Training Course for 1982 L.G.	Aug. 5-9	5 days	5 New Local Government Units for 1982 Projects	Training Officers - 5 Water Resource Analysts - 5 Fiscal Analysts - 5 MDOs - 5 Sub-total - 20
6. Waterworks Technician Skills Training for 1982 L.G.s	Sept. 2-6	5 days	5 New Local Government Units for 1982 Projects	Waterworks Tech - 5 Plumbers - 5 Mechanics - 5 Electricians - 5 Sub-total - 20
7. Special Training	October & November 1981		To be determined later	

TRAINING ACTIVITY	DATE	DURATION	PARTICIPATING PROVINCES/CITIES	PARTICIPANT/NO.
8. Supervisory Functions on:	Jan-Feb	2 months		
A. Pre-Operational Training for BWSC of 1980 Projects	1981		Local Government Units for 1980 Projects	
B. Post-Completion Training for BWSC of 1980 Projects	Nov-May 1981	3 months	Local Government Units for 1981 Projects	
9. Supervisory Functions on:	Nov-May	3 months		
A. Organization of BWSC	1981		Local Government Units for 1981 Projects	
10. Check-up and Follow-up on BWSC Operations	July-Nov 1981	5 months	Local Government Units with organized and operational BWSCs	

NOTE: All proposed dates of and venues for every training activity are subject to change depending on the availability of funds and sites.

BARANGAY WATER PROGRAM TRAINING AND ORGANIZATION
FOR CY 1982- 1985

TRAINING ACTIVITY	DURATION	SCHEDULE	SITE	PARTICIPATING LO-CAL GOVERN'T UNITS	PARTICIPANT/NO.
1. Orientation Seminar for: A. Local Government Officials; Prov/City Dev. Officers; Coop Dev. Officers; Com. Dev. Officers - I	3 days	1st week of March 1982; 1983; 1984 and 1985		5 New Local Government Units/Year for 1983; 1984; 1985 & 1986 Projects	Governors/Mayors-5 Treasurers -5 Engineers -5 PDOs/CDOs -5 CODOs/CDO-I -5 <u>Sub-total/yr. 25</u> <u>Total for 4 yrs 100</u>
2. Water Resource Inventory and Development Planning Seminar	5 days	1st week of June 1982; 1983; 1984 and 1985		5 New Local Government Units for 1983; 1984; 1985 and 1986 projects	Water Resource Analysts -5 Proj Analysts -5 WW Engineers -5 <u>Sub-total/yr 15</u> <u>Total for 4 yrs 60</u>
3. Structural Survey and Feasibility Study Training	3 days	1st week of July 1982; 1983; 1984 and 1985		5 Local Government Units for 1983, 1984; 1985 & 1986 projects	Training Off. -5 Water Resource Analysts -5 Fiscal Analysts -5 CDO-I -5 <u>Sub-total/yr 20</u> <u>Total for 4 yrs 80</u>
4. Seminar-Workshop on Design & Construction of Water Supply System	6 days	1st week of July 1982; 1983; 1984 and 1985		5 Local Government Units for 1983, 1984; 1985 & 1986 projects	WW Engineers -5 Head, Planning & Programming -5 Head, Construction Division -5 <u>Sub-total/yr 15</u> <u>Total for 4 yrs 60</u>

TRAINING ACTIVITY	DURATION	SCHEDULE	SITE	PARTICIPATING LOCAL GOVERNMENT UNIT	PARTICIPANT/NO.
5. Trainor's Training Course for 1983, 1984 and 1985 & 1986 LGs	: 5 days	: 1st week of Aug. : : 1982, 1983, 1984 : : and 1985	:	: 5 Local Government : : Units for 1983; 1984 : : 1985 and 1986 : : Projects	: Training Officers-5 : : Water Resource : : Analysts -5 : : Fiscal Analysts -5 : : MTOs -5 : : <u>Sub-total/yr 20</u> : : <u>Total for 4 yrs 80</u>
6. Waterworks Technicians Skills Training for 1983; 1984; 1985 and 1986 LGs	: 7 days	: 1st week of Sept. : : 1982; 1983; 1984 : : and 1985	:	: 5 Local Government : : Units for 1983; 1984 : : 1985 and 1986 : : Projects	: WW Technicians - 5 : : Plumbers - 5 : : Mechanics - 5 : : Electricians - 5 : : <u>Sub-total/yr -20</u> : : <u>Total for 4 yrs. -80</u>
7. Special Trainings	:	: Anytime within Oct. : : to Nov. of 1982; : : 1983; 1984 & 1985	:	:	:
8. Supervisory Functions on: A. Pre-Operational Training for BWSCs of 1982; 1983; 1984; 1985	: 2 mos./yr : : 2 mos./yr	: Jan.-Feb. of 1982; : : Jan.-Feb. of 1982; : : 1983; 1984; and 1985	:	: Local Government Units : : with 1982; 1983; : : 1984 & 1985 Projects:	:
9. Supervisory functions on: A. Organizational Trng for BWSCs	: 3 mos./yr	: Apr-Jun 1982; 1983; : : 1984; and 1985	:	: Local Gov't Units : : without BWSCs	:
10. Check-up and follow-up visits for BWSCs	: 5 mos./yr	: Jul-Nov. 1982; 1983 : : 1984 and 1985	:	: Local Gov't Units w/ : : organized BWSCs	:

**BARANGAY WATER PROGRAM
RESUME OF TRAINING 1977-1979**

06

DATE	TRAINING ACTIVITY	NO. OF PROV/CITIES PARTICIPATED	NUMBER OF PARTICIPANTS	NO. OF DAYS TRAINING	PERSON HOURS	COMMULATIVE
<u>1977</u>						
Jan. 4-7	Administrative Procedures Development Workshop	7	30	5	1200	1200
Feb. 23-26	Initial Training for Pilot and Phase I Provinces	7	49	5	1960	3160
Apr 18-22	Training for Provincial Trainers	15	50	6	2400	5560
Apr 22-26	Training for Engineering Design	15	40	8	2560	8120
Aug. 22-26	Special Skills Training for Waterworks Technician	15	32	6	1536	9656
Sept 22-24	Training for Provincial Trainers	15	52	5	2080	11,736
Sept 26- Oct. 7	Training for Engineering Design	14	36	11	3168	14,904
Nov 11-12	Orientation for Pilot Cities and Sorsogon	5/1	27	4	864	15,768
Nov 14-17	Feasibility Study Training	15	38	4	1216	16,984

DATE	TRAINING ACTIVITY	NO. OF PROV/CITIES PARTICIPATED	NO. OF PARTICIPANTS	NO. OF DAYS TRAINING	PERSON HOURS	COMMULATIVE
1977						
carry forward						16,984
1978						
Apr 10-18	Design and Construction of Water Supply System	4/5	70	9	1368	18,352
May 4-8	Provincial/City Corps of Trainers Training	1/2	11	5	410	18,752
July 17-25	Seminar-Workshop on the Methodology of Conducting Socio-Economic Study	3/BWP	12	7	672	19,424
Sept 11-13	Supervisors Trng on the Methodology of Socio-Economic Study	12/4	18	3	432	19,836
Sept 14-15	Trainers Trng on the Methodology of Conducting Socio-Economic Study	2/BWP	10	2	160	20,016
Sept 18-22	Enumerators Trng. on Methodology of Conducting Socio-Economic Study	12/4	49	5	1960	21,976
Nov. 28- Dec. 1	Analysis Training	BWP Personnel	6	4	192	22,168
Dec 4-8	Tabulation and Feasibility	12/3	20	5	800	22,968

DATE	TRAINING ACTIVITY	NO. OF PROVINCES PARTICIPATED	NO. OF PARTICIPANTS	NO. OF DAYS TRAINING	PERSON HOURS	CUMULATIVE
1978						
carry forward						22,968
1979						
Feb. 15-17	Initial & Re-Orientational Training	12/5	39	3	840	26,608
May 16-25	Design & Construction Training	13/1	44	10	2800	27,298
May 21-25	Seminar-Workshop on Socio-Economic Study & FS	7/1	17	5	680	27,968
Jun 25-29	Special Skill Training for Waterworks Technicians	6/2	17	5	680	29,038
Sept 3-7	Corps of Trainers Training	12/3	38	5	1070	31,062
Sept 17-22	Refresher Skills Training for Waterworks Technicians	18/4	46	5.5	2024	31,062
Oct 24-26	Orientation Training	6/6	67	3	1608	32,670
Dec 17-21	Seminar-Workshop on Feasibility Studies	12/5	24	5	960	33,630
Dec 17-21	Engineering Seminar	8/5	26	5	1040	35,670

ANNEX R
BUDGET ANALYSIS
BWP II
1981 - 1984

BARANGAY WATER PROGRAM
SUMMARY OF COSTS FOR 14 YEAR PERIOD
(PESOS - US\$1.00)

SOURCE/ITEM	1981	1982	1983	1984	1985
1. UNPAID					
a) Loan					
Capital Cost for Water System Construction	P 2,550,000	P31,200,000	P44,625,000	P60,375,000	P138,750,000
b) Grant					
1) Technical Assistance for Engineering Consulting Firm					
	1,600,000	1,600,000	1,950,000	975,000	10,125,000
2) Engineering, Training, Evaluation, Monitoring & Management Consultants (Host Country and Personal Services Contract)					
	150,000	450,000	450,000	450,000	1,500,000
c) Grant					
Commodities	150,000	502,000	--	--	625,500
2. GOP					
National Government					
a) Project Management Staff Salaries & Allowance					
	572,475	684,975	817,975	942,975	3,020,400
b) Technical Assistance					
1) Engineering Services					
	7,400,000	3,000,000	3,500,175	3,999,975	12,900,150
2) Community Organization and Training					
	77	1,300,000	1,500,000	2,000,025	5,997,525
c) Administration and Operational Support					
	1,502,250	1,994,025	2,193,000	2,442,975	8,132,250
d) Training					
1) Local Government Staff Development					
	530,025	564,975	670,025	669,975	2,385,000
2) Project Management Staff Development					
	71,475	24,000	26,025	27,975	99,975
e) Peco Reimbursement for Direct Construction Cost					
	2,550,000*	31,200,000*	44,625,000*	60,375,000*	138,750,000**
	(25,425,000)**	--	--	--	--
f) Grants-in-Aid (Seed Money)					
	382,500	4,680,000	6,693,750	9,056,250	20,812,500
	(1,811,750)**	--	--	--	--
3. Local Government					
a) Personnel (Salaries)					
	1,875,000	2,296,800	2,784,315	3,346,358	10,302,502
b) Operation and Administrative Costs					
	403,975	593,025	719,025	864,000	2,640,025
c) Training					
1) Staff Development					
	726,000	890,025	1,077,975	1,296,000	3,990,000
2) Water Service Cooperatives					
	726,000	890,025	1,077,975	1,296,000	3,990,000
d) Overhead Construction Costs					
	(8,475,000)**	--	--	--	--
4. Barangay Water Service Cooperatives and Committees***					
TOTALS	P16,667,700	P52,870,380	P68,037,240	P87,742,507	P223,317,820
GOP	P10,217,700	P17,117,880	P21,012,240	P25,942,507	P74,290,327
US	P6,450,000	P35,752,500	P47,025,000	P61,800,750	P151,027,500

*Non-aid costs. Sum is returned to the GOP on fixed amount reimbursable (FAR) basis

**Non-aid costs to BWP II. Figures represent seed money, project construction overhead, and FAK costs chargeable to BWP I commitments.

***Maintenance, repair and operation costs are borne by the respective Barangay Water Cooperatives. Line items include 10% escalation factor for inflation and 15% for contingencies.

GOP Contribution - 33%

US Contribution - 67%

Budget Line Item 1a - Capital Costs for System
Construction (See Attachment 1)

1981 (Total Funding)

265 Level I projects @ ₱10,000/project	₱ 2 650,000
40 Level II projects @ ₱318,125/project	12,725,000
63 Level III-A projects @ ₱200,000/project	<u>12,600,000</u>
	₱27,975,000
	US\$3,730,000

Of the ₱27,975,000 only ₱2,550,000 (\$340,000) will come from BWP II Loan. The rest are carryover funding from BWP I.

1982

478 Level I projects @ ₱11,000/project	₱ 5,258,000
30 Level II projects @ ₱342,135/project	10,264,000
71 Level III-A projects at ₱220,000/project	<u>15,678,000</u>
	₱31,200,000
	US\$4,160,000

1983

529 Level I projects at ₱12,000/project	₱ 6,348,000
54 Level II projects @ ₱406,610/project	21,957,000
68 Level III-A projects at ₱240,000/project	<u>16,320,000</u>
	₱44,625,000
	US\$5,950,000

1984

1031 Level I projects @ ₱12,500/project	₱12,887,500
16 Level II projects @ ₱441,400/project	6,237,500
165 Level III-A projects @ ₱245,000/project	<u>41,250,000</u>
	₱60,375,000
	US\$8,050,000

NOTE:

1. The following per capita costs and number of project beneficiaries were used in making the above projections:

<u>Level</u>	<u>Per Capita Cost</u>	<u>No. of Beneficiaries</u>	<u>Total Cost/Project</u>
I	₱ 50,000	200	₱ 10,000
II	220,000	1500	330,000
III-A	135,000	1500	200,000*

2. For the second, third and fourth years of the loan period, a 10% cumulative increase is added to the total project costs as allowance for increases in costs due to inflation.

3. A 15% contingency cost is included in the per capita cost for subprojects at each level by year.

*Rounded off

Budget Line Item 1b1 - Grant Technical Assistance/U.S.

1981

4 Institutional Contract Engineering Consultants x \$110,000 per annum (salaries, overhead, profit, in-country travel, per diem, etc.)	\$440,000
4 x \$10,000 - International travel and mobilization costs	<u>40,000</u>
	\$480,000

1982

4 Institutional Contract Engineering Consultants x \$120,000	\$480,000
---	-----------

Includes approximately 8% for inflation
and other increases.

1983

2 Institutional Contract Engineering Consultants x \$130,000	\$260,000
---	-----------

Includes approximately 8% for inflation
and other increases.

1984

1 Institutional Contract Engineering Consultant x \$130,000	\$130,000
--	-----------

NOTES:

Mobilization costs will be obligated in the first year
of loan but will be used to accommodate salary increases
beyond the 8% noted and contingencies as required through-
out the life of the loan.

Escalation costs for 1984 will be derived from mobilization
costs.

**Budget Line Item 1b₂ - Technical Assistance - Local Hire
and Research, Development, Evaluation
and Studies**

1981

4 Local Hire Consultants x \$4,000 per annum	\$16,000
plus	
\$4,000 for Research, Development, Evaluation and Studies	<u>\$ 4,000</u>
	\$20,000

1982

\$16,000 (4 Consultants) x .25 (.10% inflation and .15 contingency)	\$21,000(rounded)
plus	
\$39,000 Research, Development, Evaluation and Studies	<u>\$39,000</u>
	\$60,000

1983

\$21,000 (4 Consultants) x .25 (.10% inflation and .15 contingency)	\$26,500(rounded)
plus	
\$33,500 Research, Development, Evaluation and Studies	<u>\$33,500</u>
	\$60,000

1984

\$26,500 (4 Consultants) x .25 (.10% inflation and .15 contingency)	\$33,000(rounded)
plus	
\$27,000 Research, Development, Evaluation and Studies	<u>\$27,000</u>
	\$60,000

Budget Line Item 1c - Commodities

Item includes the purchase of training and engineering material and equipment necessary for more effective project operations.

<u>1981</u>	\$20,000
<u>1982</u>	<u>\$67,000</u>
	\$87,000

Budget Line Item 2a - Management Staff Salaries and Allowances

1981

27 persons at ₱1,200 ave./mo. for 12 months	₱388,800
7 persons at ₱1,297 ave./mo. for 12 months	<u>108,948</u>
	₱497,748
15% contingency	<u>74,727</u>
	₱572,475
	US\$76,330

1982

34 persons at ₱1,460 ave./mo. for 12 months	₱595,680
15% contingency	<u>106,959</u>
	₱684,975
	US\$91,330

1983

34 persons at ₱1,710 ave./mo. for 12 months	₱697,680
1 (new) at ₱1,278/mo. for 12 months	<u>15,336</u>
	₱713,016
15% contingency	<u>106,959</u>
	₱819,975
	US\$109,330

1984

45 persons at ₱1,900 ave./mo. for 12 months	₱819,000
15% contingency	<u>123,975</u>
	₱942,975
	US\$125,730

NOTE: The yearly absolute increases in salaries include allowances for inflation (10%) and normal increases in salaries due to promotions, additional year of service, etc. A total of eight new personnel will be added to the Staff, seven in 1981 and one in 1983.

Budget Line Item 2b1 - Technical Assistance - Engineering

Technical Assistance

A. Engineering Services

Basic Formula:

(Average Engineering Service Cost per LGU x number of LGUs) + 15% Contingency)

Where:

- a. Average Engineering Service Cost includes overhead cost, profit, training, salaries and travel expenses of A & E personnel to and from LGUs. A 10% allowance for inflation is included in this figure but the rate of increase percentage wise, is not constant because the base figure varies each year depending upon the technical assistance requirements of the LGUs. This is determined by number and location of subprojects to be planned and constructed and number and distances to participating local government units.

1981

(P47,420 x 44) + P313,038	P2,400,000
	US\$320,000

1982

(P52,238 x 49) + P391,299	P3,000,000
	US\$400,000

1983

(P56,363 x 54) + P456,540	P3,500,175
	US\$466,690

1984

(P58,953 x 59) + P521,734	P3,999,975
	US\$533,330

Budget Line Item 2b₂ - Technical Assistance - Community
Organization and Training

1981

(P19,713 x 44) + 15% P997,500
US\$133,000

1982

(P26,619 x 49) + 15% P1,500,000
US\$200,000

1983

(P24,154 x 54) + 15% P1,500,000
US\$200,000

1984

(P29,477 x 59) + 15% P2,000,025
US\$266,670

Basic Formula:

(Average Organization and Training Expense per LGU x
No. of LGU + 15% contingency)

Where:

The average organization and training expense per LGU includes estimated salaries and travel expenses of the contracted firm's personnel, overhead, profit and training expense. A 10% allowance for inflation is included in these estimates.

NOTE:

The basic cost per LGU in 1983 is less than that in 1982 (P24,154 vs. P26,619) primarily because a significant portion of the organizational and training load will be shifted to the LGUs themselves. The subsequent reduction in the volume of work on the part of the contracted firm accounts for the reduced unit cost.

In 1984 the unit cost rises again to P29,477 due to a steep increase in the number of projects to be implemented, a 95% increase for Level I, 49% for Level II and 80% for Level III-A, as against a 27% reduction in 1982, and then increases of 10%, 20% in 1983.

Budget Line Item 2c - Operations and Administration Support

1981

44 LGUs at ₱29,688/LGU	₱1,306,305
15% Contingency	<u>195,945</u>
	₱1,502,250
	US\$200,300

1982

49 LGUs at ₱35,386/LGU	₱1,733,935
15% Contingency	<u>260,090</u>
	₱1,994,025
	US\$265,870

1983

54 LGUs at ₱35,314/LGU	₱1,906,956
15% Contingency	<u>286,043</u>
	₱2,193,000
	US\$292,400

1984

59 LGUs at ₱36,025/LGU	₱2,124,326
15% Contingency	<u>318,649</u>
	₱2,442,975
	US\$325,730

NOTE:

Considering an inflation factor of 10%, there is actually a decrease in real terms of the basic cost for administration and operational support. This is because the LGUs will increasingly assume a greater share of the monitoring and supervision requirements of the Program at the local level over the loan period. This means fewer field visits per local government unit by the Project Management Staff personnel and, therefore, reduction will occur in travel costs which is a part of the project administrative support costs.

Budget Line Item 2d₁ - Training - Local Government Personnel

1981

354 personnel x P1,301/training cost/personnel	P460,890
15% contingency	<u>69,135</u>
	P530,025
	US\$70,670

1982

384 personnel x P1,279/training cost/personnel	P491,136
15% contingency	<u>73,839</u>
	P564,975
	US\$75,330

1983

414 personnel x P1,302/training cost/personnel	P539,028
15% contingency	<u>80,997</u>
	P620,025
	US\$82,670

1984

444 personnel x P1,312/training cost/personnel	P582,528
15% contingency	<u>87,447</u>
	P669,975
	US\$89,330

NOTE:

For the four year period, the per capita cost for training remains relatively at the same level. As experienced in BWP I, the unit training cost decreases as the number of personnel programmed for training increases. However, because of the inflation factor, the unit cost used in these projections remains steady.

Budget Line Item 2d₂ - Project Management Staff Development

This item provides financing for attendance of PMS personnel to special seminars, trainings and graduate studies designed to enhance their performance and effectiveness. The 1981 estimate is projected from the BWP I implementation years. The subsequent annual projections include a 10% inflationary increase and 15% contingency factor.

Budget Line Item 2e - Peso Reimbursement for Direct Construction Cost

This line item represents initial funding allocations for project construction. It is a non-add cost to the project and does not constitute a GOP contribution as the amount is later returned to the government on a fixed amount reimbursable basis.

Budget Line Item 2f - Grants-in-Aid (Seed Money)

As part of its financial assistance to LGU's, the Program provides seed money to participating provinces and cities equivalent to 15% of the subproject costs. This is a net national government contribution to the project and is not repaid or reimbursed by USAID.

Budget Line Item 3a - Local Government Personnel

1981

44 LGUs at ₱37,055/year/LGU	₱1,630,420
15% contingency	<u>244,580</u>
	₱1,875,000
	US\$250,000

1982

49 LGUs at ₱40,760/year/LGU	₱1,997,240
15% contingency	<u>299,590</u>
	₱2,296,830
	US\$306,244

1983

59 LGUs at ₱44,836/year/LGU	₱2,421,144
15% contingency	<u>363,171</u>
	₱2,784,315
	US\$371,242

1984

59 LGUs at ₱49,320/year/LGU	₱2,909,880
15% contingency	<u>436,478</u>
	₱3,346,358
	US\$448,181

NOTE: Figures above reflect 10% annual increases for inflation.

Budget Line Item 3b - Local Government Operations and Administrative Costs

1981

44 LGUs at ₱9,564.7/year/LGU	₱420,848
15% contingency	<u>63,127</u>
	₱483,975
	US\$64,530

1982

49 LGUs at ₱10,524/year/LGU	₱515,676
15% contingency	<u>77,349</u>
	₱593,025
	US\$79,070

1983

54 LGUs at ₱11,578.5/year/LGU	₱625,239
15% contingency	<u>93,786</u>
	₱719,025
	US\$95,870

1984

59 LGUs at ₱12,735/year/LGU	₱751,304
15% contingency	<u>112,696</u>
	₱864,000
	US\$115,200

NOTE:

The unit cost for operations and administration already includes a 10% allowance for inflation.

Budget Line Item 3c₁ - Training - Staff Development

1981

354 personnel x ₱1,783.34/personnel/year	₱631,304
15% contingency	<u>94,696</u>
	₱726,000
	US\$96,800

1982

384 personnel x ₱2,015.45/personnel/year	₱773,934
15% contingency	<u>116,091</u>
	₱890,025
	US\$118,670

1983

414 personnel x ₱2,264.17/personnel/year	₱937,369
15% contingency	<u>140,606</u>
	₱1,077,975
	US\$143,730

1984

444 personnel x ₱2,538.19/personnel/year	₱1,126,956
15% contingency	<u>169,044</u>
	₱1,296,000
	US\$172,800

NOTE:

The above costs are the LGUs' counterpart for staff development training. The costs include personnel's travelling expenses and registration fees. The unit training cost per personnel includes an estimated 10% allowance for inflation.

Budget Line Item 3c₂ - Community Cooperative Development

1981

44 LGUs at ₱14,347.8/LGU/year	₱631,304
15% contingency	<u>94,696</u>
	₱726,000
	US\$96,800

1982

49 LGUs at ₱15,794.6/LGU/year	₱773,934
15% contingency	<u>116,091</u>
	₱890,025
	US\$118,670

1983

54 LGUs at ₱17,358.7/LGU/year	₱937,370
15% contingency	<u>140,605</u>
	₱1,077,975
	US\$143,730

1984

59 LGUs at ₱19,000/LGU/year	₱1,126,957
15% contingency	<u>169,043</u>
	₱1,296,000
	US\$172,800

NOTE:

The LGUs will use the above money to fund the various training programs targetted for the Water Service Cooperatives and Water User Committees, e.g. informational meetings, organizational trainings, pre-operational and post-completion trainings. The expense items include training materials, training staff's travelling allowances and per diems, and other miscellaneous expenses.

Budget Line Item 3d - Overhead Construction Costs

NOTE:

This figures include local government overhead construction costs based on formula used under BWP I. Costs are chargeable to BWP I.

Budget Line Item 4 - Barangay Water Service Cooperatives

NOTE:

Cost at the Barangay level such as, O & M expenses, Loan Amortization, Contingencies and reserves, and component replacement parts are derived from user water fees and are external to the project.

ATTACHMENT #1

Local Government Tentative Allocations
(Per Province/City, By Level, Per Year)

PROV/CITY:	1981		1982		1983		1984		Totals	
	Alloc	No.	Alloc	No.	Alloc	No.	Alloc	No.	Alloc	No.
<u>AKLAN</u>										
Level I:		11		26		9		32		78
II:	1.5	3	2.0	3	2.25	3	2.5	2	8.25	11
IIIA:		2		3		4		5		14
<u>BATANGAS</u>										
Level I:		11		37		24		7		79
II:	1.5	3	1.75	2	2.0	2	2.25	2	7.5	9
IIIA:		2		3		4		5		14
<u>BULACAN</u>										
Level I:		11		37		24		7		79
II:	1.5	3	1.75	2	2.0	2	2.25	2	7.5	9
IIIA:		2		3		4		5		14
<u>PANGASINAN</u>										
Level I:		7		34		31		8		80
II:	1.0	1	1.5	2	1.75	3	2.0	2	6.25	8
IIIA:		3		2		1		4		10
<u>BATAAN</u>										
Level I:		11		9		14		9		43
II:	1.5	3	1.25	2	1.5	1	1.75	2	6.0	8
IIIA:		2		2		4		3		11
<u>CAPIZ</u>										
Level I:		17		9		12		21		59
II:	0.7	1	0.75	0	1.0	1	1.25	0	3.7	2
IIIA:		1		3		1		4		9
<u>DAVAO N.</u>										
Level I:		11		26		9		32		78
II:	1.5	3	2.0	3	2.25	3	2.25	2	8.25	11
IIIA:		2		3		4		5		14
<u>ILOILO</u>										
Level I:		11		6		13		2		32
II:	1.5	3	1.0	2	1.25	1	1/5	1	5/25	7
IIIA:		4		1		3		4		12

PROV/CITY:	1981		1982		1983		1984		Totals	
	Alloc.	No.	Alloc.	No.	Alloc.	No.	Alloc.	No.	Alloc.	No.
<u>LA UNION</u>										
Level I:		17		9		12		21		59
II:	0.7	1	0.75	0	1.0	1	1.25	0	3.7	2
IIIA:		1		3		1		4		9
<u>MISAMIS OR.</u>										
Level I:		7		9		12		21		49
II:	1.0	1	0.75	0	1.0	1	1.25	0	4.0	2
IIIA:		3		3		1		4		11
<u>PALAWAN</u>										
Level I:		11		6		14		2		32
II:	1.5	3	1.0	2	1.25	1	1.5	1	5.25	7
IIIA:		2		1		3		4		10
<u>SO. COTABATO</u>										
Level I:		11		34		31		8		84
II:	1.5	3	1.75	2	1.75	3	2.0	2	6.75	10
IIIA:		2		2		1		4		9
<u>AGUSAN SUR</u>										
Level I:		17		6		11		22		56
II:	0.7	1	0.5	0	0.75	1	1.0	0	2.95	2
IIIA:		1		2		1		3		7
<u>DUTUAN CITY</u>										
Level I:		0		6		11		22		39
II:	0.4	0	0.5	0	0.75	1	1.0	0	2.65	1
IIIA:		2		2		1		3		8
<u>CAG. DE ORO CITY:</u>										
Level I:		0		4		6		22		32
II:	0.4	0	0.4	1	0.7	1	1.0	0	2.5	2
IIIA:		2		0		1		3		6
<u>CAMARINES SUR</u>										
Level I:		17		9		12		21		59
II:	0.7	1	0.75	0	1.0	1	1.25	0	3.7	2
IIIA:		1		3		1		4		9
<u>CEBU</u>										
Level I:		17		9		12		21		59
II:	0.7	1	0.75	0	1.0	1	1.25	0	3.7	2
IIIA:		1		3		1		4		9
<u>DAGUPAN CITY</u>										
Level I:		0		4		6		22		32
II:	0.4	0	0.4	1	0.7	1	1.0	0	2.5	2
IIIA:		2		0		1		3		6

PROV/CITY	1981		1982		1983		1984		Totals	
	Alloc	No.	Alloc	No.	Alloc	No.	Alloc	No.	Alloc	No.
GENERAL SANTOS CITY										
Level I:	0		4		6		22		32	
II: 0.4	0	0.4	1	0.7	1	1.0	0	2.5	2	
IIIA:	2		0		1		3		6	
MINDORO ORIENTAL										
Level I:	0		6		11		22		39	
II: 0.4	0	0.5	0	0.75	1	1.0	0	2.65	1	
IIIA:	2		2		1		3		8	
NAGA CITY:										
Level I:	0		4		14		22		37	
II: 0.4	0	0.4	1	0.75	1	1.0	0	2.55	2	
IIIA:	2		0		1		3		6	
PAMPANGA										
Level I:	17		6		6		22		61	
II: 0.7	1	0.5	0	0.7	1	1.0	0	2.9	2	
IIIA:	1		2		1		3		7	
P. PRINCESA CITY										
Level I:	0		6		6		22		34	
II: 0.4	0	0.5	0	0.7	1	1.0	0	2.6	1	
IIIA:	2		2		1		3		8	
QUEZON										
Level I:	17		6		6		22		51	
II: 0.7	1	0.5	0	0.7	1	1.0	0	2.9	2	
IIIA:	1		2		1		3		7	
ROXAS CITY										
Level I:	0		6		6		22		34	
II: 0.4	0	0.5	0	0.7	1	1.0	0	2.6	1	
IIIA:	2		2		1		3		8	
SAMAR										
Level I:	17		6		6		22		51	
II: 0.7	1	0.5	0	0.7	1	1.0	0	2.9	2	
IIIA:	1				1		3		7	
ZAMBALES										
Level I:	17		6		6		22		51	
II: 0.7	1	0.5	0	0.7	1	1.0	0	2.9	2	
IIIA:	1		2		1		3		7	

PROV/CITY	1981		1982		1983		1984		Totals	
	Alloc	No.	Alloc	No.	Alloc	No.	Alloc	No.	Alloc	No.
ABRA										
Level I		0		6		11		22		39
II	0.4	0	0.5	0	0.75	1	1.0	0	2.65	1
IIIA		2		2		1		3		8
AGUSAN N.										
Level I		0		6		11		22		39
II	0.4	0	0.5	0	0.75	1	1.0	0	2.65	1
IIIA		2		2		1		3		8
ALBAY										
Level I		0		6		11		22		39
II	0.4	0	0.5	0	0.75	1	1.0	0	2.65	1
IIIA		2		2		1		3		8
ANGELES CITY										
Level I		2		4		6		22		34
II	0.35	1	0.4	1	0.7	1	1.0	0	2.45	3
IIIA		0		0		1		3		4
BATANGAS CITY										
Level I		2		4		6		22		34
II	0.35	1	0.4	1	0.7	1	1.0	0	2.45	3
IIIA		0		0		1		3		4
CAGAYAN										
Level I		0		4		12		21		37
II	0.4	0	0.7	0	1.0	1	1.25	0	3.35	1
IIIA		2		3		1		4		10
LEGASPI CITY										
Level I		2		4		6		22		34
II	0.35	1	0.4	1	0.7	1	1.0	0	2.45	3
IIIA		0		0		1		3		4
LUCENA CITY										
Level I		2		4		6		22		34
II	0.35	1	0.4	1	0.7	1	1.0	0	2.45	3
IIIA		0		0		1		3		4
MINDORO OCCIDENTAL										
Level I		0		6		6		22		34
II	0.4	0	0.5	0	0.7	1	1.0	0	2.6	1
IIIA		2		2		1		3		8
SORSOGON										
Level I		0		6		6		22		34
II	0.4	0	0.5	0	0.7	1	1.0	0	2.6	1
IIIA		2		2		1		3		8
TANGUB CITY										
Level I		2		4		6		22		34
II	0.35	1	0.4	1	0.7	1	1.0	0	2.45	3
IIIA		0		0		1		3		4

PROV/CITY	1981		1982		1983		1984		Totals	
	Alloc.	No.	Alloc.	No.	Alloc.	No.	Alloc.	No.	Alloc.	No.
ZAMBOANGA CITY										
Level I		0		4		6		22		31
II	0.325	0	0.4	1	0.7	1	1.0	0	2.45	2
IIIA		2		0		1		3		6
40										
Level I				18		6		22		46
II			0.4	0	0.7	1	1.0	0	2.1	1
IIIA				1		1		3		5
41										
Level I				18		6		22		46
II			0.4	0	0.7	1	1.0	0	2.1	1
IIIA				1		1		3		5
42										
Level I				18		6		22		46
II			0.4	0	0.7	1	1.0	0	2.1	1
IIIA				1		1		3		5
43										
Level I				18		6		22		46
II			0.4	0	0.7	1	1.0	0	2.1	1
IIIA				1		1		3		5
44										
Level I				18		6		22		46
II			0.4	0	0.7	1	1.0	0	3.1	1
IIIA				1		1		3		5
45										
Level I						16		18		34
II					0.4	0	0.7	0	1.1	0
IIIA						1		2		3
46										
Level I						16		18		34
II					0.4	0	0.7	0	1.1	0
IIIA						1		2		3
47										
Level I						16		18		34
II					0.4	0	0.7	0	1.1	0
IIIA						1		2		3

PROV/CITY	1981	1982	1983	1984	Totals	
	Alloc. No.	Alloc. No.	Alloc. No.	Alloc. No.	Alloc.	No.
48						
Level I			16	18		34
II			0.4	0	0.7	1.1
IIIA			1	2		3
49						
Level I			16	16		34
II			0.4	0	0.7	1.1
IIIA			1	2		3
50						
Level I				14		14
II				0.4	0	0.4
IIIA						1
51						
Level I				14		14
II				0.4	0	0.4
IIIA				1		1
52						
Level I				14		14
II				0.4	1	0.4
IIIA				1		1
53						
Level I				14		14
II				0.4	0	0.4
IIIA				1		1
54						
Level I				14		14
II				0.4	0	0.4
IIIA				1		1
55						
Level I				14		14
II				0.4	0	0.4
IIIA				1		1

LEVEL:	1981	1982	1983	1984	Totals
I	265	478	529	1031	2303
II	\$27,975	\$31.2	\$44,625	\$60,375	140
IIIA: (\$3.73)*	63	(\$4.15)	71	(\$8.03)	165
					(\$21.87)
					367

SUMMARY FOR BWP II

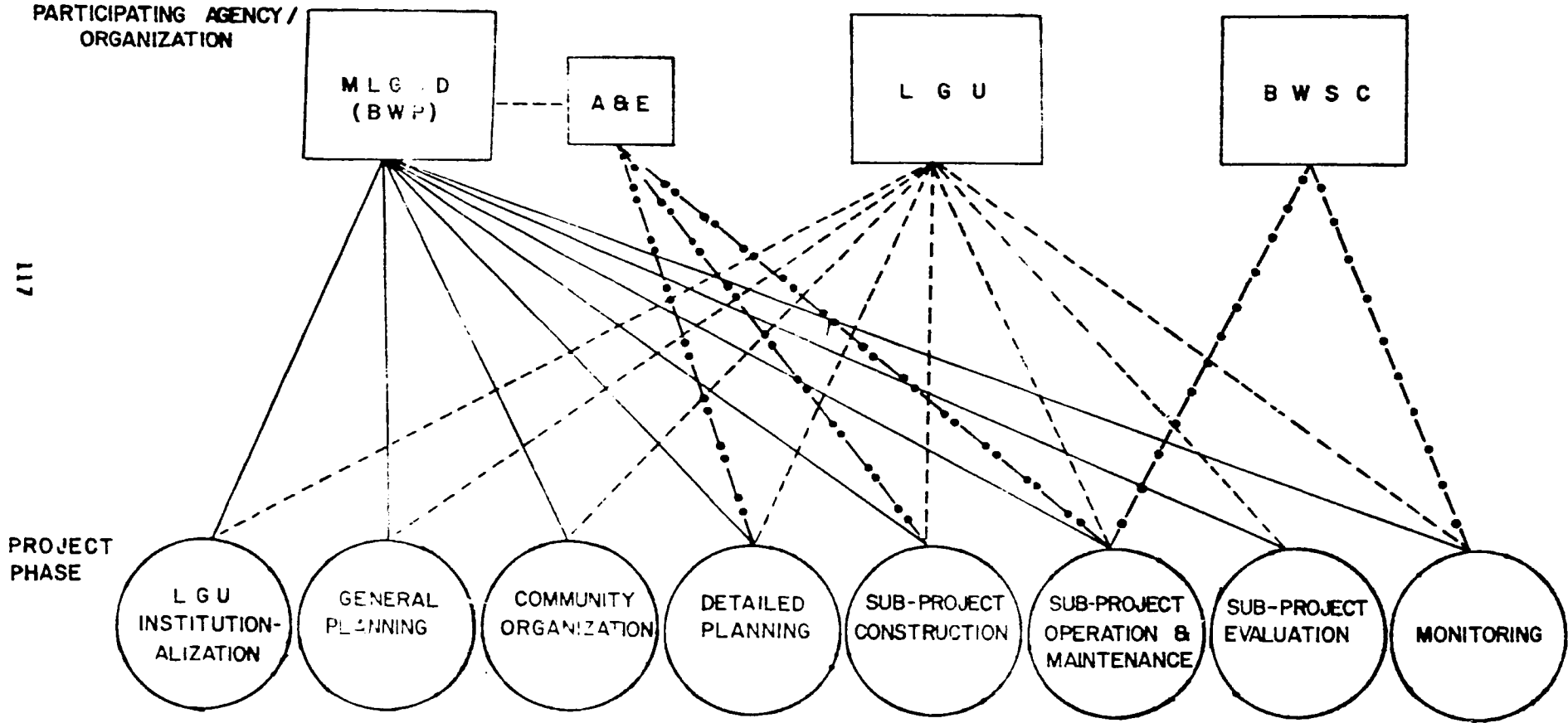
	1981	1982	1983	1984	Total
LEVEL: Benefi- ciaries	Benefi- ciaries	Benefi- ciaries	Benefi- ciaries	Benefi- ciaries	Benefi- ciaries
I	265(53,000)	478(95,600)	529(105,800)	1031(206,200)	2303(460,500)
II	40(60,000)	30(45,000)	54(81,000)	16(24,000)	140(210,000)
III-A	63(94,500)	71(106,500)	68(102,000)	165(247,500)	367(550,500)

Facilities $\frac{265}{103}$ (207.5) $\frac{478}{101}$ (247.1) $\frac{529}{122}$ (288.8) $\frac{1031}{181}$ (477.7) $\frac{2303}{507}$ (1221.1)
Systems
 (Benefi-
 ciaries
 in 000's)

*Only (\$3.4M) 2,550,000 will be charged to BWP II

ANNEX S
SCOPE OF MONITORING RESPONSIBILITIES

**SCOPE OF MONITORING RESPONSIBILITIES
(BY SUB-PROJECT PHASE)**



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