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DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT
Washington, D.C. 20523

271A

PROJECT PAPER

Proposal and Recommendations
For the Review of the
Development Loan Committee

PHILIPPINES - BARANGAY WATER

AID-DLC/P-2280

UNCLASSIFIED

DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON, D.C. 20523

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AID-DLC/P-2280

February 24, 1978

MEMORANDUM FOR THE DEVELOPMENT LOAN COMMITTEE

SUBJECT: Philippines - Barangay Water

Attached for your review are recommendations for authorization of a loan to the Government of the Philippines in an amount not to exceed Three Million United States Dollars ($3,000,000) to help in financing certain foreign exchange cost of goods and services required for the project.

No meeting is scheduled for this loan proposal. However, please advise us of your concurrence or objections as early as possible, but in no event later than close of business on Friday, March 3, 1978. If you are a voting member, a poll sheet has been enclosed for your response.

Development Loan Committee
Office of Development Program
Review and Evaluation

Attachments:
Summary and Recommendations
Project Analysis
Annexes A - O

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BARANGAY WATER PROJECT

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PART I - SUMMARY AND RECOMMENDATIONS

AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT PAPER FACESHEET

1. TRANSACTION CODE: A (A = ADD, C = CHANGE, D = DELETE)

PP

2. DOCUMENT CODE: 3

3. COUNTRY/ENTITY: Philippines

4. DOCUMENT REVISION NUMBER:

5. PROJECT NUMBER (7 digits): 492-0291

6. BUREAU/OFFICE: A. SYMBOL: ASIA; B. CODE: 04

7. PROJECT TITLE (Maximum 40 characters): BARANGAY WATER PROJECT

8. ESTIMATED FY OF PROJECT COMPLETION: FY 80

9. ESTIMATED DATE OF OBLIGATION: A. INITIAL FY 78; B. QUARTER 1; C. FINAL FY 79 (Enter 1, 2, 3, or 4)

10. ESTIMATED COSTS ($000 OR EQUIVALENT $1)

A. FUNDING SOURCE	FIRST FY 78 B. FX	C. L/C	D. TOTAL	LIFE OF PROJECT E. FX	F. L/C	G. TOTAL
AID APPROPRIATED TOTAL	3,100		3,100	3,184		3,184
(GRANT)	(100)	( )	(100)	(184)	( )	(184)
(LOAN)	(3,000)	( )	(3,000)	(3,000)	( )	(3,000)
OTHER U.S. 1.						
OTHER U.S. 2.						
HOST COUNTRY						3,179
OTHER DONOR(S)						
TOTALS						6,363

11. PROPOSED BUDGET APPROPRIATED FUNDS ($000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	PRIMARY TECH. CODE C. GRANT	D. LOAN	E. 1ST FY 78 F. GRANT	G. LOAN	H. 2ND FY 79 I. GRANT	J. LOAN	K. 3RD FY 80 L. GRANT	M. LOAN
(1) PH	519	250	545	100	3,000	84	-	-	-
(2)									
(3)									
(4)									
TOTALS									

A. APPROPRIATION	N. 4TH FY ___ O. GRANT	P. LOAN	Q. 5TH FY ___ R. GRANT	S. LOAN	LIFE OF PROJECT T. GRANT	U. LOAN
(1)					184	3,000
(2)						
(3)						
(4)						
TOTALS						

12. IN DEPTH EVALUATION SCHEDULED: MM YY 10 79

13. DATA CHANGE INDICATOR. WERE CHANGES MADE IN THE PID FACESHEET DATA BLOCKS 12, 13, 14, OR 18 OR IN PRP FACESHEET DATA, BLOCK 12? IF YES, ATTACH CHANGED PID FACESHEET.

2 (1 = NO, 2 = YES)

14. ORIGINATING OFFICE CLEARANCE

SIGNATURE: William A. Sommers

TITLE: Assistant Director for Provincial Development

DATE SIGNED: MM 04 DD 06 YY 77

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

AID 1330-4 (3-76)

B. Recommendations

It is recommended that a loan of $3,000,000 be authorized to the Government of the Philippines (Borrower) for the Barangay Water Project to be implemented through the Department of Local Government and Community Development (an entity of the National Government). The total amount of the authorized loan is to be obligated in FY 1978.

Terms:

1. Maturity: Twenty years including a ten year grace period.

2. Interest: Two percent per annum during the grace period and three percent per annum thereafter.

3. Currency: Interest and principal repayable in U.S. dollars.

C. Description of the Project:

Community water systems in most of the Philippines are either non-existent, woefully inadequate, or provide water which is considered unsafe for human consumption. Studies indicate that approximatelly 80% of the population lives outside an organized system altogether. The remaining 20% of the population that does come under the jurisdiction of a water sys is in one way or another seriously inconvenienced or beset by a host of problems related to the provision of an adequate quantity and an acceptable quality of potable water.

Most of the water utilities serving provincial communities were constructed in the 1940's. Since that time, the migration from more remote rural areas and the normal growth in population have increased the size of the barangays many times over. Without exception, the utilities have not been expanded to keep pace with the resultant population growth. These factors, together with the failure to adequately maintain the previously constructed facilities have reduced the capabilities of the utilities to meet the needs of today's consumers.

The Barangay Water Project is a rural program. It aims at providing domestic water to small rural communities ranging from 300-5000 people in size.

The objective of the program is to improve the general health and productivity in the areas to be serviced by the Project and in so doing improve the quality of life.

A more specific and intermediate objective is to establish the capability of selected local governments to identify, plan, organize, and install functional barangay cooperative water systems with an indigenous maintenance capacity to provide safe, reliable, low-cost water through small systems with appropriate technology and organization.

The Project will be developed through the Provincial Development Assistance Project (PDAP) and the Department of Local Government and Community Development (DLGCD) working in close cooperation with pertinent national and international agencies and the respective participating provinces and barangays. Both PDAP and DLGCD are well established, on-going organizations. Furthermore, they have demonstrated both the institutional capacity and the procedural means to execute relatively sophisticated infrastructure projects. It is anticipated that a minor addition of personnel will be required by DLGCD at the national level. The participating provinces will also be required to increase both their planning and technical capacity in order to conduct feasibility studies, prepare project design, train local institutions, and implement the construction of the subprojects themselves.

The individual subprojects to be undertaken at the community level will emanate from the communities and be placed in the Provincial Water Resource Development Plans. The latter will be an integral part of the overall provincial comprehensive development plans. Subprojects that are identified, deemed technically sound, economically feasible, acceptable to the provincial Sangguniang Panlalawigans, and which meet the criteria outlined by DLGCD will be eligible for funding.

Training will be an essential element of the Project. It will be offered on an on-going basis to both the participating provinces and the barangay water associations through DLGCD.

Participating provinces will number 15 in FY 78; 20 in FY 79; and 25 in FY 80.

The Project will be funded under a $3,000,000 Loan to be administered as follows: 1) The participating provincial government utilizing their own funds based on the fixed amount reimbursible basis; 2) When subprojects are satisfactorily completed, the provinces will be reimbursed by DLGCD under P.D. 144 funding; 3) DLGCD will subsequently submit claims to the USAID Controller in Manila for incremental amounts corresponding to the draw-down of P.D. 144 disbursements to provinces; 4) Upon approval by the

Controller, the General Disbursing Officer of the U.S. Mission will issue a peso check to the DLGCD for the authorized amount of the draw-down.

Technical assistance will be provided for the life of the Project through the Office of the Assistant Director for Provincial Development.

Over the three-year life of the Project, up to 480 water associations are expected to be organized and trained.

The total cost of the Project for the three-year period of 1978, 1979, and 1980 will be $6,363,000 with the U.S. government providing $3,184,000 or 50.1%, and the GOP contributing a peso equivalent of $3,179,000, or 49.9% of the total cost of the Project.

D. Summary of Findings

1) General

Most rural areas of the Philippines have no water systems at all. Existing waterworks facilities in the countryside are inadequate and unreliable. The water produced by such systems is unsafe for human consumption. The facilities are rundown and in constant disrepair.

Field observations show that most water distribution systems have old inadequately sized pipe with considerably reduced capacities resulting in low pressure and frequent discontinued service. Furthermore, approximately two-thirds of the water produced by existing systems is not sold or billed to customers at all. Most of such water is lost or unaccounted for due to wastage or leakage in the transmission and distribution systems.

There are also serious organizational problems associated with the administration of rural water systems. In the majority of the cases there is no formal organization at all. Generally, the responsibility to maintain, operate, and manage systems is relegated to an individual with political, civic, or civil-service motivations. Thus, the collection of water fees is so low that not even operational expenses are covered by such revenues.

Water resources, both surface and ground water, are available and in most cases plentiful; but water handling facilities, small in-take structures, transmission mains, storage tanks, distribution piping have to be planned, engineered, and constructed in order to convey water from where it is to the demand centers.

In connection with the construction of facilities, the communities themselves, (the water users associations must be organized and trained so that they can continue the systems on a self-sustaining basis once systems are in-place and operational.

The demand for water is already great in the small communities targeted under this Project. This demand will increase exponentially as the population grows. Accordingly, the health and productivity problems emanating from the lack of adequate water supplies will become even more acute as the population increases.

2) Summary of Technical Analysis

The Barangay Water Project is technically sound. The required engineering capability at both the national and provincial levels exists to design, construct, and perform follow-up guidance of completed subprojects of the kind visualized under the Project. Some additional staff personnel will be required at the provincial level and specialized training of both existing and to be recruited personnel is considered essential. The engineering base upon which to build, however, is in place and the Project has both contemplated and projected training courses considered appropriate to meet the additional technical requirements.

The communities to be served by the Project are small. Likewise the subprojects are small and relatively unsophisticated. Thus, both the level of technology and the price of the individual subprojects appears to be reasonable. With respect to subproject costs, it should be noted that the cost of materials has increased by one-third since the planning of this Project began. Thus, the number of subprojects visualized originally under this Project will be reduced. If this trend continues, building costs will triple by the concluding phase of project implementation.

From an enginnering point of view, the subprojects are replicable. Essentially, the Project Management Staff has studied the characteristics of existing systems in small Philippine communities and improved upon the prevailing design. This is a valid approach elsewhere in the world and with good management it should also prove productive in the Philippines. (See Part III of this Paper "Technical Analysis", and Annex B1, "Design Guidance", for additional technical information regarding the Project).

3) Summary of Social Analysis

The Barangay Water Project will initially operate in selected rural barangays in up to 28 provinces located throughout the Philippines. The Project's potential scope is nation-wide. It will encompass people from almost every religious and cultural group

in the country. The vast majority of the people to be affected by the Project, however, are Christian lowland Filipinos (88% of the population) whose culture is relatively homogenous despite the fact that they are splitted into seven major regional language groups. The Moslem minority (4.32% of the population) has no cultural differences from the Christian majority insofar as water is concerned, nevertheless, special considerations will have to be employed while working in Moslem barangays so that the Project May be adaptable to the Moslem culture and mores. The pagan cultural minorities (who constitute roughly 7% of the population) are rarely found in large enough numbers to be covered by the potential scope of this Project. When they are attended, special considerations will also be made to adapt the Project to their specific sub-culture and mores.

Motivation for the Project and for the cooperative approach appears to be very high from the results of field research done to date. Potable water projects have long been popular infrastructure projects in the Philippines. The leadership, according to field research of the various rural barangays is strongly behind the Project and has replied very favorably to the cooperative approach. Experience with water districts through the Local Water Utilities Administration (LWUA) in towns and cities of 30,000 population and up, and with the rural electrification cooperative projects through the National Electrification Administration (NEA) has also been encouraging and points to the viability of such an approach through local owner-user organizations.

4) Summary of Economic and Financial Analyses

The methodology for evaluating subprojects under this Project is presented in Part III of this Paper. It clearly establishes the potential economic benefits that will be derived by the country in executing a Project of this nature. The aggregate manhours and manpower saved, the summation of benefits from induced agricultural production, the total savings in medical costs which will result in savings of foreign exchange; the flow of foreign exchange earmarked for the Project itself; and the utilization of local resources (manpower and local materials) will all be significant factors favoring the overall economic development of the nation.

To quote a recent "Research Paper on Village Water Supply and Sanitation in Lesser Developed Countries", sponsored by the World Bank:

> "A country will experience an increase in over-all economic activity as a result of Water Supply Programs if at a given time, (a) a portion

of the funds which are needed for rural water supply investment are obtained from sources outside the country (such as an international agency), (b) if these funds would not have flowed into the country except for rural water supply programs, and (c) if the country is not operating with all of its resources fully employed. At the minimum, the increase in the country's economic activity or output will be equal to that proportion of the increase in direct program expenditures which are financed by outside sources plus the increase in indirect expenditures made by those newly employed in the program and those directly, or indirectly supplying services, equipment, and materials to the Project."

All of the above conditions are met by the Barangay Water Project.

Furthermore, this Project, being a low-cost water supply project and a subsidized program will effect redistribution of income which is also a prime national economic objective.

A deeper investigation of the project will reveal that it will not only provide potable water, which is badly needed in the rural areas, but that it will also strengthen the nation's capacity for capital formation. Investment in water supply infrastructure scale industries and agri-business opportunities whose major requirement is water. This Project will additionally contribute to the solution of the perennial problem of rural-to-urban migration which is heavily taxing the national economy in terms of providing even minimal services, facilities, or employment to people who conglomerate in the urban centers.

The Barangay Water Project will help to promote the tourism industry of the country. Tourists are not readily attracted to countries with a high incidence of diseases nor will they be encouraged to visit the rural areas of a country in the absence of basic services. Therefore, the direct effect of this Project, the reduction of the incidence of these diseases, will also have an indirect effect on the tourism industry that brings necessary foreign exchange into the country. (See Part III, Section "D" of this Paper for a complete review of both the economic and financial aspects of the Project).

5) Conclusion

The implementation of a well planned, well organized, and properly engineered, rural water supply project is feasible from technical, social, and both economic and financial viewpoints. (See Part III of this Paper for a detailed discussion of the technical, economic, financial and social soundness analyses).

The engineering design policies and design standards to be followed by the proposed Project are both reasonable in terms of price and appropriate in terms of the level of technology to be applied. The systems will have replicability. As pointed out by the "Social Soundness Analysis," the difficulty in replication will be the limited ability of the government to respond satisfactorily to the overwhelming popular demand for such projects. The quantifiable economic and financial benefits of the Project exceed the known costs of developing such water supply systems. The non-quantifiable benefits are also significant.

There is an acknowledged need to upgrade and train personnel involved in planning, designing, and constructing small water supply systems. Moreover, there is a need to strengthen the capacity at the barangay level to manage, maintain and operate community-owned water systems.

The Project is designed to specifically address such planning, engineering, managerial and organizational problems. The following pages spell out in detail the rural water problem, the approach to be used in its solution, and the organizations, personnel, procedures and other resources to be employed in undertaking the Barangay Water Project.

E. Project Issues

No major issues were raised in prior reviews of the Barangay Water Project. Concerns about several points, however, were shown. They have been resolved as follows:

1) APAC expressed concern about the replicability of the Barangay Water, Rural Roads, and Real Property Tax Administration Projects in Unclas State 291155. (See Annex A2).

The concern was resolved by TO AID 25. (See Annex A3 and A4).

2) In paragraph A of Unclas State 283569, APAC advised of Congressional concern over potable water projects as expressed in 1976 S.A.C. Report, pages 50 and 51, "although availability of potable water is basic health need, the size of development

undertaking is massive and consequently financial assistance should be sought from international lending institutions." (See Annex A1, Unclas State 283569).

The Mission is aware of congressional concerns regarding the undertaking of domestic water projects. The Mission also concurs that the magnitude of the problem merits massive funding generally more readily available through international lenders than from USAID.

The approach under the Barangay Water Project is to make a relatively small amount of money, $3 million, available to the GOP, provide technical assistance, and develop a strategy that will maximize the current use of national resources both human and financial in establishing an institutional structure, replete with attendant personnel and administrative procedures, thus permitting a systematic, orderly, and effective application of massive funding to be provided later through international lending institutions. To this end, the Mission has already sought the assistance of the World Health Organization (WHO) and the World Bank. WHO has assisted with valuable comments and advice in the preparation of the Project Paper, is currently providing technical assistance to the Project on a consulting basis through its advisors to the Department of Health (DOH), and has agreed to make available full-time technical assistance to the Project if requested by the GOP.

A number of meetings with Washington based World Bank personnel have been also held in order to discuss their possible future involvement in the Project. Bank representatives and consultants for water resource development have indicated a desire to participate in the Project from the outset.

A strategy is now being adopted as follows:

1. Initial funding will be provided as proposed within this Loan for the purpose of institutionalizing the Project.

2. When the Project is more fully institutionalized and the absorptive capacity of the respective participating provinces is increased, the World Bank would entertain partial or full funding of the Project.

For additional information regarding World Bank attitude and acceptance of the Project, contact Messrs. Shanan, Spangler, Saddington or Giglioli at the Washington Headquarters.

3) Paragraph B of Unclas State 283569 comments on the Project Evaluation Plan. The Project Paper thoroughly describes the evaluation plan to be employed. See Part IV of this Paper, Evaluation Arrangement.

4) Paragraph C of Unclas State 283569 suggests need for health training concomitant to the establishment of water systems in order to maximize health benefits.

Health training, both formal and informal, is contemplated as per Barangay Water Administrative Procedures, Booklet No. 7, Part II Detailed Description of the Project, Part IV Monitoring Arrangement, Barangay Water Administrative Procedures, Booklet No. 1 pages 22 and 23, Part IV Implementation Plan, and Annex M Memorandum of Agreement, the Department of Health and the Department of Local Government and Community Development.

5) Paragraph D of Unclas State 283569 recommends that Mission augment PRP treatment of Project beneficiaries. (See Part III, "C" Social Analysis). Contact Philippine Desk in Washington for complete 120 page Social Soundness Analysis of Barangay Water Project prepared by Dr. Kenneth Orr of Experience Incorporated.

6) Paragraph E of Unclassified State 283569 recommends detailed engineering/feasibility analysis of subprojects.

For above information, see Part III, Technical, Financial and Economic Analyses, and Barangay Water Administrative Procedures Booklet No. 2, Feasibility Methodology and Techniques.

Each of the referenced documents contains illustrative cases typical of systems to be undertaken by this Project.

7) Paragraph F of Unclassified State 283569 raises concern for tailoring subprojects to fit local economic conditions and beneficiary affordability. See same material as suggested for Item 5 above.

Part II - Project Background and Detailed Description

A. Background

During the late 1940's and throughout the 1950's AID predecessor agencies assisted the Philippine Government in establishing the "Liberty Well" and other programs designed to drill wells and provide pumps in strategic rural communities located throughout the country. The program had dramatic impact in a time of political turmoil and did much to meet obvious needs for potable water in the rural villages. Little was done, though, in building up the indigenous local capability to maintain and service the wells and pumps. As a result, almost all of these water facilities are inoperable today.

Later, in the 1960's, the Presidential Arm on Community Development (PACD) continued to provide limited technical and commodity assistance to rural village groups for digging and drilling wells, spring development, and even water distribution projects. But, here again, not enough emphasis was put on the organizational aspects of projects to insure proper water treatment, pump repair, and distribution line maintenance.

The Bureau of Public Works (BPW) and the National Water and Sewerage Authority (NWSA) are two national agencies which have played a role in the design, construction, and management of municipal and city water systems in the country. Traditionally, however, neither agency focused attention on the barangay requirements for potable water.

Studies in the early 1970's resulted in the abolition of the National Water and Sewerage Authority (NWSA) and the creation of the Metropolitan Waterwork and Sewerage System (MWSS). Still, the MWSS charter is only for operation within the Metro-Manila area, other cities and large municipalities.

In 1973, the LWUA was established by presidential decree and a development loan agreement was signed with USAID in the amount of $15 million providing for feasibility studies, technical assistance, and off-setting some foreign exchange costs of initial projects. A second loan paper in the amount of $10 million was recently signed and a third loan for $10 million was made in 1977. Additional funding amounting to $16.2 million has been obligated by the Asian Development Bank (ADB) for selected city systems under LWUA.

Here again, the target consumer of the LWUA effort is not the rural barangay resident. Only municipalities and cities of 30,000 population or above normally qualify for LWUA assistance and then only after a local water district has been formed.

At present, there is no GOP program or agency enjoined and prepared to provide potable water to rural barangays on a large scale although some 70% of the nation's population resides in the barangays.

The successful implementation of the Barangay Water Project will lead to better health, wider employment, greater productivity, increased income and will ultimately contribute to a higher perceived quality of life for the residents of the participating communities.

A specific objective of this project is to improve health by assisting selected local government units to institutionalize the capacity to identify, plan, organize and install functional cooperative water systems with an indigenous maintenance, operational, and managerial capability.

The priority which accrues to the project is principally derived from the serious health problems which it addresses; the beneficiary group which it targets; and the manner in which it relates to other important Congressional, Agency, Mission and Host Country mandates.

The intended beneficiaries of the subprojects (water systems) are the myriad small, outlying, and remote rural communities whose citizens are largely outside the mainstream of national economic life. Thus, projects and services of the sort proposed will not only be the most visible improvement in the community but in all likelihood will represent the most significant development in the near geographical area.

A barangay is a small community usually ranging in size from a few hundred to a few thousand people. There are approximately 43,000 barangays in the Philippines. Most of them are without adequate water supply systems and the rate at which these communities are gaining access to safe water is too slow to keep pace with the needs of their respective and growing populations.

The scarcity of safe water for drinking, bathing, and laundry purposes poses serious problems throughout the developing world. The health problems due to waterborne disease are generally more serious in Asia than elsewhere in the world and they are particularly acute in the Philippines. Statistics provided by the DOH reveal

that death in the Philippines due to waterborne diseases per 100,000 population is double the rate of Thailand, quadruple the rate of Singapore.

Furthermore, medical doctors interviewed while gathering information for the preparation of this Project indicated that more than 80% of the illnesses which they treat are directly related to waterborne parasites and diseases such as typhoid, cholera, and bacillary dysentery. Doctors further reported that the majority of their patients once treated and cured return to the same environment and contract the same or more serious diseases.

WHO indicates in studies that it has conducted, "Village Water Supply" published by the World Bank, March 1976, that most of the diseases killing children under five years of age can be linked directly to contaminated water. Studies further reflect that in much of Asia waterborne diseases are among the three major causes of death. WHO states that the provision of a safe and convenient water supply is the single most important activity that can be undertaken to improve the health of people living in rural areas. In this context the undertaking of a drinking water project has particular relevance to the improvement of health.

The improvement of the barangay water supply has relevance to other sector goals. It increases employment, productivity, and income by opening opportunities for small scale industry not previously possible without a supply of water. Regarding productivity, experience around the world with water projects shows that the availability of potable water has at least three important effects: 1) it reduces absenteeism on the job due to health disorders; 2) it provides additional opportunities for employment; and 3) it releases people, (whose responsibility it is to find and transport water) to the undertaking of more gainful economic activities.

The proposed water project will play a supportive role in furthering several other existing and planned host initiatives. First, it is in keeping with efforts to reach the economically less privileged in rural areas. It would also play a complementary role to the Government's on-going and prospective integrated development projects in the Bicol Region and on the Panay Island complex. Both of the latter projects have water components but their focus is on individual families and small group of families below the "water system" level. The Mission is also currently supporting waterworks development projects through assistance to LWUA.

No attempt is contemplated with the Barangay Water Project to duplicate the LWUA program. Indeed, there are two distinct target groups--the rural barangay families and the families which live in the core of the cities and large municipalities. The Barangay Water Project will aim at rural barangay communities of approximately 300 to 5,000 people and only in rare exceptions is it expected that subprojects will be constructed in larger communities during the course of implementation.

Although, there will be no requirement to form a LWUA-type local water district, this Project, working through the DLGCD and the provincial governments--will design, construct, manage, and maintain barangay water systems on a cooperative, miniwater district basis and will encourage the cooperative-like associations to federate, on a provincial level, within two years after their formation.

The execution of this Project would, in effect, focus on similar problems and priorities within a different geographical framework and at a lower level of complexity than the LWUA Project. The Project is in complete consonance with the Local Government Project objectives to strengthen the capacity of local government at the provincial, municipal and barangay levels. Moreover, the Barangay Water Project incorporate a number of features common to other successful, on-going Mission supported programs, e.g., the National Electrification Project, the Small Scale Irrigation, and the Rural Roads Program, to mention a few.

This Project will place special emphasis on the Rural Barangays in the fifteen cities to be covered under the proposed Rural Service Centers Project (RSC). It is planned to give high priority to the development of water systems in those areas where the two projects, the Barangay Water and Rural Service Centers Project, coincide and when the selection criteria for water subprojects is consistent with the general philosophy of the Project, does not conflict with water systems serviced by LWUA, DOH, MWSS, or other agencies in accordance with the national, regulatory aspects of P.D. 198 and P.D. 856.

B. Detailed Description

Although other purposes are to be served by the provision of adequate drinking water, the chief benefits to be rendered are within the public health and productivity spectra.

Currently, there is no national agency with the capacity to execute broad scale development of water systems in all small communities. Thus, the focus of the proposed Philippine Program will be to equip selected provinces with the capacity to deal

more effectively with rural water problems within their respective jurisdictions by maximizing the use of their own, community, and national resources.

Neither the Mission nor the DLGCD subscribe merely to the construction of water systems and then leaving them to happenstance or chance once they are constructed. It is recognized that the most important, as well as the most difficult, aspect of the program to achieve will be the readiness of the community to receive and subsequently maintain, operate, manage and partially amortize the systems' costs once the systems are functional.

Organization at the community level of the sort required will necessitate both initial training, which will be conducted prior to the construction of a given subproject, and on-site training which will be administered immediately upon turnover. Frequent visitation and follow-up by both national and provincial personnel will be required and is envisioned to take place once the subprojects are operable. Thus, training and construction represent the two major components of the program. Both will be discussed below and detailed Administrative Procedures have already been prepared treating the principal aspects of: planning and implementation, budget and accounting, feasibility methodology, contract procedures, training and organization, standard designs and policies, and village financial management. Five sets of such procedures will be made available, in draft form, to the Philippine Desk for reference purposes upon submission of the Project Paper.

1. The Program Setting

It will be useful to describe somewhat the environment in which the program is to be implemented.

In 80 to 85 percent of the rural communities of the Philippines, there are no formal water systems at all. On the average, there are 600 barangays in each of the provinces Of that number, normally 500 of them will have no water supply other than scattered private wells. Generally, wells of this type are owned by the more affluent of the rural dwellers and are not made available for popular use. When sufficient quantities of water exist in private wells, it is often sold to the public at exhorbitant fees or it is offered on a gratuity basis in exchange for influence. The vast majority of the people, however, has to rely on the nearest acceptable source of water for washing clothes, taking baths, and drinking purposes. The sources of such water are commonly contaminated streams and rivers, although in some instances underground water offers reliable and reasonably safe drinking water. People often have to walk several

kilometers to find water. Because of these conditions, a great deal of energy is lost in portering water from the source to the family homesite.

In many rural communities, it is the sole responsibility of at least one member of the family to do nothing more than to carry water. Such individuals are deprived of being more productively employed in farming, fishing, or other gainful economic pursuits.

The remaining 15 to 20 percent of the barangays are nominally served by water facilities. These systems, however, are grossly deficient in terms of providing reliably pure water for human consumption. Moreover, they are beset by a whole range of technical and administrative problems thus rendering them to various degrees of inefficiency. The basic problem with existing facilities is the absence of formal and trained local management institutions.

The following are usual characteristics of such systems:

1. Water delivery is of insufficient quality and quantity, thus failing to meet either acceptable rates of flow or bacteriological standards.

2. Chemical treatment is sporadic to non-existent.

3. Service is frequently interrupted for protracted periods.

4. The distribution network is generally in such a deteriorated state of repair that only a portion of the water generated by the system actually reaches the intended user. It is widely noted that between 60 to 75% of the water being generated in existing systems is lost within the networks before reaching the end user.

2. The Problem

An analysis of the water problem reveals that there is neither a central agency nor a concrete national policy with regard to the development of rural drinking water resources for communities of the size to be benefited by this Project. LWUA does, under Presidential Decree No. 198 and as amended Presidential Decree No. 856, focus on the problems of local water districts but such districts are in communities of a much greater population base than those to be served under this Project. In effect, the rural dwellers have been left

to their own meager devices and native ingenuity to resolve their water problems.

There are a few other agencies, the Bureau of Public Works (BPW), the DLGCD and the DOH which have primary responsibilities to carry out other mandates but which also engage in water programs. Their responsibilities for the provision of water, however, are ancillary. Their resources are greatly limited, however, and their organizational outreach falls well short of the intended target population. As well intended as these efforts are, they are miniscule in comparison with the problems they address and do little to satisfy current water needs much less provide for the growing demands by the increasing population.

In the Philippine context there is not a wealth of alternative approaches to the water problem. It is basically a local problem and it will have to be resolved largely within the context of local knowledge and local resources. It is the local government units (the respective provincial governments) which are in the best position to become knowledgeable about their problems and subsequently organize and develop solutions which are feasible.

3. The Approach

The nature and magnitude of the rural water problem in the Philippines exceeds the capacity and resources of the Central Government to resolve unilaterally. What is required and what will be sought through the proposed Project is an arrangement whereby national, provincial, and community resources can be coordinated and brought to bear in a more systematic and orderly way in the intended end user, the rural villager.

During the three year life of the Project, twenty-five provinces will participate. The provinces will be largely those that are already participating in the PDAP Project and the medium for reaching them will be the DLGCD. All such provinces have gained considerable experience and capacity to plan, program, budget and implement development undertakings. Authorization of a loan for this Project would enable the further development of the existing provincial organizational capability while at the same time permitting the various participating provinces to confront the serious health problems emanating from impure and unhealthful barangay water supplies.

The institutional structure through which the program will be implemented is the same as that employed in the implementation of the Flood Rehabilitation Program, the Special Infrastructure Project and the on-going Rural Roads Program. The administrative procedures likewise shows great similarity.

A Project Management Staff composed of personnel from the DLGCD has already been formed. The Project Management Staff consists of nine technicians (3 civil engineers, 2 cooperative training specialists, 2 community development organizers, and 2 planning/fiscal management specialists). The Staff has undergone formal and practical training in waterworks development and has in turn conducted several training workshops and seminars for local government personnel in the 15 provinces having joined the program in 1977 (for piloting) and 1978 for Phase I activities.

The technical staff is augmented by a clerical/administrative staff of five people. It is also aided with technical assistance provided by USAID.

It is visualized that the Project Management Staff will continue to undergo specialized training and working together with USAID will develop training programs to be administered to succeeding groups of provinces as they become affiliated with the Project. (See Part IV Implementation Plan).

The training will be both specific and comprehensive in nature and will prepare the provinces to plan, program, finance, and implement barangay water subprojects. It will also provide the provinces with the skills required to organize, train and advise the small barangay water user associations.

Thus, the two major components of the program are training and construction.

a. Training

The major and most significant component of the program is training. Instruction will be offered on a continuous basis at the national level for both the Program Management Staff and provincial government officials.

Training will also be offered at the provincial and community levels for the leadership, management, and general membership of the water associations to be established.

(1) National Level

An assessment has been made of the skills required for national level managers to execute the Barangay Water Project. A broad range of

technical, administrative, managerial and organizational skills are being provided at the outset of the Project in order to upgrade the skills of the Project Management Staff. Training of the nature anticipated will be largely provided in-country and by local experts familiar with the Philippine milieu. A permanent training institution will be identified later on. There are several possibilities for such training one of which is LWUA. LWUA has plans to develop a national training center. When it is oprerational, it will be used for training sessions in accordance with a specific agreement to be established between LWUA/DOH/DLGCD and WHO.

A small amount of participant training under short term PIO/P is also being considered. It will be funded under the core Local Government Project to which the Barangay Water Project depends for monitoring and general support requirements.

(2) Provincial Training

Twenty-five provinces will require extensive training over the three year life of the Project in order to develop the knowledge and skills required to execute a province-wide, barangay water program. Such training will be sponsored by the Project Management Staff, other personnel from DLGCD, and various colateral agencies as later deemed most appropriate. Training for both Pilot and Phase I provinces has already begun. (Refer to Part IV Implementation Plan).

The curriculum will be refined during the "Pilot," Pre-Implementation stage, however, it will generally cover such subject matter as organization and management, planning, construction, waterworks operation and maintenance, the principles and practices of cooperativism, and the methodology, techniques, and regulatory aspects of organizing cooperatives and pre-cooperative associations.

Local Government officials being trained include: the provincial development coordinators, the provincial engineers, representatives from the provincial health office, the provincial water resource analysts, the provincial waterworks technicians, provincial training officers, and research statisticians. Other individuals and agencies necessary for the success of the program such as the provincial treasurers, the provincial development officers, representatives from the DOH, BPW, the governors, and members of the various Sangguniang Panlalawigans (Provincial Legislative Councils) will attend relevant initial and in-service training seminars and workshops.

(3) Community Level

The primary emphasis of training activities will be those courses which are planned for the community level. The purpose will be to develop strong, local institutions with the capacity to operate, maintain, manage, and finance the water systems that are constructed under this Project. Strong, effective, and knowledgeable institutions at the barangay level, are sine qua non for the success of the Project and training will be the vehicle for imparting the requisite knowledge and skills. No construction will be undertaken by the respective local government units until community groups have been identified, organized, and properly trained.

Training expenses will be borne by the DLGCD and the participating provinces. Over one million pesos will be required for training and training support costs by DLGCD. The provinces will pay 50% of the training costs for the development of staff and local officials as is customary now under joint, PDAP-DLGCD training programs. Training costs for the participating barangay association membership will be defrayed by the participating provinces and perhaps in later stages of the Project, by the respective village organizations themselves.

The specific training outputs will be reflected in the number of national, provincial and barangay personnel trained. Such outputs will result in the formation, or strengthening, of competent provincial and village organizations for the creation and operation of barangay water systems.

b. Construction

(1) Subprojects

a) Type

Type and size of project to be undertaken will vary from community-to-community depending upon such determinations as economic feasibility, available water sources, desired level of service, and number of users. Typically, however, the communities will be around 1,500 people in size. The subprojects will generally be either wells with electric pumps,

storage tanks, and transmission facilities, or spring/stream development projects; and combinations of all of these possibilities. Gasoline and diesel powered systems will be avoided under this Project. Preliminary investigations leading to the development of the Project Paper indicate that a greater number of feasible subprojects will be identified that can be realistically funded. Thus, emphasis will be placed on constructing systems that can be operated by either gravity flow or electrically delivered power. With respect to electrification, high priority will be assigned to prospective systems in areas where the Rural Electrification Project is operational.

The Project will be flexible with respect to the type of subproject to be selected. National and provincial personnel will not dictate the type of project to be undertaken but will rather provide a range of alternatives based on what is considered technically sound and economically feasible. The community will be guided in the initial selection of the type of system but the final decision for subproject selection will rest with the community. The cost per subproject will range from P20,000 to P300,000 (US$2,500 to $40,000).

The program will be flexible enough to accommodate a broad range of community water needs and will undertake new construction as well as the rehabilitation of existing water systems.

b) Planning, Approval and Implementation

The procedural means for project planning, approval, and implementation will be similar to that which was introduced several years ago by PDAP and is currently being employed in the 28 participating provinces.

In general terms the system works as follows: (also see Annex O for the Project Flow Diagram).

Project requests will originate at the community level where they will be implemented. Requests of this sort will be made by the barangays to the appropriate Municipal Capital Improvement Committees. In June of each year, the Municipal Capital Improvement Committee will consider such requests in light of existing resources and municipal development priorities. At this juncture, the committee will either accept the project for implementation, defer

it for later consideration, or reject the request when it obviously exceeds all possibilities for funding under local, provincial or national programs. In the first two instances, the project is incorporated into the municipal plan where it is scheduled for municipal, provincial, or national funding. Municipal Capital Improvement Plans (MCIP's) are later submitted to the Provincial Capital Improvement Committee (CIPC) in September and subproject requests are again reviewed and assigned a priority for implementation based on the availability of funds and the preliminary priority of the project as determined by the pre-feasibility studies and as compared with other subprojects possibilities listed in the Provincial Water Resource Development Plan (PWRDP). (a document to be developed by each participating province in the course of implementing the proposed Barangay Water Project. Sample copies of Provincial Water Resource Development Plans and Inventories have been made available to the Philippine Desk for reference.) Subprojects demonstrating a favorable degree of feasibility will be accepted for eventual implementation based on their respective priority rankings in the Provincial comprehensive Plan (PCP). Projects demonstrating the highest degree of economic feasibility and financial viability will be ranked for earliest implementation. (See Feasibility Format Part III.)

In October of each year, an Annual Implementation Plan (AIP) will be submitted to DLGCD. It will include the name, the estimated cost, the location, and preliminary cash flow information of each of the subprojects to be implemented during the referenced fiscal year. Beginning in Fiscal Year 1979, (Philippine Fiscal Year), the AIP submission will also include detailed subproject design with plans, costs and specifications. Under this Project, the number of subprojects to be implemented in a given period will range from four to eight subprojects per province and cost between P400,000 and P700,000 depending upon the size of the subprojects selected. The AIP, once approved by the Sanggunian Panlalawigan, will be submitted to DLGCD for review and approval.

Copies of the AIP will also be furnished to USAID and the National Economic Development Authority (NEDA) for information, review, and possible comments.

With minor variations, perhaps on cost estimates or questions of design, subprojects will be approved when the AIP submission is reasonable and the provinces have already demonstrated the financial and technical capacity to carry out subprojects of the magnitude proposed.

When AIP is approved, generally in early November, the province will be notified of a fixed-amount reimbursable figure for each subproject. Both the barangays concerned and the provincial engineering offices will be informed of the approval. The barangay associations, which will have already been trained in the organizational, managerial, and technical aspects of operating system will assess its membership, and deposit an amount of money estimated to be equal to the semi-annual operation and maintenance costs for systems powered by electricity. For gravity fed systems, a quarterly deposit will be sufficient. The deposits will be made at a local bank, possibly a rural bank, in an interest-bearing account and will be used later to meet expenses as they occur.

The provincial engineer's office will then begin preparing the final design along with plans, costs, and specifications. Such plans will be reviewed by a contractor who will provide architectural and engineering services and monitor the implementation of the subprojects. When agreement on design is reached between the provincial engineer's office and the A & E firm, construction will begin. The subproject may be implemented by the provincial engineer's office under forced account or by a private contractor whichever proves to be more advantageous to the province. Conceivably, some subprojects will involve a combination of effort by the provincial engineer's office and a private contract. Upon successful completion of the construction of a subproject, the province will be reimbursed, by the DLGCD as previously agreed, and the subproject will be turned over to the barangay water association. From this point hence, the barangay water association will be responsible for the maintenance, operation, repair, repayment, and general management of the system. (See Part III of this paper for "Turnover" procedures.)

The number of subprojects to be constructed during the life of the project will range between 250 and 480 depending upon type and size of the individual subprojects and the mixture of new construction versus rehabilitation of existing systems.

c) <u>Dollar Loan</u>

The Barangay Water Project requires a dollar loan in the amount of US$3,000,000. See Project Description, Part I for explanation of disbursement arrangement.

d) <u>Personnel</u>

National level project administrators will be required to implement the program. A Project Management Staff consisting

of at least seven professionals and possessing a wide range of experience and skills in engineering, environmental sanitation , organization and management, and the principles and practices of cooperatives is required in DLGCD.

The Project Management Staff will be responsible for developing the program, scheduling its activities, and monitoring the progress of national, provincial, and community endeavors.

The provinces will also need to increase personnel complements on both the provincial development staff and in the provincial engineering office.

Specifically, a water resource analyst and a training officer will be required as additions to the Provincial Development Staff (PDS). Periodically, the PDS will conduct audits of each operating water system in order to determine its financial and managerial soundness and, as necessary, assist in implementing rate adjustments to meet changing requirements.

The provincial engineer will be required to add a sanitary engineer to his rolls. The engineer will perform numerous tasks related to planning, construction, and training. He will be assisted by at least two water technicians who, within a variety of responsibilities, will have the chief assignment of manning the Waterworks Repair Bays which will be installed in the provincial equipment pools.

The total cost for additional personnel generated by this project is - 1) $63,000 at the national level, and 2) $432,000 at the provincial level (25 provinces). Both figures represent salaries for the life of the Project, excluding the Pilot Phase, FY 1977.

Personnel requirements beyond those listed are not foreseen. The concept is to buil upon the existing personnel capability in the various provinces expected to participate.

PART III - PROJECT ANALYSES

A. Technical Analysis

1. General Description

The type and size of subprojects to be undertaken in the Barangay Water Project will vary from community to community depending upon such determinations as economic feasibility, available water sources, desired level of service, and number of users. Typically, however, subprojects will consist of wells with electric pumps, storage tanks, transmission lines, be gravity fed spring development subprojects, or will conceivably be a combination of both possibilities. The intended purpose is to supply safe water for domestic purposes.

More emphasis will be placed on the organization and training of the Provincial Engineer's Office (PEO) and the barangay's ability to manage systems than has been done on previous small water programs in the Philippines. This Project will require the local people to make a deposit of their own funds to provide a reserve for operations and to assist in building the system by amortizing a portion of the capital costs. This will provide more incentive to take care of the system and will promote a degree of self-sufficiency missing in former projects of this sort in the Philippines.

2. Complexity of the System

Care must be exercised to design systems which are large enough to adequately handle the population without exceeding the local managerial and financial capacity to operate and maintain them. The controls and equipment used must be simple and easy to operate. On the smaller systems, those to serve as few as 300 people, the system will customarily consist of a one (1) HP electric jet-pump, a well, a 5,000 gallon concrete storage tank (locally constructed), up to 1/2 mile of main distribution line, and several public faucets. No automatic controls will be provided for such small systems.

Systems serving larger populations, those in the 5,000 people range, might include a deep well, above-ground booster pumps, elevated storage tanks, main lines with either public faucets, individual house connections, or a combination of both. Some automatic controls will be used experimentally on systems of this sort and if it proves advisable, more

systems would include automatic controls in the future.

Preference will be given to gravity flow systems in order to conserve energy and in order to reduce operational costs.

3. Design Policies

The design of all subprojects in the Barangay Water Project must include special consideration for ecology, health safety, minimal construction costs, low operation expenditures, community involvement, and still insure both acceptable and appropriate levels of technology and engineering practices.

Low income groups are usually the citizens in most urgent need of a sanitary and adequate water supply. Their ability, however, to pay is usually the governing factor in the ultimate allowable cost of a water system. Reconciling such limitations with sound engineering practices is the major problem in this field. Solutions can be found by combining the most economical equipment, available materials, self-help labor, and keeping the operating costs at a minimum. The latter is largely, although not exclusively a managerial problem.

4. Design Criteria

There is very little compiled design criteria available in the Philippines for small rural water systems. To supplement local design criteria a "design guide" was prepared. (See Annex B-1). This guide is based on local information, WHO specifications for similar systems, and design criteria for small rural water systems in United States financed by Farmers Home Administration (FMHA). The design criteria, then, emanates from systems that bear great similarity to the technical and organizational conditions presented in many of the small communities within the Philippine context.

5. Design Capability

The PEO has the capability of designing the small Barangay Water Systems that are planned for construction under this Project. It is recognized that there will be some initial personnel deficiencies. A series of training programs have therefore been planned to train the civil and sanitary engineers who will be responsible for subproject design and implementation. Each Province has, or will have a sanitary or a civil engineer assigned to the Barangay Water Project at the provincial level. Such engineers will be further supported by a number of other civil engineers already assigned to the PEO.

There are also a number of engineers working for the Bureau of Wells and Springs in the BPW and public health sanitary engineers with the DOH who are being enlisted to assist the Project in both training and engineering roles. (See Annex M, Memorandum of Agreement between the DLGCD and the DOH

Many of the components of the proposed water systems can be developed by standard designs. The DLGCD with assistance from the agencies mentioned above is in the process of developing standard plans for storage tanks, both concrete and steel; elevated tanks, pump stations, meter settings, system controls; wells and spring development, and other applicable items. The PEO will use such plans but will also be encouraged to use other designs when local situations demand a variation. Guidance will be provided for accommodating variations to the standard plans.

All plans designed by the PEO will be reviewed for reasonable costs and appropriate technology by an engineering firm which will be under contract to the DLGCD and approved by USAID.

6. Construction Technology

Generally, construction technology for barangay water subprojects will be simple. Hand labor and light equipment will be employed almost exclusively. Many barangays will provide free labor in order to reduce the initial cost of construction of their respective systems. Shallow wells, wells of 20 feet, will usually be dug by hand. Deep wells will be dug with a cable tool, percussion, drilling rigs which are locally available and found throughout the Philippines. Few truck-mounted rotary drilling rigs are available in the Philippines and for the most part will not be required for perforations of the kind envisioned.

Joining the pipe will require skilled pipefitters. And again, Administrative Procedure Booklet No. 7 for the Barangay Water Project spells out the training design which will be employed in training and developing such middle-level technical skills. Pipefitters will be trained under the direction of the PEO in coordination with a number of local suppliers who have agreed to provide free training services, with the general support offered to the Training Division of the Project Management Staff and by assistance from WHO and the DOH.

The installation of deep-well pumps and booster pumps will require skilled electricians. This technology will normally be provided by the pump suppliers who are locally accessible and

willing to advise and assist in installation. Contractors are also available to supply such technology.

Trained construction supervisors will be provided as a normal function through the PEO for each on-going subproject.

7. Operation and Maintenance

The lack of proper operation and maintenance has been the major cause for mechanical failure of many existing small water systems in the Philippines.

The Barangay Water Project has, therefore, been designed to place major emphasis on the operation and maintenance of barangay water subprojects. Operators for the barangays will be trained prior to completion of construction. After construction, additional training will take place.

After a project has undergone final inspection and accepted by the DLGCD as having been completed in accordance with agreed plans and specifications, the province will turnover completed project to the Barangay Water Association which will have already been trained in the management, operation and maintenance of the water system.

Turnover of the project will consist of transferring the ownership and responsibility for the system to the respective barangay water association in accordance with the terms specified in the agreement and the loan contracts as shown in Booklets 1, 3 and 6 of the Administrative Procedures for the Barangay Water Project.

Provincial personnel, will remain in the community for a period of at least two weeks after the turnover of the project in order: 1) insure, while in operation, that the system is devoid of technical defects, and 2) in order to provide on-site training to the barangay water association in the operational peculiarities of their specific systems. During such a trial period, the community will actually operate the system under the observation of the provincial technical personnel. After the system has been fully turned over to the barangay, it is required that the province establish a regular schedule of field evaluation trips. Such trips will be conducted monthly during the first three months and quarterly during the rest of the system's first year of

operation. The Provincial Evaluation Team (PET) will include members of: the PDS (waterworks analyst, fiscal analyst and project analyst), the PEO (provincial engineer or sanitary engineer and at least one waterworks technician), the Provincial Health Office (PHO) (health educator/environmental sanitation worker, and others as deemed appropriate.

The principal representative from each office will note his: 1) observations and 2) recommendations in the space provided on appropriate "BW-12" Forms. Representatives will likewise suggest remedial measures to the barangay association, on the site, for any deficiencies noted.

A set of "BW-12" Forms will be circulated to all of the offices conducting the field evaluation trip.

In the second year of operation, field evaluation trips will be conducted quarterly (on a required basis) although it is expected that the provinces will make visits more frequently to the barangay water associations on a routine basis or as requested by the barangay water association.

The division of responsibility on such trips will be as follows: 1) PEO will focus on the technical aspects of the system such as daily operations, maintenance, and repair; 2) the Provincial Development Coordinator (PDC) and Provincial Development Officer (PDO) will concern themselves with the overall aspects of the project such as general administration, organization, finances, and personnel; 3) the PHO will focus, but not limit itself to health issues related to the system. Specifically, the health officer will devote his attention to the quality and utilization of water produced by the system as well as its sanitary and environmental impacts of the system.

From the third year of operation of the systems, evaluations will be conducted semi-annually by the PET.

Evaluation reports will be distributed and filed as follows: 1 set will be sent to each member office of the PET, 1 set will be sent to the DLGCD, and 1 set will be provided to USAID.

The official set of reports will be filed in the "A-2" file folder in the Office of the PDS.

It should be restated that the above provincial evaluation team visits should be conducted as frequently as necessary. Quarterly, semi-annual and annual evaluations are considered as minimal levels of visitation, evaluation, and assistance.

The Barangay Water System operators will be trained to make simple repairs, repair faucets, change fuses, repair leaks and perform other first and second echelon repairs. Major repairs will require the assistance of the PEO. Such repair will be performed as prescribed in the Project Paper, Part II Description of the Project. Training for water system operators both initial and in-service is planned.

A reserve fund will be established for each barangay subproject for making both regular and emergency repairs. Likewise, savings are expected that will permit the expansion of the systems to future users. A small stock of repair parts such as gaskets, faucets, washers, seals, pipe repair clamps, extra meters, fuses and other readily disposable parts will be maintained at both the provincial and barangay levels.

Major replacement items will be maintained at the Waterworks Repair Bays unless readily available for purchase from local dealers.

8. Recommendation

Due to the lack of basic design data available in the Philippines for small water systems, it is recommended that DLGCD select several representative systems and make in depth studies of their operations. Master water meters should be installed on such systems and daily readings be taken at prescribed periods of the day. Such studies would render average yearly, monthly, daily peak usage periods, e.g., the amount of water used by typical public faucet, per capita is simply not known today in the Philippines. No such data can be found on systems of the magnitude contemplated in the Barangay Water Project due to the informal manner in which both erstwhile and existing systems have been operated. The Barangay Water Project; however, if it is carried out as designed, presents both the opportunity to gain such data and at the same time pioneer wit a systematic and orderly approach to rural water development. The Administrative Procedures for the Barangay Water Project contemplates one evaluation project in each participating province. (See Part IV, Evaluation Arrangement). Technical criteria of the type noted, among the other items to be studied, should be recorded for the development of a body of knowledge not now existing as well as for feedback in terms of operational input for further refining the future water system design under the Barangay Water Project.

9. Typical Systems and Costs

A study was made of various existing water systems typical of those proposed for construction under the Barangay Water Project. A costing of construction materials was then obtained from local suppliers based on current prices.

From various subproject options, two prototype systems were selected and cost estimates prepared. One system is designed for a barangay with a population of 1850 people and 250 households of which 220 households are considered users (paying customers) of the systems (Example No. 1).

A second system (Example No. 2) includes a water facility for a community of 700 people, comprised of 60 households of which 50 homes are users.

The first system, Example No. 1, is a deep-well development project; the other system, the one depicted in Example No. 2, is a small spring development project.

All houses in Example System No. 1 will have individual house connections with meters. The homeowners will be responsible for the cost of laying the line from their respective meters to their houses. The minimum user fee on this type of subproject is projected at ₱10.00 per month.

In Example No. 2, the cost estimate is prepared for 60 houses, of which 50 households will be users of the water system. Example No. 2 contemplates public faucets only. The pipe sizes, however, were "sized" for future individual house connections thereby enabling those who can afford individual house connections to connect when ready without overloading the pipeline capacity. Each public faucet will be metered. The cost estimates for the cited community were based on the community labor for excavating, digging, and trenching.

Example System No. 1

- 1850 Population*
- 250 Houses
- 220 Customers (effective paying customers)

Cost Estimate

a) **Basic Components**

Item	Cost	Total
Well, 400 ft. @ P30 per ft.	P12,000	
Pump Motor & Electrical Controls	P14,000	
Pump House	P 2,000	
	P28,000	P28,000
Elevated Storage	P100,000	P100,000

b) **Pipe Material**

Size	Length	Unit Cost	Total	
4" plastic	1865 ft.	P20	P37,300	
3" "	1320 ft	15	19,800	
2 1/2 "	1880 ft.	12	22,560	
2" "	8350 ft.	10	83,500	P163,160

c) **Meters**

Quantity	Unit Cost	Total	
220	P240	P52,800	P 52,800

d) **Valves**

Lump sum	P10,040	P 10,040
Total Initial Costs		P354,000

$$\frac{P354,000}{220 \text{ customers}^{**}} = P1610/\text{customer}$$

P1610 x .25 loan*** = P402 Loan/Customer

P1208 Grant/Customer

*Costs are based on service area representing 90% of the total population.

**Represents paying customers.

***Community to repay 25% of capital costs.

$$\frac{₱402.50 \times .1666}{12 \text{ mos./year}} \text{ (amortization factor/year)} = ₱5.60\text{/customer/month}$$

Thus, monthly amortization payments/per customer/month - ₱5.60

Monthly Operating Budget for System

Salaries & Wages . . .	₱200.00
Chemicals	30.00
Electricity	300.00
Maintenance	100.00
Miscellaneous	100.00
	₱730.00

$$\text{O \& M} = \frac{₱730.00}{220 \text{ customers}} = ₱3.20 \text{ per customer/month}$$

Aggregate Costs

₱3.32	O & M
₱5.60	Amortization
₱1.00	Reserve
₱9.92	

Monthly water bill suggested ₱10.00/per month per customer.

Example System No. 2

- 700 Population*
- 60 Houses
- 50 Customers

a) **Component**

Spring Development	₱ 3,000

b) **Pipes**

Size	Length	Unit Cost	Total	
4" Plastic	830 ft.	₱14/ft.	₱11,620	
3" "	530 ft.	₱10/ft.	5,300	
2" "	2430 ft.	₱6/ft.	14,580	
			₱31,500	₱31,500

c) **Public Faucets**

Quantity	Unit Cost	Total	
10	₱400	₱4,000	₱ 4,000

d) Valves & Master Meter	₱ 1,500
TOTAL COST	₱40,000

$\frac{₱40,000}{50}$ = ₱800 per customer

₱800 x .25 = ₱200 loan/customer
₱600 grant/customer

$\frac{₱200 \times .1666}{12 \text{ months}}$ = ₱2.77 per month/customer

*Costs are based on service area representing 90% of the total population.

Monthly Operating Budget

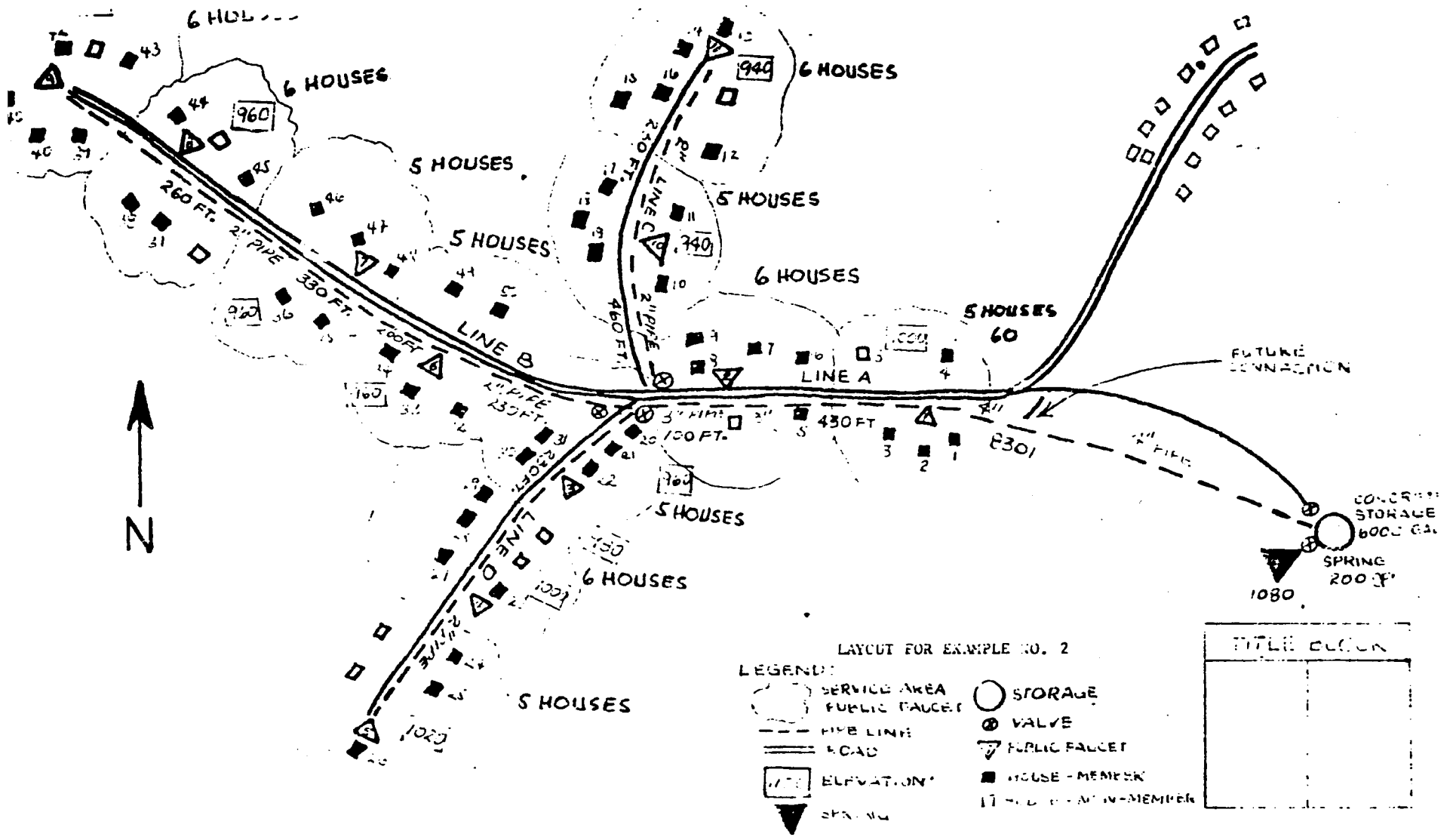
Labor	₱70.00
Repairs	50.00
Billing Expense	20.00
Communication & Trans . .	20.00
Miscellaneous	50.00
	₱210.00

$$O \& M = \frac{₱210}{50 \text{ customers}} = ₱4.20$$

Aggregate Costs

₱4.20	O & M Expenses
₱2.77	Amortization
₱0.75	Reserve (10%)
₱7.72	

Suggested monthly bill, ₱8.00 per household.


6 HOUSES
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60
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6 HOUSES
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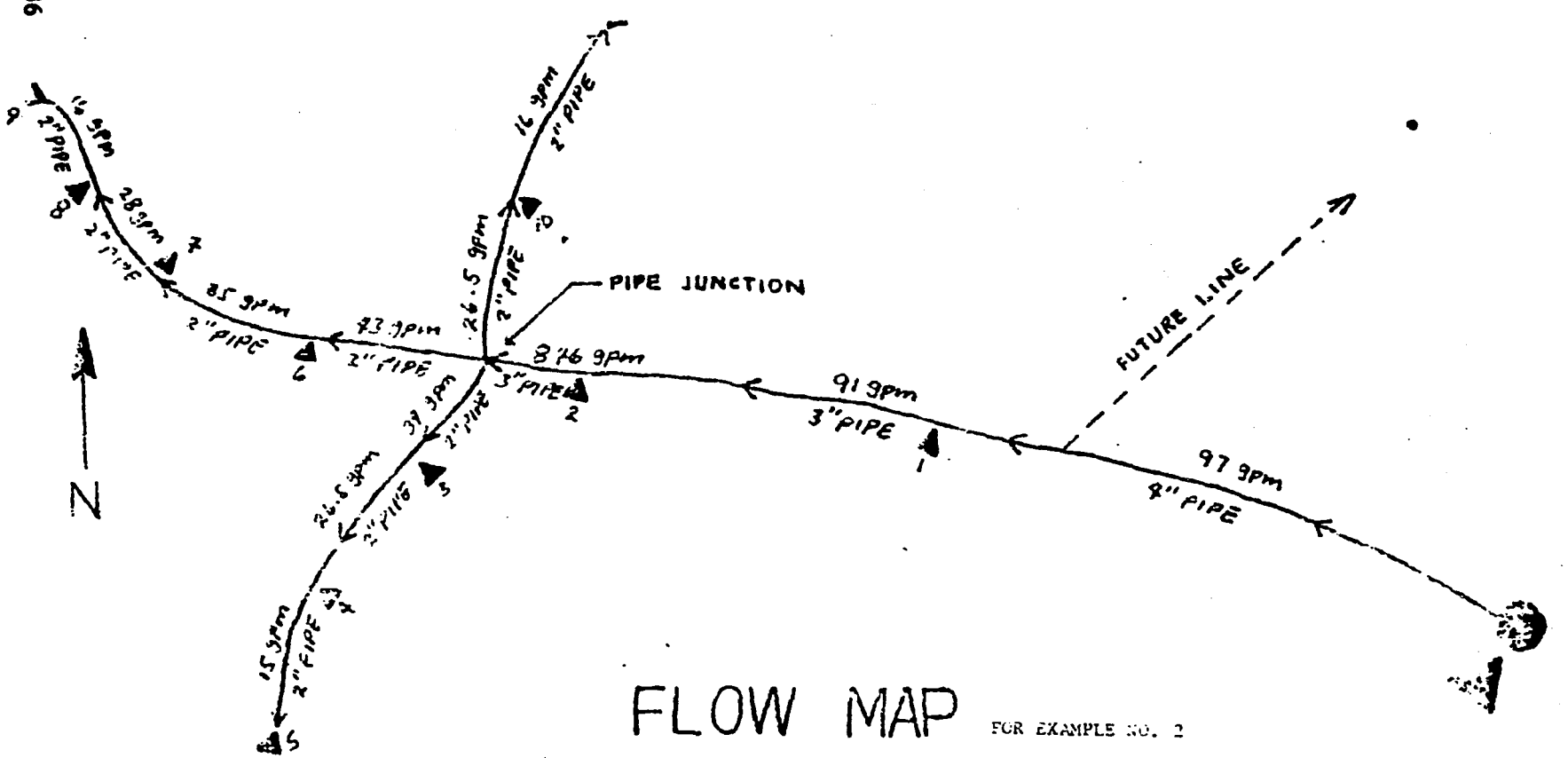
LINE B
LINE A
LINE C
LINE E
260 FT.
330 FT.
460 FT.
430 FT
100 FT.
830'
960
940
940
960
1000
1020
1080
N
FUTURE CONNECTION
SPRING
200
LAYOUT FOR EXAMPLE NO. 2
LEGEND:
SERVICE AREA
PUBLIC FAUCET
PIPE LINE
ROAD
ELEVATION
SPRING
STORAGE
VALVE
PUBLIC FAUCET
HOUSE - MEMBER
TITLE BLOCK



FLOW MAP

FOR EXAMPLE NO. 2

LEGEND:

- STORAGE
- SPRING
- PUBLIC FAUCET

TITLE BLOCK	

10. Summary of Technical Analysis

The Barangay Water Project is technically sound. The required engineering capability at both the national and provincial level exists to design, construct, and perform follow-up guidance of completed subprojects of the kind visualized under the Project. Some additional staff personnel will be required at the provincial level and specialized training of both existing and to be recruited personnel is considered essential. The engineering base upon which to build, however, is in place and the Project has both contemplated and projected training courses considered appropriate to meet the additional technical requirements.

The communities to be served by the Project are small, likewise, the subprojects are small and relatively unsophisticated. Thus, both the level of technology and the price of the individual subprojects (as demonstrated above) appears to be reasonable. With respect to subproject costs, it should be noted that the cost of materials has increased by one-third since the planning of this Project began. Therefore, the number of subprojects visualized originally under this Project will be reduced. If this trend continues building costs will triple by the concluding phase of project implementation.

From an engineering point of view, the subprojects are replicable. Essentially, the Project Management Staff has studied the characteristics of existing systems for small communities and improved upon the prevailing design. This is a valid approach elsewhere in the world and with good management it should also prove productive in the Philippines.

(See Annex B-1 for "Design Guidance")

B. Financial Analysis and Plan

With the exception of the U.S. technical assistance for $184,000, for which USAID will assume responsibility, all other costs for the Project initially will be borne by the Philippine Government.

The four major financial requirements to be met are: personnel, training, operations and construction costs for water systems.

The first three costs, personnel, training and operational expenses will be borne entirely by DLGCD and the participating provinces. Such funding will be provided through regular budgetary allotments and procedures.

For the latter category, subproject construction costs, the funding procedures will be as follows: 1) Annual agreements will be reached between the DLGCD and the participating provinces for a number of subprojects to be constructed on a fixed-amount reimbursement (FAR) basis. (See Part II-B, "Detailed Description of Project" of this Paper for additional reference.) 2) The province will then defray the expenses incurred for overhead costs and subproject construction costs utilizing its own funds for both subproject design and the actual implementation of the physical subproject itself. 3) Upon satisfactory completion of the subproject, (subprojects must meet quality control standards, other technical specifications, must comply with the establishment of a viable association to operate the system, and must be finished on schedule). The DLGCD will then reimburse the province with Presidential Discretionary Funds (PD No. 144) for "direct costs," (POL, labor, equipment and materials), in the amount previously agreed upon and for a value not to exceed 75% of the total cost of the subproject. The Government of the Philippines, in turn, will be reimbursed periodically by the U.S. Government through drawdowns in amounts corresponding to the incremental, fixed amount reimbursement (FAR) provided to the provinces by the DLGCD.

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

It is expected that a $3 million loan agreement will be signed October 1977, with NEDA as GOP signatory and borrower. The $3 million loan agreement will call for a forty year repayment schedule with a grace period of ten years (at 2% per annum) and amortization of principal over thirty years (at 3% per annum). The DLGCD will act as the implementing GOP agency, with the Project Management Staff for the Project within the Office of the Undersecretary, Bureau of Local Government.

The financial plan for the Barangay Water Project is drafted to reflect the total costs of the Project and the financial obligations at each implementation level. Contributions toward total project funding will be from: 1) the national government, 2) the provincial governments 3) the barangay water associations, and 4) the USAID.

The fixed amount reimbursement (FAR) will be the key financial scheme to achieve the intended project physical outputs, water systems.

1. National Government Contribution

The National Government of the Philippines will provide Presidential Discretionary Funds under Presidential Decree-144 (PD-144) to the DLGCD in the form of a FAR basis for approved projects but only after completion of construction and satisfactory inspection (see Annex O project flow foldout).

The DLGCD will provide from its own regular budgetary funds: 1) $.17 million for training costs, 2) $.30 million for A & E services, and 3) $ .63 million for salaries and allowances of the Project Management Team and $ .35 million for operational support costs. (Please refer to the "Summary Cost Estimate and Financial Plan" of this Section.)

2. Provincial Government Contribution

Each participating province will be expected to: 1) advance construction capital (direct costs) from its regular budget funds, savings or borrowings, and 2) absorb construction overhead costs (design, subproject inspection, equipment maintenance, etc.). The former will be reimbursed from PD-144 funds. The latter, amounting to a peso equivalent of slightly more than $1 million will not be reimbursed.

The provincial selection criteria, as embodied in the Administrative Procedures, will require each participating province to recruit (or redesignate from their existing personnel complement) and fund a minimum of five new technicians regarded as crucial to successful implementation of the Project. For the life of the Project, this will amount to between ₱60,000 and ₱168,000 per province depending upon the number of years that the province will participate in the Project. The overall sum will amount to $.43 million for all provinces over the three years period of the Loan.

The cost of preparing the Provincial Water Resources Inventory, the Provincial Water Resource Development Plan, subsequent feasibility studies, and other documents will be borne from provincial general funds and are also reflected in this financial plan.

3. Barangay Water Associations' Contribution

A feasibility study will be prepared for each water system which is requested by a community, pre-selected from the Provincial Water Resources Development Plan, and included in the Capital Improvement Plan. If approved, the construction period will follow once initial training in cooperative organization and water system operations and management has taken place.

Each feasibility study must demonstrate sufficient economic viability to insure that the water association membership will be able to amortize from 25% to 50% of the system's construction costs and cover the normal operational costs as well. Amortization of the principal, at a 4% per annum interest rate, will be paid to the province by the association over a period of not more than 10 years. These payments will be utilized in later years by the particular provinces for the generation of more water systems. Amortization payments are not reflected in this financial plan as part of the total project costs as they simply represent a transfer of funds within the economy and are outside the Project itself.

4. USAID Contribution

The USAID cont ution will occur in the project design, pre-implementation, tation, and final evaluation stages of the Project.

During the implementation stages of the Project, USAID will provide technical assistance through the Office of the Assistant Director for Provincial Development.

USAID will provide a direct-hire technician to serve as Project Officer in coordinating the overall development of the Project and to provide planning and implementation, training, management, and engineering services throughout the design and pre-implementation and implementation phases of the Project. Pre-implementation advisory costs are not reflected in the financial tables.

Finally, a $3 million Loan Paper will be signed by October 1977 which will provide the funding that the GOP will later use to purchase goods and services.

The total cost of the Barangay Water Project is $6,363,000 with 50.1% being provided by USAID and 49.9% emanating from the GOP and participating local government contributions.

The GOP has funded the Pre-implementation Phase of the project during 1977 in order to test the methodolog to be employed later on in the Project proper. An amount of $1,142,000 will be spent to cover salaries, operational costs, training and the construction of 12 to 15 subprojects in 7 participating pilot provinces.

With the inclusion of pilot funds that are not reflected in the tables for the Project proper, the GOP contribution will amount to 58% of the total cost of the Project. (See financial tables which follow.)

Costing of Project Output/Inputs
($000)

	1	2	3	4	5	6	7	TOTAL
AID								
a) Loan	-	-	-	-	-	-	3,000	3,000
b) Personal Services	27	27	26	26	26	26	26	184
GOP								
a) Staff	3	3	33	6	6	6	6	63
b) A & E Services	-	-	-	150	-	-	150	300
c) Admin/Op/Supp.	51	51	50	50	50	50	50	332
d) Training								
1) Local Gov't	-	-	153	-	-	-	-	153
2) Proj. Management Staff Development	-	-	21	-	-	-	-	21
e) Peso Reimbursement	-	-	-	-	-	-	(3,000)*	(3,000)*
f) Grants-in-Aid	-	-	-	-	-	-	450	450
Local Government								
a) Personnel	-	-	-	108	108	108	108	432
b) Op/Admin	-	-	28	6	6	6	6	52
c) Training								
1) Staff Development	-	-	153	-	-	-	-	153
2) Water Association	-	-	-	-	-	153	-	153
d) Overhead	-	-	-	-	-	-	1,050	1,050
TOTAL	81	81	484	346	196	349	4,846	6,363

*Non-Add Costs.

Summary Cost Estimate and Financial Plan
($000)

USE	AID FX	HOST LC	TOTAL
Personal Services Contract	184		184
Loan	3,000		3,000
GOP Staff		63	63
A & E Services		300	300
Admin/Op/Support		352	352
Training			
a) Local Government		153	153
b) Proj. Management Staff Development		21	21
Peso Reimbursement		3,000*	3,000*
Grants-in-Aid		450	450
New Local Gov. Personnel		432	432
Op/Admin		52	52
Training			
a) Staff Development		153	153
b) Water Associations		153	153
Overhead Construction Cost		1,050	1,050
TOTAL	3,184	3,179	6,363

*Non-add - draw-downs on Loan.

Summary Cost For Pre-Implementation And Loan Period

SOURCE/ITEM	Pre-Impl.	Phase I (000)			TOTAL
	1977	1978	1979	1980	
1) USAID					
Technical Assistance					
a) 1 Advisor D.H.	0				
b) Personal Service Contract	0	100	84	184	184
c) $3 Million Loan	0	3,000			3,000
2) GOP					
a) Project Management Staff Salaries and Allowances	19	20	21	22	63
b) Technical Assistance (A & E Services)	119	30	102	159	300
c) Administration, Operation and Support	33	85	105	162	352
d) Training					
1) Local Government	39	44	52	57	153
2) Project Management Staff Development	6	7	7	7	21
e) Peso Reimbursements for direct construction cost	320	390*	1,020*	1,590*	3,000*
f) Grants-in-Aid (seed money)	48	58	153	239	450
g) Equipment Pool Dev. (Waterworks Repair Bays)	400	-	-	-	
3) LOCAL GOVERNMENT					
a) Personnel (Salaries)	85	125	146	161	432
b) Operations & Adm	10	14	18	20	52
c) Training					
1) Staff Development	30	44	52	57	153
2) Water Association	30	44	52	57	153
d) Overhead Construction Costs	112	136	357	557	1,050
4) Barangay Water Coops and Associations	-	-	-	-	
TOTAL	1,142	3,716	1,149	1,498	6,363

*Non-Add costs as reimbursed on a fixed amount reimbursement (FAR) basis.

C. Social Analysis

1. Socio-Cultural Feasibility

a. Where the Beneficiaries Are

The Barangay Water Project will construct low cost water systems and organize water cooperatives in the rural areas of 28 selected provinces located throughout the Philippines-preference will be given to communities that are members of an existing electrification cooperative.[1/] Such communities constitute over a quarter of the Philippines' total population. The Project's potential is nationwide in scope. As such, it will encompass all cultural and religious groups in the Philippines.

In general terms, the Barangay Water Project will be operating in areas that are relatively, culturally homogeneous. The pre-dominate cultural group in the Philippines is the Lowland Filipino, which is basically of Malay ethnic derivation and constitutes 88% of the total population.[2/]

b. How They Are Organized

With the exception of private enterprise, the level of organization for potable water distribution in the rural areas of the Philippines, that this Project is concerned with, is almost non-existent. Almost every barangay in the rural areas of the Philippines has a water seller who sells potable water from a privately owned deep well. Such arrangements vary from simple access rights, for a fee, to the well--in which case the purchaser must carry the water over long distances--to the selling of water by containers from a push cart. Water purchased under such schemes normally costs from five to thirty pesos a month, but often it costs much more.

1/ By 1984 the Government of the Philippines (GOP), with the assistance of USAID/Philippines, will have set up operational electrification cooperatives in the Philippines.

2/ Philippine Yearbook 1975, National Economic and Development Authority, Manila, 1975, p. 117.

Those barangay residents that can afford them have privately owned backyard wells. Such wells are normally shallow, hand-dug, open-mouthed wells which give unreliable service and are breeding grounds for diseases.

Most barangays have at least one public well--which was traditionally dug by the national government and left to the Barangay Council to take care of. More often than not such public wells are non-serviceable due to misuse and lack of maintenance.[3/]

Because of the high cost of privately owned potable water and the unreliable nature of other sources, most barangay residents in the rural sector get their water from such services as streams, lakes and other ground water sources. Due to the fact that the source of such water is rarely near the location of the barangay, women and children spend a good deal of their time--up to 30% of it--simply carrying water.

There is a clear need from both a health and an economic point of view for the installation of a dependable potable water delivery system in the rural barangays of the size in which this project proposes to operate. Thousands of deep wells have been drilled in such barangays over the last twenty years, but in the years which followed, such wells became unserviceable or the pumping system broke down--never to be repaired--leaving at best a single faucet at the well head. The reason for the dismal record of potable water distribution systems in the past is simply that such systems were largely pork barrel projects designed to get votes. Rarely were maintenance back-up systems built into the projects. Barangay residents saw such systems as government property and did little to repair them when the systems eventually fell into disrepair. While the government, having not budgeted funds for community pump and well repairs, had neither the funds nor the strong inclination to repair the systems when, requested to do so by the Barangay Council. The central government has largely viewed its job as finished when the project was constructed.

Therefore, what is needed in the Barangay Water Project, is a strong indigenous organization to run the potable water distribution systems. The point needs to be made very clear that the system is the people's and not the government's and that the people can be

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3/ Barangay residents feel that such government-dug wells are the responsibility of the government to take care of and so they do little to repair them--even when they can. The Government on the other hand has had neither the funds or inclination to repair the wells in the past.

prepared, with training, to discharge the responsibilities that come with acquiring and operating a water facility. It is for this reason that a cooperative, or water association, has been designed as the heart of the Project, and that the subproject has been designed in such a way that a portion of the cost of the well and distribution system will be borne by the users. The water associations will have a key role in the selection, design, and installation of the systems. A manager and a small staff, if required, will be trained to run the day-to-day operation of the system as employees of the association. Major repairs will be handled, at a cost to the particular water association, by the Provincial Engineer's Office. (For more details on the Water Associations proposed under this project please see the Technical Analysis subsection of Part III and Detailed Description of Part II.)

The successful installation of a potable water distribution system, at the barangay levels, owned and operated by a consumer's cooperative is expected to meet the same enthusiastic reception that the highly successful NEA Project is currently meeting. Therefore the organizational structure of the water association is expected to enhance the likelihood of a positive spread effect.

c. Allocation of Time

Most barangay residents to be affected by this Project are employed as farmers, fishermen, vendors or laborers, and a sizeable percentage have no steady means of support. Most exist at, or slightly above, subsistence levels. In many instances, and especially in the farming and fishing categories, they have a considerable amount of leisure time at their disposal. Field observations indicate that much of an individual's leisure time is spent with the family or engaged in other social pursuits such as gambling. These field observations correlate well with the findings of a recent study which states that the primary goals of the Filipino include: (1) establishment of a family; (2) securing neighborly ties (neighbor connoting one who can be depended upon) and gaining social acceptance; and (3) improving ones economic condition--with number (3) usually running a poor third.[4/]

[4/] Carroll, John J., with Francisco Arenta, Carlos Arnaldo, and John Keane, Philippine Institutions: The Challenges Which Confront the Filipino Family, the Economy Religion, the Educational System, Mass Media and Politics. Solidaridad Publishing House, Manila, 1970, p. 4.

A study conducted in 1957 indicated that farmers were employed, on an average, four months out of the year in their farms, devoted two months per year to off-farm jobs of various kinds, and were idle for six months per year.[5/] While the situation has changed some since 1957, it is still safe to say that there is a considerable amount of time at the farmers disposal outside of peak agricultural seasons (harvesting and planting) and off-farm employment.

Fishermen interviewed by USAID stated that about 15 days per month were spent in the boats or at the market, and that the remainder of the month was enforced leisure time.

Laborers work when jobs are available and so face a rather uncertain time-allocation schedule during the course of a year. Vendors on the other hand have work almost constantly throughout the year.

The women of the rural barangay have less leisure time available to them than do the men due to the added burden of their domestic activities, though a great deal of this work is done by young girls and older women. Those women who work outside the home, and many do, are likely to be engaged in activities which are not so dependent on weather, such as the preparation and selling of foodstuffs. Farm women are also particularly busy during planting and harvesting seasons.

The daily chores involving water-hauling clothes to the pump or the stream for washing, and hauling of water for the various domestic needs in the home--have been estimated, from field observations and questioning, to take from between 20-30% of the women and children's time. When asked if they would be willing to help install a new water distribution system, the response of barangay residents interviewed was a very enthusiastic "yes." The demand for a cheap, reliable source of piped, potable water in the rural sector of the Philippines is almost unlimited.

When this high priority given a potable water distribution system is combined with the large amounts of leisure time available to barangay residents no problem is foreseen as to getting barangay residents to volunteer time to work on the planning and installation of water distribution systems. Special care must be taken in planning construction so that its demands are not in conflict with the demands of the economic activities of the various barangay residents who will be members of the water association.

5/ Oppenfeld, Horst and Judith, et. al., Farm Management, Land Use and Tenancy in the Philippines, Central Experience Station Bulletin: 1; University of the Philippines, Los Baños, August 1957, p. 84.

d. Motivation

While GOP and USAID officials in the Philippines tend to emphasize the health and economic motivations for the Barangay Water Project, barangay residents state more personal reasons for wanting a water system. When asked why they wished to participate in the Barangay Water Project, barangay residents interviewed tended to emphasize the freedom from privation which the water system promises them, the time and effort saved from no longer having to haul water, and the prestige that their barangay would gain by modernizing its water system.

Water systems have long been a "popular" infrastructure project in the Philippines. There is no need to convince barangay residents of the need for a good potable water delivery systems. The problem is the other way around--that of meeting the demand for good potable water systems. As one governor has pointed out, barangay residents never failed to give him loud vocal appreciation for the wells and pumps which he and his staff had provided them, but he rarely received thanks for such important other infrastructure projects as roads and irrigation canals, as important and necessary as they are, which were regarded less personally.

There are several strong cultural traits among, the more traditional rural Filipinos, that are particularly important motivational factors in the cooperative approach chosen for this Project. The tendency towards "leveling"--the deeply rooted belief that "we are all equal"--is widely upheld by rural Filipinos. Thus, there is a strong appeal towards the sharing of resources and opportunities with "all." This phenomenon will be important to the successful running of the water associations.[6/] In addition there is the spirit of bayanihan (neighborly cooperation in the sense that was prevalent in a barn-raising experiences in the early days on the American frontier) and pakikisama (going along with the group's decision) both are important factors in the successful running of the water cooperative. And finally, there is the extremely strong force of prestige and modernization (umunlad) which will cause many to join the cooperative.

6/ Gutherie, G.M., et. al., The Psychology of Modernization in the Rural Philippines, Institute of Philippine Culture, Paper No. 8, Ateneo de Manila University Press, Quezon City, pp. 42-45.

Motivation for this Project is extremely high. The main problem that is expected to be encountered by the Project, as far as motivation is concerned, is keeping construction and ccoperative formation within the bounds of available financing.

e. Minimum Participator Profile

The minimum participator in the Barangay Water Project has the following characteristics:

(1) He is married and has a family consisting of a wife and 6.6 children.

(2) He has attended up to six years of elementary school, does not speak English well and is barely literate.

(3) His wife has attended up to five years of elementary school, does not speak English well, and is barely literate.

(4) One half of his children are of elementary school age, the other half is either pre-school age or not attending class.

(5) He is employed as a fisherman or as a farmer.

(6) His wife is unemployed or underemployed as a market or street vendor.

(7) Total family income is less than ₱3,096 ($412) per annum, which represents earnings of less than $1.53 per day.

(8) He and his family are normally malnourished, and have a long history of disease--especially gastro-enteritis and pneumonia. Preventive medical care and family planning are not practiced.

The maximum attribute possession which might tend to discourage participation is the control of a private well. Persons who own their own wells, and so have access to "free" water, are not likely to be strong supporters of a water association. If they sell the water from their privately owned wells, as many do, they are likely to oppose the installation of a water distribution system because of the loss of income that such a system would cause them. Such opposition could prove to be an obstacle to the Project. (This opposition will be taken up in more detail in Section A-7 "Obstacles").

f. Matching Participators and Projects

Almost every household in a given rural barangay is a potential participant in the Barangay Water Project. And, as is true with the NEA and LWUA projects in the larger rural towns, almost every household with the resources to meet the minimum requirements can be expected to join the cooperative. Therefore, over time, upwards of 90% of the homes in a given barangay involved in the Barangay Water Project can be expected to join the water association.

Roughly 10% of the homes in a given barangay can be expected not to join the cooperative for a variety of reasons.

Those who previously sold water will be adversely affected due to the deprivation of income which the Project will cause them. This, although an obstacle is considered a positive factor from a society point-of-view.

g. Obstacles:

An obstacle, the extent of which is not still known, that can be expected to be encountered in the Barangay Water Project is the opposition of private well owners who sell water. Persons who own wells are, by barangay standards, economically well off and as such are in positions of considerable influence in the barangay social hierarchy. The installation of a deep well and an efficient water distribution system will result in a reduction in the water seller's income. Therefore, such a person can be expected to oppose the formation of a water cooperative. If he is a major personality in the barangay, or if his past generosity has accumulated a rather large personal debt on the part of the people of the barangay, he may be able to influence enough people to not join the cooperative to make the cooperative infeasible.

Owners of shallow backyard wells who do not sell their water may also prove to be an obstacle if they should decide not to join the water association. Their non-participation may have an adverse effect on the formation of a successful water association by denying it the stabilizing force which these relatively well off (by barangay standards) customers can provide.

And finally, the opposition of some barangay leaders, jaded by past experiences with government sponsored well projects which became unusable in a matter of a few years due to lack of maintenance, may prove to be an obstacle. Such barangay leaders exercise considerable control and could well make a water cooperative in that barangay infeasible.

Communities presenting obstacles of this sort will simply be avoided as there are numerous other communities where the need exists, people are willing, and the circumstances are favorable to undertake the projects. As experience is gained and as the bounties of the Project are demonstrated, the favorable news will travel to the nearby surrounding areas. Thus, the Project will have to stand on its own merit. If the experience is favorable, even the reluctant communities will eventually want to become affiliated with the Project.

h. Communication Strategies

Communication patterns in the Barangay Water Project will flow as follows:

- The DLGCD will train provincial officials.
- DLGCD representatives and provincial authorities will inform the barangay leadership of the nature of the Project, as a normal part of the MCIP planning procedures. (See Annex O.)
- The barangay leadership will hold a Barangay Assembly to explain the program to the people in the prospective participant barangay.
- The barangay will petition the municipal government to be included in the Project.
- If its petition is approved by the provincial government [the Capital Improvement Program Committee (CIPC)], the barangay will be invited to form an association, and participate in training to be provided by DLGCD and provincial officials.
- Once the water association is operational, a flow of information will be established between the association, the municipality, and the provincial officials.
- No special media communication strategies are currently envisioned.

(For further information on the origination, selection, approval, design, construction, and follow-up of community subprojects and related training programs, see Part I - Project Description, Part II - Detailed Description; Part IV - Implementation Plan and Annex O.)

2. Spread Effects

a. Leadership/Authority

Authority patterns in the rural Filipino barangay are a cross between traditional Malay authority patterns and the more recently imposed Spanish and American authority patterns. The typical barangay has from 3 to 15 extended families with a population of roughly 500 persons. The senior kinsman of the largest family is usually the most powerful person in the barangay, based on rights going back to the foundation of the barangay.[7/] Economic wealth (e.g., land ownership or the ability to lend money to large numbers of barangay residents) is another road to authority in the rural barangay--though persons who have such wealth are normally members of the major family in the barangay and, as such, also have other traditional grounds for authority.

Politically, the barangay is run by the Barangay Council (the smallest unit of government in the Philippines). Prior to Martial Law the Barangay Captain and the six Barangay Councilmen were elected by popular vote for four-year terms--they now serve at the discretion of the President. The council operates as the local executive body while the barangay assembly functions as a legislature. Any legal resident of the barangay over 15 years of age, who is registered, may vote in the Barangay Assembly. Although the council is the executive body, its decisions are rarely countermanded by the Assembly. Membership in the barangay council amost automatically goes to representatives of the major families in the barangay due to their superior numbers and traditional claim to authority.

The Spanish felt the parish priest as a person of extremely high respect in the barangay. His authority in questions of morality and religion goes almost unquestioned. The parish priest, therefore, is a powerful opinion leader whose support must be carried when an enterprise crosses into his domain.

The American presence in the Philippines has left the educational establishment, as represented by the school teacher or the principal as an institution of high respect.

7/ Barangay translates into English to mean roughly boat or ship. The original Malay settlers came to the Philippines by dug-out boats from the mainland of Asia. The passengers of each boat or barangay founded a village with the senior male kinsman as the hereditary leader.

The school teacher invariably wields strong opinion-making influence in relation to his or her station. The support of the school teacher for an enterprise is a major step towards achieving general public acceptance.

Decisions of importance in rural barangay are usually made by the group. But on closer examination, the process is more like the following: the opinion leaders make a decision, they explain their decision to the people and the people agree to the opinion leaders decisions.

b. Patterns of Physical Mobility

Mobility patterns of rural barangay are normally rather limited. Daily activity rarely strays from the immediate vicinity of the barangay. For major marketing and for celebration of major religious and civic activities, barangay residents go to the closest large town or city.

Information most often travels to and through the barangay by means of the "grapevine". More formal means of information are through the barangay assembly and announcements in church. Media (newspapers, radio and some TV) are also widely used in the rural barangay.

c. Previous Project Design and Execution

Starting with President Magsaysay's "Liberty Well" program during his anti-Huk campaign of the mid-1950's, the installation of deep wells and water distribution systems have been a major infrastructure program on the part of government in rural barangay. Thousands of such wells were drilled, and distribution systems were installed. The majority of such projects have since become inoperable due to one basic failing--lack of formal organization to manage the facilities. As explained before, the barangay residents saw the wells as government property and expected the government to repair the pumps, pipes, storage tanks, and other items when they needed repair. They also expected the Government to pay for the gas and oil necessary to run the engines and pumps when they were utilized. The government did not budget funds for such functions and instead expected the barangay councils to run the systems.

Many attempts at cooperative development in the past have been less than successful due to poor management and other salient factors. Prior to Martial Law, a government imposed cooperative was dommed to failure because of complex political entanglements. Since Martial Law, the fate of government imposed cooperatives has greatly changed. The Samahang Nayon established as producer

cooperatives for recipients of the Marcos Land Reform Program is the largest and most successful of such cooperatives with a membership of over 873,450 by 1976.[8/] LWUA which operates on a cooperative basis in large municipal towns has also been highly successful.

The answer to the maintenance problem that past water distribution systems in the rural barangay have encountered is believed to be the formation of formal water user organizations, or water associations, (similar to those established for LWUA projects) for the management of the systems. Major maintenance problems are to be handled by a division of the PEO specifically created and budgeted to give technical back-up support to barangay water cooperatives. The expense for replacement parts will be passed on to the water users. (For more details, please refer to Part III, A; "Technical Analysis" or Part II, Detailed Description of the Project.)

d. Maximum Information and Resource Distance

The demand for potable water, at inexpensive rates and through a reliable distribution system is high in the rural barangay. Once a successful water association is operational (the first are due to begin functioning in late 1977) the clamor for membership on the part of other barangay is expected to occur. The demand will undoubtedly outstrip the government's ability to fully comply with the demand for participation. The experience of the NEA (which is responsible for setting up the rural electrification cooperatives) has demonstrated both the high demand for public utilities and the financial feasibility of providing such utilities in the rural sector. The experience of LWUA has also been encouraging. In both of the cited cases, strong horizontal information networks have evolved and have enhanced the spread effect of subprojects and local management organizations. Member-users of the electrification cooperatives, and the water cooperatives (districts) under LWUA and NEA have told friends and relatives in other towns and barangays about the advantages of those programs, thus resulting additional project spread.

8/ Van Steenwyk, Mark A., A Study of Philippine Farmer Organizations, USAID/Philippines, September 1976.

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 for a water subprojects. When this phase, Loan I of the Barangay Water Project terminates in 1981, the GOP will evaluate its performance and its ability to further carry on the Project. Based on the information learned, the government will decide upon the pace at which it will further implement the Project and determine the geographic locations that it will give priority to in further project spread. It is felt that the provincial governments will eventually be able to spread the Project with little financial assistance from the central government. Such favorable conditions could easily occur within a decade.

3. Social Consequences and Benefit Incidence

a. Access to Resources and Opportunities

Access to the water associations organized under the Barangay Water Project will be opened to all households in the barangays operating under the Project. Obviously, some households may be restricted from membership for geographic or other considerations. The vast majority of households of a given rural barangay, however, will be able to become member-users of the proposed systems if they choose and will have direct access to the Project. In addition to the member-users, non-members of the water cooperative will also benefit by the cheaper source of potable water and the distribution system due the cheaper market value of water following the installation of a system and the more convenient location of distribution points. That is, the system will provide an alternative source of competition.

The installation of a potable water distribution system is expected, if field observations are correct, to have a positive effect on retaining population in the barangay. Thus, it would act to slow down the "brain-drain" from rural barangays to urban centers the latter of which are not equipped to accept the migration of increasingly large numbers of skilled and unskilled persons.

The installation of a cooperative owned and operated water system will cause a major shift in water resource control. At present potable water, when available, is controlled by a very small portion of the barangay population. The water association, created under the Barangay Water Project, will cause a shift away from the few who presently

control the access to water to control by the association.

b. Employment

Employment benefits accruing from the Barangay Water Projects are both direct and indirect. The water association will generate up to three full-time salaried positions--a manager, a financial administrator, and mechanic (in some cases, small systems, these positions will have to be combined)--to be paid out of the member-users fees. Indirectly, the Project will allow the creation of such employment opportunities as small scale home industries that require water, backyard gardening, and enterprises catering to the plumbing needs of member-users and the association themselves.

At the other end of the spectrum, the Barangay Water Project can be expected to cause a negative employment effect on those engaged in the sale of water in those barangays where the Project will operate. The negative impact in this sense, as stated above, is a positive factor for the society in general.

c. Rural Displacement, Migration, and Urbanization

The Philippines is rapidly becoming an urban country due to mass in-migration to the urban areas from the rural sector due to the poverty, lack of employment opportunity, and physical deprivation of life in the rural sector. This pattern of urbanization is graphically shown in the table below.

Number of People and Percentage of Population in Urban Areas

Year	Total Population	Urban Population	
		Number	Percent
1939	16,000,303	3,178,729	19.9
1948	19,234,182	5,116,217	26.6
1960	27,087,685	8,171,455	30.2
1970	36,684,486	11,677,820	31.8

Source: National Census and Statistics Office, Manila

By the turn of the century conservative estimates place the urban population at 44.4% of the total Philippine population.[9/]

[9/] The Growth of Urban Population in the Philippines and its Perspective, Bureau of the Census and Statistics, Manila, October 1973, p.18.

The GOP is involved in a major effort to spread industry and promote work opportunities throughout the country. The smaller urban areas--outside of Metro Manila and Cebu--are not now physically able to gainfully absorb the large numbers of rural in-migrants that they are receiving. The GOP's decentralization program will do much to solve the problem of small cities' and towns' ability to absorb the migrants, but until such time as GOP efforts have a chance to take root, there is a strong need to stabilize the rural population. The Barangay Water Project by improving the quality of life in the rural areas will contribute to stabilizing the rural population and to stemming rural to urban pattern so definitely in progress.

d. Changes in Power and Participation

No significant power shifts are expected to occur as a result of the implementation of the Project. A minor shift in power will be the relationship between those who presently sell water and those who buy water. The need for the water seller will be eliminated, or greatly reduced, thus his influence in the barangay will likewise decline.

Also, in a positive vein, the Barangay Water Project is expected to reinforce the democratic institutions of barangay life and thereby strengthen the democratic inclinations of the nation as a whole.

3. Summary of Social Analysis

The Barangay Water Project will initially operate in up to 28 selected provinces located throughout the Philippines. The Project's potential scope is nation-wide. It will encompass people from almost every religious and cultural group in the country. The vast majority of the people to be affected by the Project, however, are Christian lowland Filipino (88% of the population) whose culture is relatively homogeneous despite the fact that they are splitted into seven major regional language groups. The Moslem minority (4.32% of the population) has no cultural differences from the Christian majority insofar as water is concerned; nevertheless, special considerations will have to be employed while working in Moslem barangay so that the Project may be adaptable to the Moslem culture and mores. The pagan cultural minorities (who constitute roughly 7% of the population) are rarely found in large enough numbers to be covered by the potential scope of this Project. When they are attended, special considerations will also be made to adapt the Project to their specific sub-culture and mores.

Potable water projects have long been popular infrastructure projects in the Philippines and the rural leadership is strongly behind the Project and are very favorably disposed to the cooperative approach. Experience with water districts, through LWUA, in towns and cities of 30,000 population and up, and with NEA has also been very encouraging and points to the viability of well managed owner-user organizations.

D. Economic and Financial Analyses

1. General

In the Philippines, the need to provide potable water supplies in the rural areas is well established. Public investment in a project such as this will promote the redistribution of wealth but it will also foment economic benefits that will contribute meaningfully to other national development objectives.

The Barangay Waterwork Project will seek to attain two economic objectives at once. First, it will bring economic benefit above its relative economic costs (as shown by the analytical framework which is summarized in this part of the Paper). And, it will also, as a low cost and subsidized water supply project, promote the redistribution of income to the needy rural areas of the country.

There is no single project which characterizes all subprojects to be undertaken by this Project, for which an analysis can be conducted. There is instead a number of subprojects, ranging in size, location, and costs, and generating varying levels of benefits.

The remaining pages of this part of the Paper will examine the methodology to be used in evaluating subprojects for potential investment, present an illustrative case from which total project benefits and costs can be aggregated, and provide some standards for judging the economic soundness and financial feasibility of the Project in general.

2. Description of Methodology

The following is a summary description of the methodology to be used in evaluating subproject economic soundness and financial feasibility. (For greater detail refer to Booklet No. 2, Feasibility Methodology and Techniques, Barangay Water Administration Procedures).

General Evaluation Procedures

Evaluation procedures consist of four major steps specifically:

a. Initial Selection Criteria -

Subjecting all proposed subprojects to a set of pre-determined selection criteria.

b. Technical Study -

All subprojects that meet the selection criteria will be subsequently subjected to a Technical Study.

c. Economic Analysis and Financial Analysis

All projects that pass the Technical Study will be subjected to an Economic Analysis (Macro-economic review) and Financial Analysis (Micro-economic review).

d. Priority Ranking of Subprojects

All subprojects that pass the above-mentioned tests will be ranked according to priorities, considering both the quantifiable benefits and the relevant non-quantifiable externalities.

aa. The Initial Selection Criteria:

The initial selection criteria as listed in Administrative Procedures Booklet No. 2 provides the pre-conditions for the successful planning, implementation and maintenance of subprojects. These requirements serve as the parameters or boundaries for initial subproject selection.

bb. The Technical Study

The technical study of project evaluation will be done by the Office of the Provincial Engineer in consultation with the Office of the Provincial Agriculturist, the Provincial Health Office, and other relevant agencies, both national and local. It will establish whether the proposed subproject is technically sound in terms of reliable water source, nature of the service area, and appropriate system design. Based on these factors, the study will establish the total subproject cost to be used in economic analysis This initial costing will include all costs incurred prior to the actual operation of the project, or prior to year "one". For simplicity, this initial cost is assumed to occur in the "zero" year in as much as the subprojects on the average will be planned and implemented within a given implementation year.

cc. **The Economic Analysis:**

The economic analysis of subproject evaluation will be done by the Provincial Development Staff in consultation with the Offices of the Provincial Engineer, Provincial Agriculturist, Provincial Health and other relevant agencies, both national and local. This aspect will establish the relative economic and financial feasibility of the subproject as compared to other alternative subprojects. These analyses will include the calculation and establish the following:

(1) The Quantifiable Benefits of a Subproject:

(a) Financial Benefits - The only firm benefits that will be considered in the financial analysis are the revenues that can be derived from the operation of the subproject. These will consist essentially of monthly water fees. This Project, being a low-cost water supply project, provides that water fees should generally not exceed 5% of the average rural family income. This is computed by using the equation:

$$AWF = \frac{AOP + AMC + ADC + RTM}{UF}$$

AWF - Annual Water Fees
AOP - Annual Operating Costs
AMC - Annual Maintenance Costs
ADC - Annual Depreciation Charge
RTM - Reserve Margin for contingencies and future expansion.
UF - Number of user families

(b) Economic Benefits

The following economic benefits are expected to be derived from subprojects. Savings in manhours lost due to reduction of incidence of waterborne diseases. These manhour savings can be utilized for economic endeavors, so that the calculation is confined to the portion of the population which is considered already in the labor force. Thirty percent (30%) of the population served is assumed to be in the productive sector, people in the 10 to 60 year-old range. The valuation of this benefit uses these equations:

i. $Ps = P_p (1 + i)^t \times Pr$

Ps - Population to be served

P_p - Present population in the service area to be projected through the economic life of the subproject.

Pr - Assumed percentage of the population to be served (service area). Assumed is 90% of the community.

ii. Pml = Ps x PP x MBR x PI

Pml - Productive Manhours Lost

PP - Percentage of Population considered to be productive.

MBR - Morbidity Rate of Waterborne diseases. The rate can be provided by health authorities on a location specific basis but in the absence of specific data at the local level the national figure of 0.6% will be used.

PI - Average period of illness. Fifty-six (56) hours or seven (7) days will be used.

iii. Ms = Pml x PR

Ms - Manhours saved

PR - percentage of reduction in the incidence waterborne diseases attributable to the Project. In the absence of specific data in a locality, fifty percent (50%) will be used.

iv. Bmh = MX x AHWR

Bmh - Benefits due to manhours saved

AHWR - Average Hourly Wage Rate in the locality. The minimum wage as provided by law will be used. For simplicity, shadow prices will not be used at the subproject level.

(c) <u>Benefits Due to Manpower Saved</u> - In some cases, pre-mature loss of life due to the waterborne diseases can be prevented. This manpower saved can continue in the economic sector of society providing benefits to both families and the nation. The calculation focuses only on the productive portion of the population served. The calculation involves these equations:

i. Dt = DS x PP x MTR

Dt - Total deaths cause by waterborne diseases

PS - Population Served

MTR - Mortality rate. From the existing records of the Provincial Health Officer. This rate can be calculated, but in the absence of more reliable data on a given locality, 0.5% will be used.

PP - Percentage of population considered productive, 30% is to be used.

ii. Dr = Dt x Pr

Dr - Reduction of productive manpower due to premature death.

Pr - Percentage of reduction in a number of deaths due to the implementation of the Project. For the purpose of this Project, 50% is to be used.

iii. Ep = Dr x Wd

Ep - Economic production of saved manpower

Dr - Reduction in deaths

Wd - Daily wages, The minimum wage, as provided by law, will be used.

(d) Benefits From Savings In Medical Costs - This benefit has a very direct bearing in the country's present development effort. First, it helps to conserve scarce foreign exchange as most of the medical cost components especially drugs are imported. Secondly, the Project could conceivably bring down the ratio between the number of medical practitioners and the number of clients needing care. At present, there is still an acute lack of physicians and medical facilities in the rural areas. This calculation involves the use of the equation:

i. $Bmc = Ps \times \frac{TC}{1000} \times PR$

Bmc - Benefits due to savings in medical costs

Ps - Population served

$\frac{TC}{1000}$ - Medical treament cost per 1000 people. In the absence of local data, P700 (the national figure) per 1000 people will be used.

(e) Benefits Due to Induced Agricultural Production - The supply of water near the home plot can be assumed to induce more backyard gardening than when the water is being carried from a distant source or hand-drawn from a deep well. The percentage of member-families that will put up backyard gardens can be determined from the results of household surveys conducted in the service areas of potential subproject. The calculation of benefits involves the following equations. The Provincial Agriculturist will provide most of the data required.

i. $Ft = \frac{Ps}{7}$

Ft - Number of families in the service area.

Ps - Population served. This is divided by 7, the average size Filipino family. The population served is to be projected throughout the economic life of the Project.

ii. $P = Ft \times Fr \times Aa \times V \times Sc$

P - Total induced agricultural production

Ft - Number of families to be served

Fr - Percentage of families to be served that will put up backyard gardens as per data gained from household surveys.

Aa - Average area of a family size garden, in square meters.

V - Average value of production, per square meter, per cropping season.

Sc - Number of cropping seasons per year

(f) Benefits Due to Savings in Manhours Being Spent in Portering Water - When a potable water supply is brought into the vicinity of homes, the manhours being spent in carrying water from a distant source will be reduced and can be directed to other more productive economic endeavors. In many rural areas of the Philippines, a large number of manhours is being spent in getting water for daily family and livestock use. Many families who can afford it are buying water from regular water vendors whom they call "Aguadores" or water vendors. The calculation for this particular benefit involves the following equations:

$$BF = Ft \times \%F \times Mhs \times 365 \times AHWR$$

BF - Benefit derived from manhours reduced in carrying water.

Ft - Total number of families to be served

$$\left(\frac{Ps}{7} \right)$$

%F - Percentage of families that are carrying water. This can also be established by the household survey.

Mhs - Average manhours being spent by each family per day, to be established by household survey.

AHWR - Average hourly wage rate. The minimum wage as provided by law will be used.

365 - Total number of days in a year.

In summary, the following are the quantifiable economic benefits that can be derived from barangay water subprojects. Other non-quantifiable benefits (external economies) will be given narrative treatment in a report of the potential subproject. Such externalities will also be considered in the final priority ranking.

1. Benefits from savings of manhour lost due to the incidence of waterborne diseases.

2. Benefits in manpower saved due to reduction of mortality rate.

3. Benefits from savings in medical costs.

4. Benefits due to induced agricultural production.

5. Benefits due to savings in manhours from carrying water.

6. The salvage value of subproject components which are estimated to outlast the economic life of the subproject will be treated as benefits in the year they occur.

NOTE: Benefits due to savings in the reduction of fire losses are not considered because of their relative insignificance in the rural communities and because the Project, as described in Part III, Technical Analysis will not provide extensive fire protection.

(2) Subproject Costs - Subproject costs consist basically of the initial investment, annual operational costs, and replacement costs.

(a) The Initial Costs - Initial costs of investment consist of all costs incurred prior to year one (start of operating period) or all costs incurred in year "zero". This comprises planning costs and construction costs incurred in year "zero". Inasmuch as these are relatively small subprojects, both the planning and actual construction is envisioned to take place within a year.

(b) The Annual Costs - These are the costs to be incurred during the operational period of the subprojects beginning at year "one" and ranging throughout the economic life of the subproject. These consists mainly of:

aa. Operating costs such as general administration, salaries of personnel, miscellaneous requirements, and overhead expenses. In the financial analysis, all expenses are to be included, while in the economic analysis those expenses which are merely "transfer payments", such as interest, taxes, etc., will not be considered as costs.

bb. Maintenance costs are expenses incurred in minor repairs and general maintenance of the systems.

(c) Replacement Costs - Replacement costs consist of major repairs and the replacement of sub-components that will not last the full duration of the economic life of the subproject. Such costs will be discounted in the year which they occur.

(3) The Economic Life of a Subproject - The economic life of a subproject will be based on the most durable and the most costly sub-component of the system. If the two conditions, most durable or most costly, are not coincident in any of the sub-components, then the latter condition, the most costly, will be the determining factor. All sub-components that are estimated not to last for the duration of the economic life of the subproject will have replacement costs and those that are estimated to outlast the economic life of the subproject will have salvage values.

The projections and calculations of all annual benefits and costs for both economic and financial analyses will be confined to the economic life of the project.

(4) The Economic Return of Subprojects - In analyzing the economic benefits in relation to economic costs, the Project will use either the Benefit/Cost Ratio (B/C) or the Internal Rate of Return (IRR). The subproject evaluators can select from either of these two commonly accepted measures of economic desirability but in either case, it is necessary to consider the following decision rules:

(a) In the case of B/C, consider for preliminary ranking those subprojects whose B/C is equal to "one" or more than "one".

(b) In case of IRR, consider for preliminary ranking those subprojects, whose IRR is equal to, or more than, 15%. The country's Social Time Preference (STPR) or acceptable Social Rate of Return is in the vicinity of 15% to 18%.

For the calculation of these subproject measures, program personnel will use the general Present Value Formula as follows:

$$PV = \frac{bt - ct}{(1 + i)} = Ko$$

PV - Present Value

Ko - Initial Cost or initial investment. This will consist of all planning and construction cost.

b - Represents the annual benefits consisting of a summation of all the benefits mentioned previously. Salvage values will be treated as annual costs and will be discounted in the year which they occur.

i - Discounting rate to be used. In financial analysis, the discounting rate follows the prevailing rate of interest in the commercial banks. In economic analysis, 15%, which is the estimated Social Time Preference Rate of the country, will be used.

t - Timeframe of subproject evaluation, equal to the economic life of the project.

To compute for the Benefit/Cost (B/C) Ratio, Calculations as follows will be used:

$$B/C = \frac{\dfrac{b_t}{(1 + i)^t}}{\dfrac{c_t}{(1 + i)^t} + Ko}$$

To compute for Internal Rate of Return (IRR), calculations as follows will be used:

When PV = 0, IRR = i

$$PV = \frac{b_t - c_t}{(1 + i)^t} - Ko = 0$$

The alternative process (as illustrated in the Barangay Water Administrative Procedures Booklet No. 2) will be used. To shorten the process, interpolation will be used.

$$IRR = STPRP + \frac{PVP}{PVP + PVN} \times STRPN - STPRP$$

STPRP - Discounting rate used in arriving at positive PV

PVP - Value of Positive PV

PVN - Absolute value of negative PV (Disregarding the minus sign in the equation).

STPRN - Discounting rate used in arriving at the negative PV.

NOTE: The interpolation gap will be confined to just two (2) calibrations of STPR.

Financial Return - The calculation of Financial Return will also use the present value method where either the B/C or IRR will be computed. The only difference is in the nature of benefits and costs to be included in the calculations. The principal financial benefits are the water fees collected and the principal costs will be all financial expenses incurred regardless of transfer payments.

(5) Method of Project Evaluation to be Used in Final Priority Ranking and Final Selection of Subprojects: - The nature of program implementation calls for a certain mix of economic desirability and financial viability within each subproject. While the nation will invest in the given subproject on the basis of its economic contribution to national development, the member-users of a water association will be the ones to manage and operate the system using the revenues from water fees. Thus, it is conceivable that a subproject could be acceptable, in purely economic terms of evaluation, and yet not be financially viable.

Both points of view will be considered in the final priority ranking of subprojects and the following calculations of final IRR or B/C will be used:

(a) Economic Analysis

(IRR or B/C) will be given 60% weight.

(b) Financial Analysis

(IRR or B/C) will be given 40% weight.

Example:

Economic IRR is 19%.

Financial IRR is 17%.

Final IRR will be:

$$(19\% \times .6) + (17\% \times .4) = 18.2\%$$

This concept of considering both points of view in a village water supply program has been recognized in the IBRD (World Bank) Research Paper "Village Water Supply and Sanitation in Less Developed Countries" by Robert J. Saunders, Professor of Economics at Kent State University and Jeremy J. Warford, Public Utilities Department, World Bank.

3. Benefits of the Barangay Water Project to the Philippine Economy -

The methodology for evaluating subprojects under this Project clearly establishes the potential economic benefits that will be derived by the country. The aggregate manhours and manpower saved, the total agricultural production induced, and the total savings in medical costs which will result in savings of foreign exchange; the flow of foreign exchange earmarked for the program; and, the utilization of local resources (manpower and local materials) will all contribute very favorably to the overall economic development of the nation.

The nature of project financing, which is both from foreign sources (USAID) and national sources (GOP Counterpart), will have a definite and direct impact on the overall economic activity of the country.

To quote the findings of the authors of the aforementioned World Bank Paper, "The country will experience an increase in overall economic activity as a result of Water Supply Programs if at a given time, (a) a portion of the funds which are needed for rural water supply investment are obtained from sources outside the country (such as an international agency), (b) if these funds would not have flowed into the country except for rural water supply programs, and (c) if the country is not operating with all of its resources fully employed. At the minimum, the increase in the country's economic activity or output will be equal to that proporti of the increase in direct program expenditures which is financed by outside sources plus the increase in indirect expenditures made by those newly employed in the program and those directly, or indirectly supplying services, equipment, and materials to the program." All of the above conditions are met by the Barangay Water Project. Furthermore, the Project, being a low-cost water supply and a subsidized program, will effect redistribution of income which is also one of the national economic objectives.

A Project such as the one proposed will also contribute to the solution of the perennial problem of rural-to-urban migration which is heavily taxing the national economy in terms of providing even minimal services, facilities, or employment to people who conglomerate in the urban centers.

The Barangay Water Project will help to promote the tourism industry of the country. Tourists are not readily attracted to countries with a high incidence of diseases nor will they be encouraged to visit the rural areas of the country in the absence of basic services. Therefore, the direct effect of this Project on the reduction of incidence of these diseases will have an indirect effect on the tourism industry which brings foreign exchange into the country.

Calculations of Quantifiable Benefits of the Barangay Water Project to the Philippine Economy - The following calculations present an estimate of the quantifiable economic benefits of the Project from a macro-economic point of view. Although there are a number of benefits, both direct and indirect, which are discussed above, only the following can be reasonably quantified:

(1) All benefits derived from subprojects already discussed

(2) The flow effects of Foreign Exchange.

The Project envisions the implementation of 250 to 480 subprojects between 1978 and 1980 depending on the size and level of technology that the water supply system will require. Each subproject involves a cost ranging from P20,000 to P300,000 also depending on the two factors cited above. The Project expects to implement around 365 subprojects at a cost of P160,000 per subproject. The Project also envisions serving small communities with populations of 300 to 5,000 people. A typical community will have about 1,500 people, but it is safe to assume that a typical subproject can reach more than one community. In many cases, a group of small communities can be served from a common subproject. On the average, a typical project costing P160,000 can serve 2,600 people for a per capita investment of P62. Occular surveys conducted of a number of rural water supply systems in the provinces of Batangas, Rizal, and Albay reveal that on the average per capita investment in such system is in the vicinity of P50. LWUA claims a higher average per capital investment of about P200. Considering that LWUA operates in the urban centers, the systems are more sophisticated (with individual House connections and fire hydrants) and more costly than the subprojects contemplated under the Barangay Water Project which have a lower level of Technology and sophistication.

The aforementioned assumptions will be used in the calculations of quantifiable benefits at the Project level.

4. <u>Project Magnitude</u>

a. <u>Estimated Population To Be Served</u>

2,600 x 365 = 949,999 or say 950,000 (Average population per subproject x average number of projects).

This population estimate is for the 3-year implementation stage which is to be considered as "zero" year at the project level.

b. <u>Estimated Initial Cost Requirements</u>

P160,000 x 365 = P58 million (typical subproject cost x the average number of subprojects.)

c. Economic Life of the Project

The 3-year implementation stage (1978-1980) will be considered "zero" year and the economic life of the Project will follow the economic life of a typical subproject which is 20 years.

d. Estimated Aggregate Benefits for Subprojects to be Implemented Under This Project - For complete calculations of the three benefits, see the attached Worksheets 1-6.

(1) Benefits from manhours saved due to reduction of incidence of waterborne diseases.

$$BMH = \left[950{,}000\ (1 + i)^t\right] \times .3 \times .006 \times 56 \times .5 \times P1{,}000$$

Projected Population (3% Growth Rate) x Percentage of Productive Population x Morbidity Rate x Average Number of Hours of illness x Percentage Reduction in Incidence of Waterborne diseases due to the Project x Minimum Hourly Wage = Savings in Manhours Lost due to Reduction of Incidence of Waterborne disease (BMH). (Refer to Worksheet No. 1)

(2) Savings in Medical Treatment Costs

$$BMC = \left[950{,}000\ (1 + i)^t\right] \times .7 \times .5$$

Projected Population (3% Growth Rate) x Average Medical Treatment Costs x Percentage Reduction in Incidence of Waterborne Diseases. (Refer to Worksheet No. 2)

(3) Benefits Due to Manpower Saved:

$$EP = \left[950{,}000\ (1 + i)^t\right] \times .3 \times .005 \times .5 \times P8.00 \times 260$$

Projected Population x Percentage of Population considered productive x Morbidity Rate x Percentage Reduction in Incidence of Diseases Due to the Program x Daily Wage x Average Number of Working Days in a Year = Economic Production of Manpower Saved. (Refer to Worksheet No. 3)

This benefit item does not include the savings in funeral services for people who might have otherwise died.

(4) Induced Agricultural Production

$$P = \frac{950,000}{7} (1 + i)^t \times .4 \times 30 \times 2.00 \times 3$$

Projected Population divided by average number of persons in a Filipino family x percentage of families to engage in backyard gardening x average area of backyard garden per family in square meters x average number of croppings per year = Total induced agricultural production. In the illustrative example of Barangay Water Booklet No. 2, the percentage of families assumed to engage in backyard gardening is 40%, the average area formed per family is 30 square meters, income from vegetable production per meter is P2.00, and the number of croppings per year is 3.

This does not include induced livestock production.

(5) Benefits Due to Saving Manhours Spent in Carrying Water

$$BF = \frac{950,000}{7} (1 + i)^t \times .3 \times .5 \times P1.00 \times 365$$

Present population divided by average number of persons in a typical Filipino family x projected population x percentage of families carrying water x average number of manhours being spent by one family per day x average hourly wage x 365 days in a year = saved manhours being spent in fetching water.

e. Benefits Derived from Foreign Exchange Component

A $3,000,000 Dollar Loan is to be used to match a GOP counterpart of the same amount of money. Under the reimbursement scheme, the GOP, through the DLGCD, will reimburse the participating local governments for direct project costs upon satisfactory completion of subprojects.

The $3,000,000 Dollar Loan is to be paid in 40 years, the first ten years is a period of grace with 2% interest payable per annum. The principal will be repaid over the last 30 years of the loan along with 3% interest per annum.

In addition the $3,000,000 Dollar Loan, USAID will provide a $184,00_ grant for technical assistance. The project evaluation of foreign exchange is treated as a cost only when it is repaid. In this case, the benefits that can be derived from foreign exchange is equal to the total number of dollars received, minus the discounted repayment of interest starting on the 11th year. This is calculated as follows: (For more detailed computation, refer to Computation Schedule No. 1).

f. Total Benefits for the Foreign Exchange Component

Total loan to be received during the 3-year project implementation.		$3,184,000
Less:		
(1) Discounted value of principal repayment at 15%	- $112,400	
(2) Discounted value of interest payment for the first 10 years at 15%	- $162,020	
(3) Discounted value of interest for the next 30 years at 15%	- $ 86,019	
Total Cost Portion of the Foreign Exchange Component		$ 260,439
		$ 2,923,439
	OR	
		$ 2,924,000

NOTE: With such soft terms, the Foreign Exchange Component practically results in a grant. This does not consider the shadow pricing of foreign exchange, which at present has a 1.5 relative value. If such shadow-pricing is to be considered, the total foreign exchange benefits would be $2.924 x 1.5 or $4.13 M.

5. Labor Price Adjustment

It is acknowledged that the labor costs are overvalued. A portion of the labor component which will be used in project implementation will be idle labor, thus, it can be considered as a benefit instead of a cost. This project evaluation did not consider such an adjustment because the subproject evaluation does not consider shadow pricing. The Project assumes that possible price adjustments in labor costs is offset by the calculation of

benefits. It is also assumed that all manhours and manpower saved have opportunity costs equal to the minimum wage law.

6. Project Costs

The Project costs will consist mainly of the estimated initial investment requirement of ₱58,000 million, the aggregate operating costs of subprojects (estimated to be 10% of the initial cost), and the aggregate maintenance costs (estimated to be 5% on the average annual income). Earlier subproject operational years will have lower maintenance costs. Later years will have higher maintenance and replacement costs. At the project level, replacement costs are assumed to be offset by salvage values on the benefit side and the 5% maintenance cost which is used is generally higher than the costs shown in the illustrative example of a typical subproject.

The project costs will also include repayment of principal and interest on the Dollar Loan as computed in Computation Worksheet No. 1.

Also to be included are costs incurred in the general administration of the Project, at the national level, and training expenses for personnel. (For detailed computation, see Worksheet No. 2.)

7. Calculation of Benefit/Cost Ratio at the Project Level - 15% Discount Rate is Used

$$B/C = \frac{\text{Total Discounted Annual Benefits} + \text{Discounted Value of Foreign Exchange Proceeds}}{\text{Total Discounted Annual Costs} + \text{Initial Investment}}$$

$$= \frac{135.47 + (\$62.9M \times 7.3)^{*}}{57M}$$

$$= \frac{135.47 + 21.17}{15 + 58} = \frac{156.65}{115} \doteq 1.36$$

NOTE: The total discounted annual costs include operating costs, maintenance costs, and general administration at the project level.

*Note calculations in this part of the Paper are based on $1 equals ₱7.3

WORKSHEET NO. 1

The calculation of Benefits from manhours saved due to the reduction of incidence of diseases (BMH). The only variable factor in the formula is population. All other components such as the percentage of productive population, morbidity rate, average number of hours of illness, percentage in reduction of incidence of diseases, and hourly wages are all constants. These constants will be represented by a single constant in the calculations presented to wit:

.3 x .006 x 56 x.5 x P1.00 = P0.05

(IN THOUSANDS)

YEAR	1	2	3
1	978.5	.05	P49
2	1008.0	.05	50
3	1038.0	.05	52
4	1070.0	.05	54
5	1101.1	.05	55
6	1134.3	.05	57
7	1168.5	.05	58
8	1203.7	.05	60
9	1239.8	.05	62
10	1276.8	.05	64
11	1314.8	.05	66
12	1354.7	.05	68
13	1395.6	.05	70
14	1437.4	.05	72
15	1480.1	.05	74
16	1524.8	.05	76
17	1570.4	.05	79
18	1616.9	.05	80
19	1666.3	.05	83
20	1715.7	.05	86

Column:
1 - Projected population using 950,00 as base population in year "zero" and a growth rate of 3%.
2 - Constant multiplier of .05
3 - Benefits from manhours saved due to reduction in incidence of diseases.

WORKSHEET NO. 2

Calculations for Savings in Medical Treatment Cost
(BMC)

YEAR	Projected Population Cost/Pesos	Average Treatment	Percentage Reduction in Incidence of Waterborne Diseases	BMC
1	978.0	.7	.5	332.50
2	1008.0	.7	.5	353.0
3	1038.0	.7	.5	363.50
4	1070.0	.7	.5	374.50
5	1101.1	.7	.5	385.50
6	1134.3	.7	.5	397.0
7	1168.5	.7	.5	408.95
8	1203.7	.7	.5	421.30
9	1239.8	.7	.5	433.90
10	1276.8	.7	.5	446.90
11	1314.8	.7	.5	460.20
12	1354.7	.7	.5	474.10
13	1395.6	.7	.5	488.50
14	1437.4	.7	.5	503.10
15	1480.1	.7	.5	518.00
16	1524.8	.7	.5	533.70
17	1570.4	.7	.5	549.60
18	1616.9	.7	.5	565.90
19	1666.3	.7	.5	583.20
20	1715.7	.7	.5	600.50

WORKSHEET NO. 3

Calculations for Benefits due to manpower saved from reduction of mortality rate. Again, the only variable factor is the projected population and a constant multiplier is to be used, to wit:

3 x .005 x .5 x ₱8.00 x 260 = ₱16

(IN THOUSANDS)

YEAR	1	2	3
1	978.5	.16	156.60
2	1008.0	.16	161.30
3	1038.0	.16	166.10
4	1070.0	.16	171.20
5	1101.1	.16	176.20
6	1134.3	.16	181.50
7	1168.5	.16	186.96
8	1203.7	.16	192.60
9	1239.8	.16	198.40
10	1276.8	.16	204.30
11	1314.8	.16	210.40
12	1354.7	.16	216.80
13	1395.6	.16	223.30
14	1437.4	.16	229.98
15	1480.1	.16	236.80
16	1524.8	.16	243.96
17	1570.4	.16	251.30
18	1616.9	.16	258.70
19	1666.3	.16	266.60
20	1715.7	.16	274.50

Column:

1 - Projected Population using base population of 950,000 growing at 3% per annum.

2 - Constant multiplier of P.16

3 - Economic Production of manpower saved (EP).

WORKSHEET NO. 4

Calculations for Induced Agricultural Production

YEAR	1	2	3	4	5
1	978.5	7	139.78	72.00	10064
2	1008.0	7	144.0	72.00	10368
3	1038.0	7	148.29	72.00	10677
4	1070.0	7	152.86	72.00	11006
5	1101.1	7	157.3	72.00	11326
6	1134.3	7	162.04	72.00	11667
7	1168.5	7	166.93	72.00	12019
8	1203.7	7	171.96	72.00	12381
9	1239.8	7	177.11	72.00	12752
10	1276.8	7	182.4	72.00	13133
11	1314.8	7	187.83	72.00	13524
12	1354.7	7	193.53	72.00	13934
13	1395.6	7	199.37	72.00	14355
14	1437.4	7	205.34	72.00	14784
15	1481.1	7	211.44	72.00	15224
16	1524.8	7	217.82	72.00	15684
17	1570.4	7	224.34	72.00	16152
18	1616.9	7	230.99	72.00	16631
19	1666.3	7	238.04	72.00	17135
20	1715.0	7	245.1	72.00	17647

Column:

1 - Projected Population

2 - No. of persons in a Filipino family

3 - No. of families

4 - Constant multiplier representing average percentage of families engage in backyard garden 30%, average area of backyard garden, 15 sq. m., average value per square meter (P2.00), average no. of croppings per year (2). This is found to be 18 per family.

5 - Annual induced agricultural production.

WORKSHEET NO. 5

Calculations for benefits due to manhour savings from carrying water.

YEAR	1	2	3	4	5
1	978.5	7	139.79	54.75	7653
2	1008.0	7	144.0	54.75	7884
3	1038.0	7	148.29	54.75	8119
4	1070.0	7	152.86	54.75	8369
5	1101.1	7	157.30	54.75	8612
6	1134.3	7	162.04	54.75	8872
7	1168.5	7	166.93	54.75	9139
8	1203.7	7	171.96	54.75	9372
9	1239.8	7	177.11	54.75	9697
10	1276.8	7	182.40	54.75	9986
11	1314.8	7	187.83	54.75	10294
12	1354.7	7	193.53	54.75	10596
13	1396.6	7	199.37	54.75	10914
14	1437.4	7	205.34	54.75	11242
15	1480.1	7	211.44	54.75	11576
16	1524.8	7	217.83	54.75	11926
17	1570.4	7	224.34	54.75	12283
18	1616.9	7	238.04	54.75	13033
19	1666.3	7	238.04	54.75	13033
20	1715.7	7	245.10	54.75	13414

Column:

1 - Projected Population

2 - Average No. of Families in a Filipino Family

3 - Estimated number of families

4 - Constant multiplier representing average percentage of families carrying water (30%), average number of manhours being spent in carrying water per family per day (.5). Hourly wage (P1.00), number of days in a year (365). This is found to be P54.75 per family.

5 - Benefits due to savings in manhours being spent in carrying water.

WORKSHEET NO. 6

Summary of Quantifiable benefits at the project level and their discounted values at 15%.

(IN THOUSAND OF PESOS)

YEAR	BMH	BMC	EP	P	BF	TOTAL	DF	DV
1	49	332	157	10064	7653	18255	.870	15882
2	50	353	161	10368	7884	18816	.756	14225
3	52	365	166	10677	8119	19379	.658	12751
4	54	373	171	11066	8369	19975	.572	11426
5	55	386	176	11326	8612	20555	.497	10216
6	57	397	182	11667	8872	21175	.432	9148
7	58	409	187	12019	9139	21812	.376	8201
8	60	421	193	12381	9372	22427	.327	7334
9	62	434	198	12752	9697	23143	.284	6573
10	64	447	204	13133	9986	23834	.247	5887
11	66	460	210	13524	10284	24544	.215	5277
12	68	474	217	13934	10596	25289	.187	4729
13	70	489	223	14355	10914	26051	.163	4246
14	72	503	230	14784	11242	26831	.141	3783
15	74	518	237	15224	11576	27629	.123	3498
16	76	534	244	15684	11926	27964	.107	2992
17	79	550	251	16152	12283	29315	.093	2726
18	80	566	259	16631	12647	30183	.081	2445
19	83	583	267	17139	13033	31105	.070	2177
20	86	601	275	17647	13414	32023	.061	1953
TOTAL				270467	490305			135465

BMH - Benefits in manhours due to reduction of incidence diseases

EP - Economic production of manpower saved due to reduction of mortality rate.

P - Induced agricultural production

BMC - Benefits due to savings in Medical Treatment Costs.

BF - Benefits from manhours saved which were formerly spent in carrying water.

DF - Discount Factor at 15%.

DV - Discounted Value

COMPUTATION SHEET NO. 1

A. Computation for the discounted value of principal repayment at 15%. (Note that the repayment of principal will fall on the 11th year of the program economic life).

$$DVL = AP \left[\left(1 - \frac{1}{(1+.15)^{40}} \right) - \left(1 - \frac{1}{(1+.15)^{10}} \right) \right]$$

$$= 100{,}000 \times 1.124 = \$112{,}400$$

Discounted Value of Loan Repayments

= Annual Repayments x Annuity Factor from 11th year up to the 40th year.

B. Discounted Value of Interest Payments for the first 10 years (grace period) at 15%. The interest is to be paid in lump sum amounts on the 10th year.

$$I_{10} = TL \left((1+i)^t - 1 \right)$$

$$= 3.0M \left((1.22) - 1 \right) = \$660{,}000$$

Interest for 10 years = Total loan x compounding factor for 2% on the 10th year minus 1.

$$DVI = I \left(\frac{1}{(1+.15)^{10}} \right)$$

$$= 660{,}000 \times .247$$

$$= \$162{,}000$$

Discounted Value of interest payment for the first 10 years at 15% = Interest Payment for 10 years x Discount Factor at 15% on the 10th year.

C. Discounted Value of the interest payments for the next succeeding 30 years.

Term: Equal Annual Repayment of Principal including .03% interest on the unpaid balance.

$$ARP = TL \times \left(\frac{.03}{1 - \frac{1}{(1 + .03)^{30}}}\right)$$

$$= 3.0M \times .051$$

$$= 153{,}000$$

Annual Repayment including principal and interest (ARP) = Total loan x Capital Recovery Factor for 3% for 30 years.

$$AIP = ARP - AP$$

$$= 153{,}000 - 100{,}000$$

$$= \$53{,}000$$

Annual Interest Payments (AIP) = Annual Repayment minus annual amortization of principal.

$$DVI_{30} \text{ at } 15\% = AIP \left[\left(1 - \frac{i}{\frac{(1 + .15)}{.15}}\ 40\right) - \left(1 - \frac{i}{\frac{1 + .15}{.15}}\ 10\right)\right]$$

$$= 53{,}000\ (6.642 - 5.019)$$

$$= \$86{,}019$$

COMPUTATION WORKSHEET NO. 2

A. Computation of Discounted Value of Operating Costs at 15%.

$$AOP = 58.0m \times .1$$

$$= 5.8m$$

Estimated Annual Operating Costs = Estimated Initial Investment x 10%.

$$DV_{AOP} = AOP\ 1 - \left(\frac{\frac{1}{(1 + .15)^{20}}}{.15} \right)$$

$$= 5.8m \times 6.26$$

$$= ₱36.3m$$

Discounted Value of Annual Operating Costs at 15% = Annual Operating Costs x Present Value of an Annuity Factor at 15% on the 20th year.

B. Computation of Discounted Value of Annual Maintenance Costs at 15%.

$$AMC = 58.0m \times .05$$

$$= ₱2.9m$$

Estimated Annual Maintenance Costs = Estimated Initial Investment x 5%

$$DV_{AM} = AMC \left(1 - \frac{\frac{1}{(1 + .15)^{20}}}{.15} \right)$$

$$= 2.9m \times 6.26$$

$$= ₱18.15m$$

C. General Administration Costs and Training Costs

The general administration and training cost will come from two sources:

GOP - $179,000 or ₱1,306,700
USAID - $184,000 or ₱1,343,200
(₱7.30 - $1.00 is used in this calculation)

PART IV - Implementation Arrangements

A. Recipient and AID Administrative Arrangements

1. Recipient

a) Description of Recipient Agencies and AID Administrative Arrangement

The National Economic and Development Authority (NEDA) will represent the GOP as the borrower. The Department of Local Government and Community Development (DLGCD) will be the implementing agency working through the participating provinces. The DLGCD has assigned a qualified Project Director to administer the Project. The Project Director is supported by a technical and clerical staff. The DLGCD has a Provincial Development Officer (PDO) and staff resident in each province. With the reorganization of the Provincial Development Assistance Project (PDAP), the PDO's have been given steady increases in responsibility and authority.

The participating provinces, and the qualified Rural Service Centers (RSCs), will prepare the plans, specifications and cost estimates for the various water subprojects. After approval by DLGCD and USAID, the provinces and the RSCs will implement the subprojects utilizing their own funds.

The Provincial Engineer, or his counterpart in the RSCs, will be primarily responsible for implementing the subprojects. The DLGCD will contract with local A & E firms to provide independent monitoring of the Project. The A & E firm will be responsible for: (a) reviewing each subproject design, costs and specifications and recommending to DLGCD a reasonable amount of the capital costs for later reimbursement; (b) inspecting and monitoring subproject construction to assure conformity to previously agreed upon costs and specifications; (c) inspecting each subproject after completion and recommending either reimbursement or rejection of the subproject. The forms and procedures used in overall project management are detailed and illustrated in the Barangay Water Project

Administrative Procedures.

When a project has been completed and approved by DLGCD, the province will be reimbursed for the previously agreed upon fixed amount. Normally, this reimbursement will be from 70% to 75% of the total subproject cost. Under the terms of the Loan Agreement, the Government of the Philippines will receive a bank deposit in a dollar amount equivalent to the peso value of reimbursements planned for the participating provinces for satisfactorily completed subprojects. A number of infrastructure programs of similar complexity have been carried out already thus demonstrating the capability of the recipient to implement this Project.

2. Implementing Agencies

a. Department of Local Government and Community Development

The DLGCD is a line agency of the Government of the Philippines. The Secretary of DLGCD is a member of the Presidential Cabinet. DLGCD is divided into three operating bureaus: (1) the Bureau of Local Government, (2) the Bureau of Community Development, and (3) the Bureau of Cooperative Development. The role of DLGCD is to provide for the administration and management of local governments (provincial, municipal and barangay government) including policy formulation, financial control and direction on a wide range of local government functions and activities. The Department serves to coordinate at the highest level with other national agencies including those that have regulatory or other functions with respect to the provision of domestic water.

Directly under the Office of the Undersecretary for Local Government is the office of the newly created Office of the Barangay Water Project. It is headed by a Project Director and ostensibly has a personnel complement sufficient to attend to the overall and primary responsibility of implementing the project. It has separate divisions and appropriate units to answer to the operational and administrative needs of the program including monitoring.

At the national level, a large number of agencies will cooperate in the implementation of the Project. Principal among those agencies are: the Department of Health, Local Water Utilities Administration, Metropolitan Water Sewerage System (MWSS), and the Farm Service Development Corporation (FSDC). Their efforts will be further supported by the World Health Organization, who is currently providing advisory services to the Project.

All of the above agencies have already participated in several planning, organization and training activities with the Barangay Water Project.

A formal agreement has been reached with DOH for continuing support. (See Annex M.) Formal agreements will be reached with all of the agencies above and the NEA, a key organization in the provision of services to the rural areas of the Philippines.

At the provincial level, the DLGCD is represented by a Provincial Development Officer (PDO). Among his other responsibilities, the PDO must review the provincial development plans funded under Presidential Decree 144 which provides that 20% of the collections from national Bureau of Internal Revenue taxes not otherwise accruing to special funds to special accounts in the general fund shall accrue to local government for development purposes. PDO coordinates closely with the Provincial Development Staff (PDS) on all appropriate developmental activities and particularly with the PDAP participating provinces. Under the Barangay Water Project, the PDO has been assigned specific review and processing responsibilities regarding all projects proposed for implementation in his assigned province.

b. Provincial Development Assistance Project

The Provincial Development Assistance Project is an agency formerly within the Office of the Executive Secretary to the President now under the administrative control of the DLGCD by virtue of LOI 46 dated August 18, 1976. PDAP is responsible for developing and field testing the systems, techniques and procedures needed to improve and enhance the management and administration of local government bodies (the provinces, the municipalities and the barangays) throughout the Philippines. PDAP coordinates closely with the DLGCD and ultimately will become an organ of the DLGCD organizational structure. The goal of the PDAP is to improve the effectiveness of the various agencies of local government in serving their citizenry in attaining national and local objectives, particularly emphasized is development planning, programming, infrastructure construction, subproject and equipment maintenance and fiscal management. This Project is designed to assist provincial and local governments to respond effectively to rural needs in a number of priority areas, one of which is health. To attain its goals and objectives, PDAP provides four basic types of assistance to the participating local governments. First, technical assistance, including engineers and equipment specialist, and area specialists with extensive monitoring and advisory capability. Second, training, including a wide-range of both formal and informal programs relating to all facets of provincial engineering as well as

equipment pool operations. Third, commodity assistance is provided both with regard to excess property for equipment pools as well as specialized office equipment and quality control equipment for the Provincial Engineer's Office. Fourth, limited loans for construction of equipment pool facilities.

The PDAP organizational structure includes some 18 engineers including four supervisory or area engineers and 14 field engineers as well as 8 area development specialists. PDAP is continuing to strengthen its engineering capability by recruitment, training and on-the-job experiences. It is anticipated that PDAP will function to a considerable degree in providing technical assistance to the Barangay Water Project as it has in the formative stages of project development and as it has in support of other infrastructure development projects in the past.

All of the provinces participating in the Barangay Water Project are PDAP provinces which have previously attained a relatively high level of infrastructure planning and implementation capacity.

c. Provincial Development Staff

The Provincial Development Staff (PDS) is a planning and coordinating body located within the Office of the Provincial Governor. Under the provisions of Executive Order No. 121, all provincial governments are required to organize a Provincial Development Committee which is to consist of representatives from all national and local agencies and includes as well the private sectors relating to socio-economic development in the province. The Provincial Development Coordinator (PDC) provides the policy guidance and overall coordination for the development of the province in both the public and the private sector activities. The Governor is the ex-officio Chairman of the Provincial Development Committee. Under Executive Order No. 121, he is further directed to establish a Provincial Development Staff which will serve as the staff for the Provincial Development Committee. While no standard organization plan or structure is presented in Executive Order No. 121 for either the Provincial Development Committee or the PDS, PDAP has established the requirements for PDAP participation in the various provinces. The requirements include seven specified skills or personnel specialties as follows:

(1) Provincial Development Coordinator
(2) Project Analyst
(3) Fiscal Analyst
(4) Agricultural Analyst
(5) Infrastructure Analyst
(6) Water Resource Analyst, and
(7) Researcher/Statistician

All seven are provided extensive training by DLGCD. More specifically, the Infrastructure Analyst serves as the staff officer who closely monitors all facets of the provincial infrastructure activities at the staff level, including those related to the Barangay Water Project.

d. Provincial Engineer's Office

The Provincial Engineer's Office (PEO) is an office of the provincial government. It is directly responsible to the Provincial Governor for the design, planning and implementation of designated engineering services and construction and maintenance activities. Its principal officer is the Provincial Engineer and is staffed in accordance to a table or organization which covers the functions of administration, design, construction, quality control, inspection and maintenance. The size and composition of the provincial engineer's staff depends largely upon the provincial budget and the overall work requirements. In most provinces, it is by far the largest provincial office both in terms of manpower and funding. The technical staff includes the competence to conduct all phases of engineering functions including survey, design, drafting, costing, implementing and monitoring a variety of construction subprojects.

An important component of the PEO is the Provincial Equipment Pool which provides a motor vehicular and heavy equipment capability for new construction, and a range of maintenance capabilities. The PEO with the PDS assistance of PDAP provinces must meet a number of planning and operating requirements, including the preparation of an Equipment Pool Development Plan, an operational Quality Control Laboratory and a Waterworks Repair Bay, and maintain an equipment deadline rate of less than 25%. The PEO will have the primary responsibility for the technical planning and implementation of the Barangay Water Project.

Training in the broad sense as well as in specific formal training courses have contributed materially to the progress and accomplishments of the PDAP provinces. A partial listing

of the major on-going or completed, FY 76A (July 1, 1976 to December 31, 1976) and part of CY 1977 PDAP training courses for designated provincial personnel includes the following:

Real Property Tax Administration Seminar

Equipment Pool Management Seminar

Seminar in Data Gathering for Comprehensive Planning

Engineering Management Seminar

Feasibility Studies Seminar Barangay Water

Feasibility Studies Seminar Rural Roads

Standard Files and Reports Seminar

Rural Roads Administration Procedure Seminar

Barangay Water Administration Procedure Seminar

Provincial Development Coordinator Conference

PDAP Evaluation Conference

Capital Improvement Planning (CIP) Seminar

Municipal Capital Improvement Planning Seminar

Provincial Road Network Plan Seminar

Annual Budget Preparation Meeting

Construction Contract Administration Training

Barangay Waterworks Design and Engineering Training

Barangay Water Association Organization and Management Training

In addition to the above formal, seminar-type training, selected provincial governors, provincial assessors and provincial development coordinators have received special training abroad. Provinces eligible to participate in PDAP activities sent one or more qualified

engineer(s) or technician(s) to undergo quality control training preparatory to meeting the requirements for the establsihment of a Quality Control Laboratory within the Provincial Engineer's Office. Finally, a province-by-province training schedule on preventative maintenance and equipment pool operations has been conducted in twenty one provinces by joint PDAP/USAID personnel for equipment pool operating and administrative personnel.

Not reflected in the above is the hundreds of hours of on-the-job review and training provided by the PDAP/USAID/DLGCD field technicians has been an extremely effective tool for monitoring the impact of training efforts and ensuring that specific project objectives were met.

Future training plans for general program development and specifically for the advancement of the Barangay Water Project have been formulated. (See Training Schedule of the Implementation Plan).

2. AID

The implementation, management and monitoring of the Project for AID will be the responsibility of the Assistant Director for Provincial Development (AD/PD). The Capital Development Division will also have the general responsibility for the loan negotiations, the approval of architectural and engineering firms and for monitoring the disbursements under the loan.

AD/PD will provide day-to-day advisory services and monitoring responsibilities for the Project.

a) Assistant Director for Capital Development

The Office of the Assistant Director for Capital Development is both a staff and a line office of the USAID Mission to the Philippines. The Assistant Director for Capital Development (AD/CD) serves as Mission Engineer and is directly responsible to the Mission Director for the design, planning, programming and coordination for activities relating to rural electrification, water resources, general engineering programs. He is also responsible for loan processing and general project implementation. The staff consist of both loan officers and engineering personnel. For

purposes of the Barangay Water Project, the AD/CD serves on both the Project Review and the Loan Committee. He is assisted by other key AD/CD personnel including a Capital Loan Officer and an Assistant Mission Engineer. The Office of AD/CD will provide engineering advice for the Project as requested by AD/PD.

b) Assistant Director for Provincial Development

The Office of the Assistant Director for Provincial Development is a line office of the USAID Mission to the Philippines. The Assistant Director for Provincial Development is directly responsible to the Mission Director for the design, planning, programming and implementation of programs, projects and activities with respect to assisting the appropriate government offices and institutions in the implementation of the Barangay Water Project. It is also responsible for the host of training, fiscal management, planning and other activities as described under the Provincial Development Assistance Project above. The AD/PD American Staff consists of various U.S. project managers and project specialists and technicians. The AD/PD Filipino Staff of 13 includes one office engineer and two field engineers. The goals of AD/PD are delineated in the non-capital Project Paper (PROP) and setforth in the Local Development Project Agreement (Project No. 492-11-995-256) as being the joint GOP/USAID goals of improving the quality of rural life by speeding development of those services and service related incentives, forms of institutional cooperation and planning and implementing capabilities which are responsible to rural needs. The Office of AD/PD is in effect the USAID counterpart of PDAP and concomitant DLGCD activities. Both share in the goals, objectives and courses of actions set forth in the PROP. The AD/PD will provide technical assistance throughout the life of the Project and for periods of both project design and project final evaluation. One direct-hire or contract employee of the Assistant Director for Provincial Development Office will serve as liaison officer between the Mission, and the appropriate host personnel on matters related to monitoring and advising on the general planning, programming, implementation and evaluation of the Project.

3. Assessment of Institutional Capability:

No attempt will be made to assess the capability of the various colateral agencies such as LWUA, DOH, NEA, who will also participate tangentially in the Project. They have, however, all demonstrated a sufficient level of technical and administrative capacity in the implementation of their own respective projects to confirm their usefulness in the implementation of the Barangay Water Project.

It is felt that the quality of their participation will be largely dependent upon DLGCD's ability to effectively identify mutual goals and coordinate activities in such a manner as to assure that the appropriate agencies will be engaged at the opportune time.

Thus far, the interaction of all the above groups and DLGCD in accomplishing the Pre-implementation (Pilot) activities has been highly satisfactory. (See "Implementation Plan" and CPI's of the Pre-Implementation activities, PPT Annex E).

The prime responsibility for implementing the Barangay Water Project lies with the DLGCD. The Department proper has clearly demonstrated through its joint PDAP/DLGCD and provincial government approach that it can manage the execution of infrastructure projects of this nature. The Flood Rehabilitation Program, the Special Infrastructure Development Program, and the on-going Rural Roads Program are programs of similar complexity and have utilized similar resources under relatively the same developmental circumstances.

Therefore, it is considered that the basis of the organizational structure, attendant personnel and development administrative procedures are in-place. The approach will be to build upon the existing capacity in order to offer new types of infrastructure development subprojects to those that have been offered traditionally.

The Project Management Staff is composed of a cadre of well motivated, professional personnel. As the Project is new and personnel are recently assigned to the Project, it is too early to comment extensively on its capacity. It should be pointed out, however, that throughout these initial months of the pre-implementation of the Project that the Staff has been quite active and the accomplishments have been both numerous and significant.

There is still a minor problem in rounding out a complete, full-time staff which could become a more serious problem as project activities increase. An adequate number of personnel have been assigned, the level of professional competence and the depth of experience are also satisfactory. One problem, however, results from such personnel being double-slotted in both the Barangay Water Project and in their former

agencies. Thus, there are periods when their services are required in two different places at once. Through good management, an extraordinary degree of support from cooperating agencies, and with a considerably heavier than desireable work load for the already permanently assigned members of the Project Management Staff, much work has been accomplished. The current staff, however, is performing at near its capacity and as the work load increases with the participation of additional provinces, the entire staff will need to be in-place on a permanent basis. These circumstances have given rise to the covenants proposed in Annex J and in paragraph D, below of this Project Paper.

(For additional details on organization and responsibilities and make up of the Project Management Staff, refer to Part II Detailed Description and Annex N.)

B. Implementation Plan:

1. General Responsibilities

The national implementing agency for the Barangay Water Project will be the DLGCD whose project inputs will be at the national, provincial and barangay levels. Primarily, these inputs will consist of training, technical assistance, and Presidential Discretionary, (PD 144), reimbursements.

Participating provinces will be charged with planning, surveying, designing and constructing the barangay water systems and will also have the general responsibility of training the water association membership. System maintenance and repair will be a barangay responsibility but cooperation from the Provincial Engineers' Offices (PEO) and the Provincial Equipment Pools will insure support for 2nd and 3rd echelon repairs. The water associations themselves will bear the costs of such repairs effected by the Provincial Equipment Pools. Working closely with the local water associations, provincial authorities will audit and inspect the systems and provide guidance and rationale for the adjustments as necessary. (See monitoring and evaluation plans below.)

The barangay water associations will be responsible for management and maintenance of their respective systems as well as the amortization of a percentage of the construction costs.

2. Area Coverage FY 1978-1981

The DLGCD intends to select participating provinces for this project from among the twenty-eight provinces that have been trained by PDAP. The primary reasons for these selection

criterion are: 1) the relatively more advanced planning and administrative capability of PDAP assisted provinces, and 2) the experience that such provinces have gained in funding and implementing programs like the Special Infrastructure Program (SIP) and the Rural Roads Program (RRP) under the fixed amount reimbursement (FAR) scheme.

Previous participation in PDAP programs does not suffice as the sole selection criterion. Membership will also depend upon the individual province's interest and ability to satisfy other requirements as outlined in the DLGCD Barangay Water Project Administrative Procedures. Two chief requirements will be the preparation of a Provincial Water Resources Development Plan and approval of a current budget appropriation equal to the amount of the total subproject costs submitted for funding in the Annual Implementation Plan (AIP). (See Annex A2 for listing of other planning, staff, financial, physical requirements for participation.)

No. of Member Provinces (Cumulative)	FY 78	FY 79	FY 80
	15	20	25

(See Annex L for listing, location and sequence of participating provinces.)

3. Barangay Water Subproject Selection and Construction

All water systems approved for construction by DLGCD will originate in community and be supported by data contained in the Capital Improvement Programs (CIP's), Provincial Water Resources Development Plans (PWRDP's) and Annual Implementation Plans (AIP's).

Generally, the barangay membership will number from 300 to 5,000 people. The economic feasibility results for each proposed subproject will depend upon among other requirements already stipulated, the membership's ability to manage, maintain, operate their systems and amortize from 25% to 50% of the direct construction costs.

The actual design and construction (including quality control) of the various systems will be the responsibility of the province. The DLGCD will employ the services of a local architectural and engineering firm, which will be acceptable to USAID, to approve plans, monitor construction and make final inspections. (See Annex B4 for review mechanism.)

4. Schedule of Implementation

1. Pre-Implementation Period — Pilot Project Implementation Plan

	ACTIVITY	DATE
a)	Formation of Provincial Water Resource Task Force	31 December '76
b)	Submission of Provincial Water Resource Inventory	15 February '77
c)	Training Administrative Procedures and Feasibility Formation	28 February '78
d)	Submission of 5-Year Provincial Water Resource Development Plan	15 March '77
e)	Signing of Memorandum of Agreement between Provinces and DLGCD	15 March '77
f)	Submission of Revised JWPs	15 March '77
g)	Submission of Supplemental Budgets	31 March '77
h)	Hiring and Appointment of Required Personnel	1 April '77
i)	Pre-selection of Projects	15 March '77
j)	Submission of AIP and Feasibility Studies	15 April '77
k)	Preparation of Project Plans, Costs and Specifications	15 April '77 (Begin)
l)	Training for Provincial Trainers	18 April '77
m)	Training for Waterworks Engineers	25 April '77
n)	Signing of Province/Barangay Memoranda of Agreement	30 April '77
o)	Organization and Training of Pilot Water Associations	15 May-June 30 '77 (Throughout Period)

ACTIVITY	DATE
p) Signing of Contract of Loan Between Province and Barangay	15 July '77
q) Deposit of Barangay Operational Funds	15 July '77
r) Initiate Construction	15 July '77 (NLT)
s) Formation of Provincial Evaluation Team	Not later than two weeks before turnover of the individual subproject
t) Completion of Subprojects	31 December '77 (NLT)
u) Turn-over of Subprojects	31 December '77 (on or before)
v) On-site Training	Two weeks following the turnover of subprojects
w) Visit of Provincial Evaluation Team	Visits as prescribed in Booklet No. 1, Administrative Procedures; Barangay Water Project
x) Establishment of Waterworks Repair Bays and Quality Control and Water Testing Laboratory	Open

NOTE: NLT - Not Later Than

5. Schedule of Implementation - Barangay Water Project Loan Proper

Project Negotiations and Agreements

a. Project Paper Submitted to AID/W . . . . . May 15, 1977

b. Project Paper Approved by AID/W on or before . . . . . Sep 15, 1977

c. Loan Authorized by AID/W . . . . . Oct 01, 1977

d. Loan Agreement Drafted and Signed by Government of the Philippines (GOP)/ and United States Agency for International Development (USAID) on or before . . . . . Dec 01, 1977

e. Conditions Precedent to Opening Letters of Commitments met by Government of the Philippines (GOP)/and USAID on or before . . . . . Apr 01, 1978

<u>Subproject Implementation and Reimbursements</u>

a. Department of Local Government and Community Development (DLGCD) Certifies Provinces Eligible for Pilot Project in FY 77 and Phase I FY 78 Program . . . . . Jan 15, 1977

b. First Group 15 Provinces Submit Preliminary Provincial Water Resources Development Inventories to DLGCD . . . . Feb 15, 1977

c. Initial Provinces Submit Preliminary Provincial Water Resources Development Plans . . . . . Mar 15, 1977

d. Department of Local Government and Community Development (DLGCD) Signs Tentative Sub-Agreements with Seven Pilot Provinces (FY 78) . . . . . Feb 28, 1977

e. Annual Implementation Plans (AIP) and Feasibility Studies Submitted Phase I Provinces (15 Provinces) . . . . . Oct 20, 1977

f. Selection Phase II Provinces . . . . . Aug 1, 1977

g. Annual Implementation Plans (AIP) and Feasibility Studies Approved . . . . . Nov 10, 1977

h. Budget Adopted Before (Phase I and Phase II Provinces) . . . . . Dec 31, 1977

i. Provinces Begin Construction (Phase I) after . . . . . Jan 01, 1978

j. Phase I Barangay Water Associations Deposit Funds in Escrow . . . . . Mar 15, 1978

k. Phase II Five (5) Provinces Submit Province Water Resource Inventories . . Feb 15, 1978

l. Phase II Five (5) Provinces Submit Provincial Water Resources Development Plans to DLGCD . . . . . Mar 15, 1978

m. DLGCD Certifies Provinces Eligible for FY 79 Program . . . . . Oct 01, 1978

n. Selection Phase III Provinces . . . . Aug 01, 1978

o. DLGCD Signs Tentative Sub-Agreements with Five (5) Additional Provinces . . Oct 15, 1978

p. Annual Implementation Plan and Feasibility Studies Submitted . . . . Oct 20, 1978

q. Annual Implementation Plan (AIP) and Feasibility Studies Approved . . . . . Nov 10, 1978

r. Barangay Water Associations Deposit Funds in Escrow . . . . . Mar 15, 1978

s. Budget Adopted Phase I, II and III Provinces . . . . . Dec 31, 1978

t. Provinces Begin Construction (Phase II), after . . . . . Jan 01, 1979

u. Interim Project In-Depth Evaluation by (GOP) and (USAID) . . . . . May 1979

v. Final Group Phase III Five (5) Provinces Submit Preliminary Provincial Water Resources Inventories to DLGCD . Feb 15, 1979

w. Phase III Provinces Submit Preliminary Provincial Water Resources Development Plan . . . . . Mar 15, 1979

x. Annual Evaluation . . . . . May 31, 1979

y. Department of Local Government and Community Development (DLGCD) Certifies Provinces Eligible for FY 80 Program . . . . . Oct 01, 1979

z.	Department of Local Government and Community Development (DLGCD) Signs Tentative Sub-Agreements with Five (5) Additional Provinces	Oct 15, 1979
aa.	Annual Implementation Plans (AIP) and Feasibility Studies Approved	Oct 20, 1979
bb.	Annual Implementation Plans (AIP) and Feasibility Studies Approved	Nov 10, 1979
cc.	Barangay Water Associations Deposit Funds in Escrow	Mar 15, 1978
dd.	Budget Adopted Before Phase I, II, and III	Dec 31, 1979
ee.	Provinces Begin Construction After	Jan 01, 1980
ff.	In-Depth Evaluation	May 31, 1980
gg.	Deadline for Completion of all construction	Mar 31, 1981
hh.	Final Reimbursement to be made by DLGCD on or before	Apr 30, 1981
ii.	End of Project Evaluation by GOP and USAID	May 31, 1981

Training

a.	Training of Project Management Team	Nov 1976
b.	Orientation and Training for Pilot and Phase I Provinces	Nov-Dec 1976
c.	Training of Project Management Team	Jan 1977
d.	Curriculum Development First Provincial Training	Feb 15, 1977
e.	Initial Training for Seven (7) Pilot Provinces Joint Work Plans, Administrative Procedures, Feasibility Training, Budget Preparation, Water Resource Inventory, Water Resource Inventory, Water Resource Development Plan, Formation of Task Force, Memorandum of Agreement DLGCD/LG and Annual Implementation Plan and other Requirements .	Feb 28, 1977

f. Initial Training for Eight (8) Phase I Provinces Joint Work Plans, Administrative Procedures, Feasibility Training, Budget Preparation, Water Resource Inventory, Water Resource Development Plan, Formation of Task Force, Memorandum of Agreement DLGCD/LG and Annual Implementation Plan and Other Requirements . . . . . Mar 1977

g. Training for Provincial Trainers on Organization and Management of Barangay Water Associations and the Technical, Financial and Health Aspects Related to Waterworks Operation, Seven (7) Pilot Provinces . . . . . Apr 18, 1977

h. Training for Waterworks Engineering and Design for Seven (7) Pilot Provinces Apr 25, 1977

i. Organization and Training of Water Associations, Seven (7) Pilot Provinces May-Jun 1977

j. Training for Provincial Trainers on Organization and Management of Barangay Water Associations and Technical, Financial and Health Aspects Related to Waterworks Operation Eight (8) Phase I Provinces . . 1st Week Aug 77

k. Training for Waterworks Engineering and Design for Eight (8) Phase I Provinces . 2nd Week Aug 77

l. Initial Training and Orientation for Phase II, Five (5) Provinces Joint Work Plans, Administrative Procedures, Feasibility Training, Budget Preparation, Water Resource Inventory, Water Resource Development Plan, Formation of Task Force, Memorandum Agreement DLGCD/LG and Annual Implementation Plan and Other Requirements 1st Week Sep 77

m. Organization and Training of Water Associations Eight (8) Phase I Provinces Oct-Dec 1977

n. Provincial Water Task Force Training (Interchange of Ideas, Evaluation and Projections): Representatives BWAs, Task Force Membership, National Administrators, Colateral Agencies, Resource persons . . . . . Nov-Dec 1977

o. Project Management Staff Development . . . Jan 1978

p. Feasibility Study Training (Revised, Updated Version) Twenty (20) Provinces (1 Week) . . . . . Feb 1978

q. Training for Provincial Trainers on Organization and Management of Barangay Water Association and the Technical, Financial and Health Aspects Related to Waterworks Operation (Phase II Provinces) (1 week) . . . . . Apr 1978

r. Training for Waterworks Engineering and Design (Phase II Provinces) . . . . Apr 1978

s. Special Training for Phase I Provinces (15 Provinces) Organization and Engineering (1 week) . . . . . May 1978

t. Special Training Phase I Provinces (15 Provinces) Organization and Engineering (1 Week) . . . . . July 1978

u. Initial Training and Orientation for Phase III Provinces - Joint Work Plans, Administrative Procedures, Feasibility Training, Budget Preparation, Water Resource Inventory, Water Resource Development Plan, Formation of Task Force, Memorandum of Agreement DLGCD/LG and Annual Implementation Plan (1 Week)

v. Organization and Training of Water Associations Phase III Provinces Five (5) Provinces . . . . . Oct-Dec 1978

w. Provincial Water Task Force Training Phase I and Phase II Provinces . . . . . Nov 1978

x. Training of Project Management Staff (2 weeks) . . . . . Jan 1979

y. Feasibility and Waterworks Engineering Studies Training - All Provinces (2 weeks) . . . . . Feb 1979

z. Training for Provincial Trainers on Organization and Management of Barangay Water Associations and Technical, Financial and Health Aspects Related to Waterworks Operation Phase III Provinces (1 Week) . . . . . Apr 1979

aa. Training for Waterworks Engineering and Design Phase III Provinces (1 Week) . . . . . Apr 1979

bb. Special Training (to be determined) . . May 1979

cc. Organization and Engineering . . . . . Jul 1979

dd. Organization and Engineering . . . . . Sep 1979

ee. Organization and Training of Water Associations (5 Provinces) . . . . . Oct-Dec 1979

ff. Task Force Training (Inter-Change, Evaluation and Projections): Representatives BWAs, Membership Task Force, National Administrators, Lateral Agencies, Resource Persons (All Provinces) . . . . . Oct-Dec 1979

gg. Training of Project Management Staff (2 Weeks) . . . . . Jan 1980

hh. Training for Waterworks Engineering and Design (All Provinces - 1 Week) . Feb 1980

ii. Training for Waterworks Engineering and Design (All Provinces - 1 Week) . Apr 1980

jj. Special Training for Waterworks Organization and Management (Selected Provinces - 1 Week) . . . . . Aug 1980

kk. Task Force Training (Inter-change of Ideas, Evaluation and Projections): Representatives BWAs, Task Membership Force, National Administrators, Colateral Agencies, Resource Persons (All Provinces) . . . . . Oct-Dec 1980

C. Monitoring and Evaluation Plan:

1) Monitoring Arrangements:

The basis for monitoring the progress of the Barangay Water Project is contained in the Administrative Procedures which were designed specifically to cover such matters as the origination, selection, approval, planning, financing, design and construction of barangay water systems. The Administrative Procedures also include specific guidance for the formation of water associations and provide for training and advisory assistance on the operation, maintenance, and management of water systems.

More specifically, he Administrative Procedures provide guidelines for national and local government personnel, for A & E contractual personnel and for participating communities on all of the major actions to be accomplished. Implementation, then, involves meetings, conferences, and workshops wherein the guidance is provided. A specific period of time is then allowed for the accomplishment of major activities with follow-up and monitoring provided by A & E, local government personnel, national personnel, and adivisors. The procedures provide for the review and approval of work following at check points along each major activity and before the authority is granted to proceed to the next step or activity.

For additional information on monitoring procedures and agencies refer specifically to Administrative Procedures, Booklet No. 1 - Planning and Implementation, Booklet No. 2 - Feasibility Methodology and Techniques, Booklet No. 3 - Budget and Accounting, Booklet No. 4 - Contractual Arrangements, Booklet No. 6 - Financial Management Handbook, and Booklet No. 7 - Organization and Training.

As suggested in Part IV paragraph (A), (b) above, USAID will also monitor and maintain complete files on the Project through the offices of the Assistant Director for Provincial Development, the Assistant Director for Capital Development, the Mission Controller, and through daily advisory contact with the Project provided by a personal services contract. For specific monitoring of sub-project design and implementation see Annex B4. For specific monitoring of subprojects after "turnover" to the communities, see Supplement F, Booklet No. 1, Barangay Water Project Administrative Procedures and Part III Technical Analysis of this Paper.

2) Evaluation Arrangement:

Monitoring activities as described above will provide an on-going assessment of the various aspects of the Project. The purpose of such monitoring is manifold, but most importantly, it will provide timely feedback about the implementation of the Project so that serious mistakes can be avoided. Monitoring will also render information and operational data that can, in turn, be translated into meaningful training programs in order to cure the deficiencies noted on a periodic and frequent basis.

Aside from the monitoring activities, more formal evaluations are planned. A covenant to the loan will require DLGCD to make operational evaluations as stipulated in Part IV, paragraph "D" of this Section of the Project Paper and Annex J.

Basically, there will be three kinds of formal evaluation conducted on the Project. They are briefly described as follows:

a) DLGCD/PDAP Annual Evaluation

PDAP and DLGCD customarily conduct evaluations of all joint activities on an annual basis. Evaluation teams comprised of both field and office personnel, visit all participating provinces and carefully review the progress of each of the major areas of program emphasis; e.g., planning, fiscal management, taxation, and infrastructure development. The findings of such evaluations are analyzed, tabulated and used as the basis for a two-day Annual Department of Local Goverment and Community Development/Provincial Development Assistance Project Evaluation Conference. 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.)

As a component of the PDAP/DLGCD general offering, the Barangay Water Project will be subject to such an evaluation an annual basis.

A second type of formal evaluation to which the Project will be subjected is an annual Barangay Water Project (project specific) evaluation.

The plan is to conduct a cursory evaluation at the end of the first year of operation. An in-depth evaluation is scheduled following the third year of operations. A covenant to the loan will require DLGCD to make such annual project evaluations notwithstanding the PDAP/DLGCD Annual Evaluation. It should be pointed out, however, that the evaluations of this Project, as described above, will be useful basically in measuring the effectiveness of DLGCD and the participating provinces in implementing the Project during the course of the Loan. The subprojects have an economic life of 20 years and it is only over that period of time that significant changes in health and productivity levels can be detected. Although trends might emerge on a shorter term basis.

It is expected that the first (cursory) evaluation will be an in-house DLGCD evaluation. The second (in-depth) evaluation will require the participation of the several participating agencies, and the final evaluation will be conducted by (DLGCD), colateral agencies, donors such as the USAID and potential donors such as the World Bank, Asian Development Bank, and the World Health Organization.

A third type of formal evaluation to be utilized and also included as a covenant to the loan will be an operational evaluation of one subproject per each participating province. The provincial authorities will be responsible for this evaluation and it will be conducted as per Supplement "H", Evaluation Booklet No. 1 Barangay Water Project Administrative Procedures.

"Supplement H"

Evaluation of Project

Purpose:

An in-depth evaluation will be undertaken on a typical waterworks subproject in order to determine:

1. the effect of the new water supply system on the general health conditions of the community served, specifically, on the incidence of waterborne diseases in the area;

2. the actual impact of the system on the economic development of the community;

3. the efficiency of the water supply system; and

4. the accuracy of the projected data, i.e., population, agricultural production, etc.

Procedure:

Each participating province in the Barangay Water Project will prepare an AIP and submit it to DLGCD not later than October 20, 1977. From the list of projects in the approved AIP, the DLGCD will designate one waterworks subproject which the recipient province will be required to evaluate in-depth.

Upon receiving the approved AIP, the province will immediately collect the following baseline data:

1. the real limits of the proposed service area (a land use map of the area will be required).

2. the present population that will be served by the system.

3. the projected population that will be served by the system.

4. the present per capita water consumption.

5. the incidence of waterborne diseases in the area (morbidity and mortality rates as declared by DOH for the particular area).

6. the existing small scale industries within the area (specify).

7. the total area devoted to backyard gardening and an estimate of the peso value of total vegetable production.

8. the existing sources of domestic water

9. the capacity of source

One year after the subproject has been completed, a review of the subproject will be conducted to determine the following:

1. the total population within the service area.

2. "per capita water consumption

3. "actual project construction cost

4. annual operating cost of the system

5. annual maintenance cost of the system

6. capacity of the system

7. land use of the service area

On the second year and every two years thereafter until the 10th year, the following data will be established:

1. the total population within the service area.

2. the population served by the system

3. the annual operating costs of the system

4. the annual maintenance costs of the system

5. the morbidity and mortality rates of waterborne

6. the total land area devoted to backyard gardening and an estimate of the peso value of vegetable production.

7. the newly established small scale industries (specify the types and number)

8. the capacity of the system

9. the land use of the service area

A report of these periodic findings will be transmitted to USAID for review, analysis, and record purposes.

The subprojects to be evaluated will be selected by DLGCD from among the various subprojects submitted for implementation by the participating provinces. They will include large, medium, and small subprojects of both underground and surface-water type and will be representative of the Barangay Water Project as a whole. Thus, the subprojects should provide both a valid sample for aggregating the total Project benefits and provide useful operational data for the purpose of improving subsystem design, construction and organization.

D. Conditions, Covenants, Negotiating Status

The major conditions precedent required of the Borrower and/or DLGCD in addition to the standard CP's prior to any disbursement of loan funds are recommended as follows:

1) Written assurance from the DOH endorsing the Project and a Memorandum of Agreement between the DLGCD and the DOH outlining the respective responsibilities of each, the former and the latter, with respect to training, project design and implementation, community organization, and follow-on supervision and vigilance of systems constructed under this Project and in substantial compliance with regulatory decrees PD-198 and PD-856.

2) Written assurance from the DLGCD that within 90 days from the signing of the loan that a Project Management Staff at the national level will have been established with an adequate number of professional, and permanent personnel to assure the successful execution of the Project. An adequate number of professional, and permanent personnel to assure the successful execution of the Project. An adequate number of staff personnel is construed to be the assignment of at least seven full-time professional employees to the Project Management Staff in the following configuration: one (1) Project Director, two (2) professionals to each of the principal operational divisions (operations, organization and training, and administration), and a small administrative support element.

3) DLGCD will contract a local firm with concurrence of USAID to provide review and monitoring (A & E) services for subproject design and implementation.

4) Written assurance that DLGCD will conduct annual re-certification of participating provinces in order to demonstrate that the respective provinces have complied as follows:

a) Hired the recommended number and type of personnel in both the Provincial Development Staff and Provincial Engineer's Offices.

b) Participated in all scheduled training programs.

c) Prepared both a Provincial Water Resource Inventory and a 5-Year Water Resource Development Plan.

d) Undertaken feasibility studies for each barangay subproject in accordance with the Barangay Water Administrative Procedure Booklet No. 2 or its subsequent revised editions.

e) Organized and trained all participating barangay water associations in advance of subproject construction.

f) 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.

g) Provided adequate follow-on training, supervision, and evaluation of all barangay water associations and subprojects.

h) Selected one evaluation project for in-depth evaluation (a before and after study) in accordance with Supplement H, Booklet No. 1 Administrative Procedures, Barangay Water Project

5) The Department of Local Government will conduct a cursory evaluation at the end of the first year* of operation, an in-depth evaluation at the end of the second year* of operation, and a final evaluation at the conclusion* of the loan for Phase I, FY 78-79-80.

*In each instance, evaluations will be held in abeyance until disbursements have been made for the respective years of operations.

ANNEX A-1

ANNEX A-1

DEPARTMENT OF STATE

TELEGRAM

INCOMING
Amembassy, MANILA

CN: 1938

ACTION:
AID-12
INFO:
AMB
DCM
POL
POLR
CONS
DAO
ECON
LGAT
LO
ADM
USIS
CPRP
JMAG
CEBU
AID
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RSO
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ATO
RCO
CRO
CRU
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17 JE

UNCLASSIFIED

ANNEX A1

Classification

DIV	ACT	INFO
OOM		✓
PO	✓	
TO		
DEO		
CMD		
CSD		
GSO		
LOG		
PER		
OC		✓
AD		
CD		
HPA		
FIP		
NTR		
RARC		
POP		✓
PD		
AG/EA		

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BT
UNCLAS STATE 283569

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AIDAC

E.O. 11652: N/A

TAGS:

SUBJECT: BARANGAY WATER PROJECT PRP

1. APAC APPROVES BARANGAY WATER PROJECT AND RECOMMENDS DEVELOPMENT OF PP. HOWEVER, APAC EXPRESSED CONCERN OVER GOP CAPACITY/COMMITMENT TO SUSTAIN PROJECT FINANCING AFTER AID FUNDING TERMINATES AND THEREFORE, REPLICABILITY OF PROJECT. SINCE THIS CONCERN IS EQUALLY RELEVANT TO RURAL ROADS II AND REAL PROPERTY TAX ADMINISTRATION PRP'S, SEPTEL WILL PROVIDE GUIDANCE ON THIS GENERAL ISSUE AND REQUEST INTERIM RESPONSE BY USAID PRIOR TO SUBMISSION OF PP'S. SINCE THE PP SHOULD EXPAND AND ELABORATE ON THESE ISSUES, ADDITIONAL GUIDANCE IS PROVIDED BY THIS CABLE.

(A) MISSION SHOULD BE AWARE OF CONGRESSIONAL CONCERN OVER POTABLE WATER PROJECTS AS EXPRESSED IN 1976 S.A.C. REPORT, PAGES 50 AND 51. I.E., THAT ALTHOUGH AVAILABILITY OF POTABLE WATER IS BASIC HEALTH NEED, THE SIZE OF THE DEVELOPMENT UNDERTAKING IS MASSIVE AND CONSEQUENTLY, FINANCIAL ASSISTANCE FOR POTABLE WATER PROJECTS SHOULD BE SOUGHT FROM INTERNATIONAL LENDING INSTITUTIONS. PP SHOULD ADDRESS THIS CONCERN IN EXPLAINING JUSTIFICATION FOR SUBJECT PROJECT AND DISTINGUISH SCOPE OF CURRENT PROJECT FROM PREVIOUSLY AUTHORIZED POTABLE WATER PROJECTS. AS PART OF DISCUSSION, PP SHOULD ANALYZE THE PROVINCIAL INSTITUTIONAL CAPABILITY TO ABSORB BARANGAY WATER SUB-PROJECTS AND SHOULD THOROUGHLY EXPLAIN PROJECT DESIGN FOR INSTITUTIONAL DEVELOPMENT IDENTIFYING INSTITUTIONS, POSITIONS, AND CAPABILITIES PROJECT WILL LIKELY DEVELOP AND UPGRADE. FURTHER, PP SHOULD DESCRIBE PROJECT FUND REQUIREMENT TO INCLUDE PROJECTED NUMBER OF BARANGAY SYSTEMS, NUMBER OF FUNDING TRANCHES AND TOTAL U.S. FUND REQUIREMENT. PP SHOULD ALSO ESTIMATE AMOUNT AND TIMING OF OTHER BILATERAL INTERNATIONAL LENDING INSTITUTION PARTICIPATION AND DESCRIBE STRATEGY FOR ENCOUR-

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Classification

AGING OTHER DONOR PARTICIPATION IN PROJECT. FINALLY, PP SHOULD THOROUGHLY EXPLORE AND EXPLAIN GOP/MISSION STRATEGY WHICH WILL ENABLE SELF-SUSTAINED DEVELOPMENT OF BARANGAY WATER PROJECTS.

(B) APAC DISCUSSED EVALUATION PLAN AND CONCLUDED THAT JOINT GOP/USAID EVALUATION PLAN FUNDED BY GOP WOULD LIKELY IMPROVE OVER-ALL QUALITY OF EVALUATION AND ENCOURAGE GOP INSTITUTIONALIZATION OF PROJECT EVALUATIONS. PP SHOULD THOROUGHLY DESCRIBE EVALUATION PLAN AND BASELINE DATA TO INCLUDE DISCUSSION OF PROJECT TARGET GROUPS.

APAC SUGGESTS THAT EVALUATION NOT ATTEMPT TO DEMONSTRATE OR EVALUATE RELATIONSHIP BETWEEN SAFE POTABLE WATER AND HEALTH. FYI WORLD HEALTH ORGANIZATION (WHO) HAS ATTEMPTED TO ESTABLISH CORRELATION BETWEEN SAFE WATER AND HEALTH IN STUDIES IN BRAZIL WITH RESULTS PROBABLY 2 - 3 YEARS AWAY. THIS RELATIONSHIP IS TOO LARGE AN UNDERTAKING FOR BARANGAY EVALUATION. END FYI.

(C) APAC DISCUSSED THE MULTITUDE OF OTHER HEALTH PROBLEMS SUCH AS SANITATION, HYGIENE AND OTHERS THAT IF LEFT UNCHANGED, WOULD DIMINISH BENEFICIAL IMPACT OF BARANGAY WATER PROJECTS. PP SHOULD THOROUGHLY DISCUSS THE HEALTH TRAINING AND HEALTH OUTREACH ASPECTS OF THE PROJECT AND PROVISIONS FOR INPUT OF OTHER RELATED HEALTH CARE REQUIREMENTS AS THEY APPLY TO MAXIMIZING THE BENEFITS OF SAFE WATER TO PROJECT BENEFICIARIES.

(D) PP SHOULD AUGMENT PRP TREATMENT OF PROJECT BENEFICIARIES. PP SHOULD IDENTIFY AND QUANTIFY PROJECT BENEFICIARIES AND NOT RELY ON GENERAL SIZE OR LOCATION OF THE SUB-PROJECT AS AN INDICATION OF INCOME LEVELS OF PROJECT BENEFICIARIES. SINCE THERE WILL BE RELATIVELY LARGE NUMBER OF SMALL WATER SYSTEMS, SUGGEST MISSION SELECT REPRESENTATIVE SUB-PROJECTS IN ORDER TO MEASURE PROJECT BENEFICIARIES.

(E) THE PP SHOULD AUGMENT THE PRP TREATMENT OF SUB-PROJECT ANALYSES TO PRESENT DETAILED "FEASIBILITY" ENGINEERING/DESIGN AND FINANCIAL PLANS INCLUDING COST ANALYSES FOR SUB-PROJECTS. SINCE BARANGAY WATER PROJECT PROPOSES CONSTRUCTION OF LARGE NUMBER OF SMALL SUB-PROJECTS AND DETAILED ANALYSES FOR EVERY SUB-PROJECT WOULD NOT BE POSSIBLE PRIOR TO SUBMISSION OF PP, APAC SUGGESTS THAT REPRESENTATIVE SUB-PROJECTS BE SELECTED AND ANALYSES CONDUCTED IN ORDER TO PROVIDE BASIS FOR CONSIDERING WHETHER FAA611(A) REQUIREMENTS WILL BE MET.

(F) CONCERN WAS EXPRESSED BY APAC MEMBERS THAT THE COST OF CONSTRUCTION OF SUB-PROJECT WOULD BE TAILORED TO THE RELATIVE ABILITY OF THE BARANGAY RESIDENTS TO PAY FOR THE WATER

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SYSTEM IMPROVEMENTS OR CONSTRUCTION. CONSEQUENTLY, CONSTRUCTION DESIGNS AND OVERALL SUB-PROJECT COSTS INCLUDING MAINTENANCE AND CONSTRUCTION COSTS SHOULD BE ANALYZED IN PP IN TERMS OF THE RELATIVE AFFORDABILITY OF THE SYSTEMS TO THE PROJECT BENEFICIARIES.

2. ASIA/TR/SDP RECOMMENDS THAT AN ENVIRONMENTAL ASSESSMENT (EA) BE PREPARED FOR THIS PROJECT. REVISED INITIAL ENVIRONMENTAL EXAMINATION (IEE) AND RECOMMENDATIONS FOR EA WILL BE POUCHED WHEN APPROVED BY BUREAU. KISSINGER
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ANNEX A-2

DEPARTMENT OF STATE

TELEGRAM

ANNEX A-2

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AIDAC

E.O. 11652: N/A

TAGS:

SUBJECT: REPLICABILITY AND LONG-TERM FINANCIAL VIABILITY OF RURAL ROADS II, BARANGAY WATER AND REAL PROPERTY TAX ADMINISTRATION PROJECTS

1. APAC EXPRESSED CONCERN ABOUT REPLICABILITY AND LONG-TERM FINANCIAL VIABILITY THAT WAS COMMON TO ALL THREE PROJECTS. CONCERN HAS TWO RELATED ASPECTS: (1) DESIRE TO DEFINE APPROPRIATE END-POINT FOR AID-FINANCING OF THESE PROVINCIAL/LOCAL ACTIVITIES: AND, (2) AT SAME TIME, NEED FOR EVIDENCE OF PHILIPPINE FINANCIAL CAPACITY AND DELIBERATE PLANNING EFFORT TO SUSTAIN PROJECT ACTIVITIES ON WIDER SCALE AFTER AID-FINANCING TERMINATES. REQUEST USAID ADVISE US OF LONG-TERM GOP STRATEGY THAT ADDRESSES BOTH ASPECTS AND PROVIDES BASIS FOR CONFIDENCE THAT TERMINATION OF AID-FUNDING WILL NOT RESULT IN DIMINUTION OF THESE PROVINCIAL DEVELOPMENT ACTIVITIES. STRATEGY SHOULD MAKE CLEAR EXTENT TO WHICH PROVINCES WILL BE EXPECTED TO FINANCE REPLICATION WITH OWN RESOURCES (AUGMENTED AS RESULT OF RPTA PROJECT) AND ROLE AND FINANCIAL PARTICIPATION EXPECTED OF GOP.

2. IF, AS WE ASSUME, GOP SUPPLEMENTARY FINANCING WILL BE NECESSARY TO ENABLE PROVINCES TO REPLICATE SUBJECT PROJECTS ON APPROPRIATE SCALE, REQUEST USAID RESPOND TO FOLLOWING ISSUES:

(A) GOP FINANCING: ACCORDING TO CURRENT FINANCIAL PLAN, SUB-PROJECT ACTIVITIES ARE FINANCED BY PROVINCIAL BUDGETS AND AID-LOAN, WITH GOP CONTRIBUTIONS DIRECTED TOWARD ADMINISTRATIVE AND OPERATIONAL COSTS. SHOULDN'T GOP ALSO SHARE IN COST OF FINANCING SUB-PROJECTS IF WE INTEND TO ESTABLISH ROUTINE OF GOP BUDGETING AND FUNDING FOR PROVINCIAL DEVELOPMENT ACTIVITIES?

(B) DISCRETIONARY FUND: PROJECTS PROPOSE USE OF DISCRETIONARY FUND AS CONDUIT FOR PROVIDING LOAN-GENERATED LOCAL CURRENCY TO PROVINCES. IN VIEW OF FACT THAT GOP IN PAST HAS NOT USED DISCRETIONARY FUND TO PROVIDE FINANCIAL SUPPORT FOR PROVINCES, WHAT ASSURANCE DO WE HAVE THAT THE FUND, ONCE ACTIVATED, WILL REMAIN AN EFFECTIVE CHANNEL OF

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CENTRAL GOVERNMENT SUPPORT AFTER THE AID-LOAN TERMINATES? SHOULD WE SEEK A GOP COMMITMENT OR ADDITION OF SPECIAL LANGUAGE TO THE DECREE THAT GOVERNS USE OF THE FUND? CAN WE REASONABLY EXPECT PROVINCIAL DEMAND FOR CENTRAL GOVERNMENT FUNDING TO BE AN EFFECTIVE MEANS OF SUSTAINING THIS RESOURCE FLOW?

(C) ONE REASON CITED FOR PREVIOUS MINIMAL USE OF DISCRETIONARY FUND FOR PROVINCIAL DEVELOPMENT WAS LIMITED GOP CONFIDENCE IN PROVINCIAL ADMINISTRATIVE CAPACITY. IN VIEW OF SIGNIFICANT PAST EFFORT (AID-ASSISTED) TOWARDS UPGRADING CAPACITY OF PDAP PROVINCIAL OFFICIALS AND PRESUMED HIGH LEVELS OF COMPETENCE ALREADY ATTAINED, WE FIND THIS LINE OF REASONING QUESTIONABLE. IF, ON THE OTHER HAND, GOP DOES HOLD LOW OPINION OF PROVINCIAL ADMINISTRATION, WHEN AND THROUGH WHAT PROCESS MAY WE REASONABLY EXPECT PROVINCIAL ADMINISTRATIVE CAPACITY TO REACH AN ACCEPTABLE LEVEL?

3. MISSION IS ALSO REQUESTED TO DEMONSTRATE THAT REAL AND SUBSTANTIAL ADDITIONAL RESOURCES WOULD BE MADE AVAILABLE BY, (I) AID LOANS AND (2) BY GOP FOR PROVINCIAL DEVELOPMENT AS RESULT OF SUBJECT PROJECTS. WITH REFERENCE TO GOP, WHAT SPECIFIC ADDITIONAL BUDGETARY ALLOCATIONS AND EXPENDITURES FOR THESE PROJECTS CAN BE DIRECTLY ATTRIBUTED TO LOANS? (DISCUSS ON ANNUAL BASIS.)

4. REQUEST USAID RESPOND TO ISSUES PRESENTED HEREIN ON INTERIM BASIS, SUFFICIENTLY IN ADVANCE OF PP SUBMISSIONS TO PERMIT ADDITIONAL COMMENT/GUIDANCE FROM AID/W, IF NECESSARY. ROBINSON
BT

ANNEX A-3

AIRGRAM

DEPARTMENT OF STATE

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ANNEX A-3

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TO - AID/Washington TOAID A 25 X

DATE SENT
FEB. 7,1977

FROM - MANILA
SUBJECT - Replicability and Long-Term Financial Viability of RR II, Barangay Water and Real Property Tax Administration Projects
REFERENCE - STATE 291155

1. Para 1 reftel expresses general concern on replicability and long term financial viability common to all three projects, i.e. Real Property Tax Administration (RPTA), Rural Roads II (RRP II) and Barangay Water (BW). While these concerns are dealt with more specifically in Para 2, 3 and 4 below, response has been made to these general concerns by way of introduction.

a) Desire to define appropriate end point for AID financing of these provincial/local activities.

The specific end points for each of the three projects are indicated in the PRPs, to wit:

1. Rural Roads Project II: 1981
2. Real Property Tax Administration: 1980
3. Barangay Water: 1980

Technical assistance, provided either through the loans or as residual activities under the Rural Service Center (RSC) project, would end in FY 81. Present estimates are that RRP II will be the last request for AID financing in this project area since Department of Local Government and Community Development (DLGCD) will be fully capable of extending program to other than Provincial Development Assistance Project (PDAP) provinces. Both ADB and World Bank have already expressed interest in taking up where RRP II leaves off. Septel will discuss ADB and World Bank potential interest in Rural Roads continuance. RPTA will not need further AID efforts

PAGE 1 OF PAGES 7

DRAFTED BY	OFFICE	PHONE NO.	DATE	APPROVED BY:
WASommers:ppc	AD/PD	432	2-2-77	ODM: Peter M. Cody, Director

A. I. D. AND OTHER CLEARANCES
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McGREGOR & WERNER, INC., WASHINGTON, D. C. 20013

after the proposed loan expires since the project will be sufficiently demonstrated as to potential while provinces and cities will have gained ample experience for extension to remaining municipalities and districts. Moreover, GOP will be able to use Special Letter of Credit (SLC) from the three loans to finance additional services or commodities necessary to expand these programs in accordance with DLGCD policy approved by President (see Para 3 below).

Initial response to BW, however, indicates pent up demand and a desire by provinces to commit increased resources. Should actual program sustain initial momentum USAID may propose extension. But this will hinge directly on the successful completion of the loan and, especially, on ability of DLGCD and provinces to field local organizations of water users capable of managing these systems.

b) Long-term strategy of GOP in sustaining project activities after AID-financing terminates

This strategy, evidenced by documents, actions and policy statements is based on:

1. DLGCD's demonstrated efforts to extend PDAP experience to other provinces.
2. Use of Presidential Decree 144 (PD 144) discretionary funds as a continuous basis for financing programs for local development.
3. Use of SLC resulting from the three loans to establish a revolving fund to carry on reimbursable funding of local infrastructure through sale of SLC-purchased commodities to local governments.
4. Use of expanded provincial tax base to fund development in concert with 1, 2 and 3 above.

Strategy envisages GOP's continued use of PD 144 discretionary funds on a program basis, funneling through the DLGCD in support of local government programs i.e. rural roads, barangay water, etc. Provinces will be able to increase their participation as tax revenues increase, matching the latter with funds made available through DLGCD. Provinces which already have participated in PDAP and loan-supported programs, having increased revenues and needing equipment for the maintenance of infrastructure, can purchase new equipment offered through the loan-generated SLC. Purchase monies, in turn, will be available to finance additional provincial infrastructure and will compliment the PD 144 discretionary funds.

2. Replying to issues raised in para 2(A) of reftel, we point out that construction is financed by the provinces and reimbursed by the central government agency, DLGCD, out of appropriated PD 144 funds. While the province initially funds the construction out of its own resources, especially in rural roads, 15% of of the project cost is grant from the central government. The province is then reimbursed up to 75% of the project cost through the DLGCD. But the Department

does not receive a direct reimbursement through the loan. Therefore, insofar as the DLGCD is concerned, its participation in loan projects represents a direct expenditures from its available, appropriated resources. But the loan, through the SLC, supports and strengthens the program by making it possible to purchase needed commodities to be sold to the provinces, the receipts from which will support a revolving fund to be used for additional infrastructure projects. (See Section 3 below and Attachment A).

Turning to the question asked at the end of para 2(A) reftel, when the province appropriates funds from own sources, it is actually using some funds allocated to it from the central government as well as from local sources for the province financial picture is a kaleidoscope of centrally distributed general and categorical grants, shared-taxes, redistributed collections and locally raised revenues. An analysis of selected budgets shows that 64% of provincial revenue comes from the central government while 36% is raised from local sources, i.e. property tax, fees and fines, receipts from local enterprises or operations, etc. Thus the "provincial share" includes a portion of central government funds. However, this is not a paper transaction since the revenues are given according to an overall formula without appreciable restraint on their use. Consequently, the central government, though contributing considerably to the provincial budget, does it, in the same manner as general revenue sharing in the United States, to encourage local choice and to strengthen the capacity of local governments to determine their own objectives. In fact, then, significant progress has been accomplished to develop and encourage a routine of GOP budgeting and funding for provincial development activities and USAID/PDAP have made substantial contributions in this area.

3. Para 2(B) of reftel breaks down into three questions which we shall deal with separately.

a) <u>What assurances do we have that the fund, once activated, will remain an effective channel of central government support after the AID loan terminates</u>?

The assurances we have are based on the present view of the Budget Commission (BC) and the policy guidelines enunciated by DLGCD. The BC, which plays a major role in the allocation of discretionary money, has endorsed the four proposed projects submitted by DLGCD/PDAP, i.e. RRP II, BW, RPTA and RSC, and has allocated twenty million pesos to the DLGCD for FY 77 to fund non-reimbursable "start-up" costs, e.g. training, survey and planning, seed monies for RSC projects, while continuing support for the reimbursable and grant portions of Rural Roads I. Further, the BC has endorsed the "program" oriented approach of the DLGCD/PDAP/USAID proposals against the scattered "project" application that has been heretofore used in allocation of this discretionary fund.

The President has approved DLGCD's proposal to use the SLC under the RRP I loan to create a revolving fund for local infrastructure development. Using the SLC, DLGCD would purchase construction equipment in the United States, sell the equipment to eligible provinces at cost and deposit the funds received to a special account reserved for the future financing of rural infrastructure projects. We will be working toward establishment of the same principle in the RRP II, BW and RPTA loans as well. These actions represent substantial commitments by the GOP to continue the impetus gained under AID supported projects and give concrete assurance in the form of policy decisions of the intent to use available funding, including the discretionary portion of PD 144, in support of provincial development activities. Copies of the BC allocation document and DLGCD's policy paper on the use of SLC with the Presidential Endorsement are being pouched with this airgram. (Attachment B)

A further evidence of the commitment, or at the least DLGCD's effort to obtain commitment from the BC is shown as Attachment C. This chart shows DLGCD needs for PD 144 funds to support the proposed USAID/DLGCD projects, i.e. RRP II, RPTA/RSC and BW for FY 1977-1982. The chart was submitted to BC by DLGCD as part of their budget submission and, as noted, BC granted the 1977 portion.

b) Should we seek a GOP commitment or addition of special language to the Decree that governs use of the funds?

We do not advise either of these proposed actions. We believe that commitment by BC and the presidential endorsement of the SLC discussed above augur well for the future and would prefer to strengthen these actions through contacts and exchanges-of-understanding as the projects proceed.

The decree which sets up the discretionary fund, PD 144, is mainly concerned with the formula by which central funds are distributed as general grants to all local governments; it was signed only after a long process of discussions and trade-offs between various factions. An amendment of the kind proposed by AID/W would reopen old wounds, and retrace the bargaining on internal issues which, in the end, could be detrimental to the process incorporated in the present decree.

However, we will seek a definite commitment in the loan agreement by which results from the RPTA are tied directly to continuance of the RRP II, BW and RSC. The GOP, and particularly the Department of Finance (DOF), should commit itself to an operating policy of increasing local tax collections within agreed upon goals. Thus, for example, if actual collections from the property tax are not within acceptable levels, then the loans and grants affecting Rural Roads II, Barangay Water and the Rural Service Center would be reduced, or eliminated, accordingly.

This requirement may be difficult to include in the loan document and would probably emerge couched in more general language. Nevertheless, we feel it important to use a stipulation of this nature to elicit a definite commitment on the part of the GOP, particularly the Department of Finance, that generation of local taxes is an integral part of all three of these projects.

c) Can we reasonably expect provincial demand for central government funding to be an effective means of sustaining this resource flow?

Yes. Given the BC's commitment referred to previously and the presidential endorsement of DLGCD's policy statement, provincial demand, in this context, will be a most effective means of sustaining the flow of resources. This is particularly true if requestsare made and projects presented on a program basis. And the whole approach of USAID, PDAP and the DLGCD is geared to that end.

4. Para 2(C) in reftel has raised questions on the use of the discretionary fund and its relation to the absence or presence of local administrative capacity. We preface our response with some background on the discretionary fund.

PD 144 was passed in 1973. The decree sets up a formula by which internal revenue collections are redistributed to the local governments in much the same way as our own General Revenue Sharing Act operates. The formula in PD 144 is a revision of previous methods used for the apportionment of monies to the local governments and, as noted, was the result of arduous negotiations. However, a new feature of the apportionment, contained in Section 7, is the reservation of 5% of these collections from national internal revenue taxes for use, at discretion of the President, as financial aid to local governments. This "discretionary fund" was not invoked until the following year, i.e. FY 74 and thus has a very short history of operations. At the same time, the BC went through its own reorganization and only in the latter half of 1976 did a reconstituted BC come to the fore. Under its new look, the BC created a Bureau of Local Government which has since became the Presidential guide in allocating these discretionary funds. RRP I was one of the first programs to receive fund allocations through DLGCD, providing "seed money" and reimbursable funds to participating provinces. In allocating additional funds the BC has struggled with establishment of criteria to judge what projects should be funded. It was during this period that DLGCD and PDAP made their representation to BC for support of the four projects. Presented as complete programs, these requests harmonized with the BC's desire to eliminate individual allocations based on hundreds of small projects submitted helter-skelter by individual provinces, cities and municipalities.

The restricted use of the discretionary fund has been due largely to its fledgling character, the reorganization of the BC, the difficulty of establishing suitable

criteria to sift through individual project applications and the reluctance of the BC to grant funds in an uncoordinated, unprogrammed manner. But the BC responded favorably when DLGCD/PDAP presented their program approach to service the developmental needs of local governments, demonstrating that local governments have the administrative capacity to carry out individual projects if they were tied together under an interlocking, well conceived program bolstered by a system of coordination and local capacity building.

We conclude, therefore, that the issues raised in para 2 (C) have already been successfully addressed in practical terms directly with BC and DLGCD/PDAP.

5. AID/W question regarding demonstration of real and substantial additional resources made available by AID loan is, we believe, answered in the PRPs for the three projects which have gone into detail on these resources respecting, technical assistance, vehicles, equipment, tax map improvement, training, organizational development, operating manuals, etc. If there are more specific areas that AID/W wants covered, we would be glad to respond. Respecting resources to be made available by GOP, these have been translated into funding requirements as projection for the years 1977 to 1981 and are shown on Attachment D. This data, too, is based on the PRP submissions. Included as well is funding for the reimbursable portion of each of the three loans based on the justification as real expenditures included in Para 2 above. However, the projected increases in property tax revenues, contained in the PRP for RPTA, are not included as such. We expect that in the latter years of the projects much of this will be used in funding the provincial costs shown while the province payments for SLC equipment may also be furthered by property tax revenues and are thus, in theory, contained in the projects for SLC revolving fund deposits.

We expect that between now and the conclusion of the PPs and negotiations for inclusion of these details into the loan agreements the figures submitted may change. We shall, at that time, make the necessary revisions in our estimates.

6. We appreciate the concern our AID/W colleagues have shown in these projects. We are also mindful of AID/W assistance in giving us PDS contractors to assist in developing the PRPs and the PPs. However, we hope that AID/W will also consider the cumbersome nature of the new programming process which has taken the combined time of nearly all the assigned technicians and program managers in Provincial Development, since last spring when this involved and complicated process was started. During this time we have been intermittently involved in the actual work of development, in servicing ongoing projects and laying operational foundations for the new projects. We tremble to face the cascade of paper work, guidance, questions and tracking system maintenance that will unfold when the PPs are submitted and

fear for the result when we place our real work once more in limbo as we treat with the totality of documentation.

While we understand the demands that management has placed on the program process, the need for better project design with more detail and quantifiable data, the process has been so expanded that it is a burden, not a help. In short, the "front lines" of development are being strewn with obstacles of our making. Can't we simplify the procedure so we can get on with the work at hand?

Attachments: a/s

Cody
SULLIVAN

ANNEX A-4

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ANNEX A4

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Chuck Brady

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TAGS:

SUBJECT: REPLICABILITY AND LONG-TERM FINANCIAL VIABILITY OF RRII, BARANGAY WATER AND REAL PROPERTY TAX ADMINISTRATION PROJECTS

REF: (A) TOAID A-25; (B) STATE 291155

1. REF A SATISFACTORILY RESPONDS TO ISSUES RAISED IN REF B.

2. ASIA BUREAU SYMPATHETIC TO CONCERNS RAISED PARAGRAPH 6, REF A, AND IS PARTICIPATING IN AGENCY EFFORTS TO REEXAMINE DOCUMENTATION REQUIREMENTS.

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ANNEX A 5

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APPROVED BY ASIA/PD: ARLOVE
ASIA/PD: JRMCCABE
ASIA/PD: MMPEHL
ASIA/DP: RROAN (PHONE)
GC/ASIA: HMORRIS (DRAFT)
ASIA/TR: VYODER (DRAFT)
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E.O. 11652: N/A

TAGS:

SUBJECT: BARANGAY WATER PROJECT NO. 492-0291

REF: SOMMERS/WENDEL TELECON SEPTEMBER 8, 1977

1. AA/ASIA HAS RECONSIDERED EARLIER TENTATIVE APPROVAL SUBMIT ADVICE OF PROGRAM CHANGE TO CONGRESS FOR FY 77 FUNDING BARANGAY WATER PROJECT. PROJECT IS NOW SCHEDULED FOR FIRST QUARTER FY 78 FUNDING PENDING APAC APPROVAL IF MISSION PROVIDES ADDITIONAL INFORMATION ON BENEFICIARIES REQUESTED EARLIER IN REF. A. PROJECT SHOULD DESCRIBE MORE THOROUGHLY WHO BENEFICIARIES ARE AND DESCRIBE ADMINISTRATIVE ARRANGEMENTS WHICH ENSURE RURAL POOR TARGET GROUP IS REACHED. FYI. EXPERIENCE INCORPORATED HAS PROVIDED COPY OF SOCIAL ANALYSIS FOR BARANGAY PROJECT. TWO (2) COPIES OF PROJECT IMPLEMENTATION PROCEDURES ARRIVED SEPTEMBER 19, 1977. END FYI.

2. REQUEST MISSION CONFIRM/CLARIFY THE FOLLOWING STATUTORY CHECKLIST --- PARA B. FUNDING CRITERIA FOR PROJECT SUB PARA 1B. --- 104 FUNDING FOR CONSTRUCTION OF WATER SYSTEMS AND TECHNICAL ASSISTANCE FOR DESIGN AND CONSTRUCTIONS OF WATER SYSTEMS IS BEING REQUESTED NOT REPEAT NOT, 103 FUNDING FOR RURAL DEVELOPMENT

3. SEPTEL WILL REQUEST CLARIFICATION OF DRAFT AUTHORIZATION SUBMITTED IN ANNEX J OF PP. VANCE

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AIRGRAM

DEPARTMENT OF STATE

UNCLASSIFIED

CLASSIFICATION

ACTION COPY

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TO - AID/Washington TOAID-A 227

FROM - MANILA

SUBJECT - Barangay Water Project No. 492-0291

REFERENCE - UNCLASSIFIED STATE 233435

ACTION OFFICE X

DATE REC'D. EA 11/21

DUE DATE 11/28

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DATE SENT NOV. 2, 1977

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This airgram responds to issues raised in reftel. Further data and analysis can be provided on request.

1. Who Are The Beneficiaries?

The proposed Barangay Water Project will directly benefit two specific and identifiable groups.

First, and more immediately, it will benefit the small, rural farming and fishing communities which will receive drinking water from the project water systems. This should result in improved conditions of health and sanitation, greater convenience through increased accessibility to potable water, greater productivity as a result of reduced illnesses, and indirectly, higher family incomes. These communities will also benefit by an increased level of community organization and a more dynamic approach to the problem-solving process which can be utilized to resolve still other community problems.

Between 250 and 480 small communities will be assisted by this Project. Small communities of the kind envisioned represent a socio-economic mosaic. There is no profile, per se, which completely depicts them all. They would be identifiable by two general characteristics: 1) they will be small, rural, basically farming or fishing communities; and 2) they will be representative of the lowest 40 percent of the nation's income group with a large percentage of the communities falling in the lower 20 percent of the country's economic strata.

The second group to receive benefits will be the participating local government units - provincial, municipal and barangay. The

PAGE 1 OF 11 PAGES

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PD:CCBrady:cbs	AD/PD	452	10-18-77	ODM: Peter M. Cody, Director

A.I.D. and OTHER CLEARANCES

PD: (cleared in draft) AD/PD: (cleared in draft) ODM:CCChristian

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institutional capacity of many of these local government units is already reasonably well developed. However, in the course of implementing infrastructure projects for Barangay Water Project, and by administering training programs for village associations, opportunities will occur to further refine and develop both planning and implementation skills. This process will have a positive effect on the developmental capacities of the participating provinces and should lead to better planned and more meaningful development programs for the future.

According to a recent study by the World Bank, Priorities and Prospects For Development - A Basic Economic Report, World Bank, May, 1976, 80 percent of the total number of families having incomes which fall below the "minimum needs budget" in the Philippines are rural dwellers. The cited study further reports that farm families, which comprise the majority of the rural population and represent the principal target group for this Project, have gross incomes that place them among the "poorest of the poor".

For the purpose of providing a more lucid picture of the proposed beneficiary communities, the findings of a socio-economic study conducted on the Barangay of A----- in 1973 are presented below. A----- is a barangay in Pangasinan, one of the participating Barangay Water Project provinces, and is considered to be representative of the many rural communities that will later participate in the project. A----- is tentatively scheduled for assistance in the program in 1979.

a. General:

The Barangay of A----- is located approximately 200 miles to the north of Manila in the Province of Pangasinan. The population of A----- is 633 people. There are 104 households in the community with an average size family of 7. Population figures for the past five years demonstrate that the population has increased at the rate of 2.31% per annum for the period.

Survey results show that the infant mortality rate is high. Fifty-two infant deaths were reported over the last four years of the study, thirty-nine of which were in the age group under five.

The barangay's population is young with 61% of the people falling below the age of 25. The computed mean age of A----- is 19.87 years.

b. Income and Occupational Distribution

The economy of the barangay is largely based on agriculture. From the 104 households surveyed, 83 heads of household were listed as farmers while 4 were connected with the fishing industry. This implies that 83.65% of all household heads are engaged in one form of agriculture or another.

A few people were engaged in semi-skilled jobs such as cottage industries (carpentry and mat-weaving), tailoring, and dressmaking. The

table below gives the numerical breakdown of the occupational distribution in Barangay A.....

OCCUPATION DISTRIBUTION

OCCUPATION	NUMBER	
	HOUSEHOLDS	SUPPLEMENTAL INCOME
Farming	83	6
Fishing	4	9
Sales Workers	5	-
Government Employees	5	-
Carpentry	3	-
Automechanics	1	-
Mat-weaving		3
Driver		1
Tailoring/Dressmaking		2
Teaching		1
Unskilled, Manual Labor		1
Semi-skilled Work		1
None	3	
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NOTE: Income derived from supplemental source is that attributable to either the household or a member of his/her immediate family.

The computed average income per household in cash and in-kind was ₱6000 in 1973, or approximately $70 per capita.

Income Brackets	Frequency (No.)
Less than ₱1,500.00	21
₱1,500.00 - ₱3,000.00	55
₱3,000.00 - ₱5,400.00	18
₱5,400.00 - ₱9,000.00	8
₱9,000.00 - ₱12,000.00	2
₱12,000.00 - ₱15,000.00	-
Over ₱15,000.00	-
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Being typical of an agricultural economy, the residents of Barangay A.... are partial to a rice, fish and vegetable diet, irrespective of income bracket. Barrio residents are selective in terms of diet, with a farmer earning ₱1,500.00 per annum or a government employee receiving less than ₱12,000.00 a year eating essentially the same types of food.

Except for a few households, the residents of the barangay are still on a level of subsistence living; i.e., facilities at home are only those that are immediately needed and luxury items do not have a place in the family budget. Three-fourths of the families questioned were reported to lack most or all of the following items:

1. Stove using wood as fuel
2. Enough spoons, forks, plates for family members
3. Enough pans, pots to cook food
4. Cupboard (to store left-over food)
5. Dining table, or one that serves the same purpose
6. Chairs to sit on (e.g., banko, not necessarily a sala set)
7. A complete sala set
8. A very recent newspaper, magazine, or any other reading material
9. Radio
10. Gas stove

c. Education

Barangay A..... had one community elementary school with six grade levels and six teachers, serving 222 students at the time of the survey.

The students were predominantly concentrated in grades 1, 2, and 3 and the average level of educational attainment was grade 4. Many of the older citizens have not attended school at all.

Over the four year period covered by the study both enrollment and drop outs increased. The most common reasons given for attrition were insufficient funds for educational expenses and illness.

d. General Welfare

(1) Health

The average resident of A.... sees a doctor (most likely from the municipal health unit) twice a year and a dentist approximately once in two years. He is brought to the doctor only when seriously ill. He will normally not go to see a doctor if he feels sick, but rather will consult the local "albularyo" (village doctor).

Several factors account for this practice. One of these is the existing norm that village society holds concerning the medical prowess of "albularyos". Since the barangay is quite far from the poblacion and transportation going to and from town is inconvenient, the barangay resident does not have the opportunity to widen his knowledge of services outside the barangay. He is unlikely to assimilate practices and ideas that are not reflective of those upheld in his barangay. It is common practice to give

more weight to ideas he shares with his peer group, and thus follow the traditions which have been handed down through the years and which are practiced by his contemporaries. A great many rural dwellers still shun the advancement of science and medical technology.

In connection with this, it is of interest to note that of the 416 compiled returns concerning childbirth, 402 were delivered by unlicensed midwives, more commonly known as "hilots", as compared with 14 who were delivered by a doctor, either in a hospital or during a house visit. Evidently, the reason for this would be because "hilots" are much more accessible than the doctors who reside further away.

(2) Infant Morbidity and Mortality

The most common causes for infant mortality and infant morbidity for the four year period were reported to be: 1) influenza, 2) pneumonia, 3) bronchitis, 4) measles, and 5) gastro-enteritis.

(3) Family Planning

At the time of the study, family planning was only recently introduced. Therefore participation in family planning activities was still low.

(4) Potable Water Source

Individual means of securing water, i.e., private artesian wells, predominate in the studied area. Of 104 samples, 73 houses (70.19%) had their own shallow wells, (generally at 20 feet depths, and basically contaminated surface water not considered safe for human consumption) while 31 others were serviced by other sources such as open wells and nearby bodies of surface water. The majority of these sources were also considered unsafe during both the dry season and the rainy season.

(5) Sanitary Facilities (toilets)

Due to the lack of piped water, only a few houses (six) had sanitary toilets. These were predominantly of the water-sealed type.

(6) Socialization Processes

The people of A..... have little time for recreation and for the most part are not joiners.

Social activities consist principally of participation in religious activities and the attendance of local movies.

Of the more than 600 residents of A-----, only 24 were listed as members of either the Samahang Bayon (a pre-cooperative agricultural group) or the local Jehovah's Witness religious group.

f. Agricultural Production

Rice is the principal crop for A-----. The average land holding was 1.1 hectares per farmer at the time of the study.

A number of secondary crops are also planted by A----- farmers, with corn, peanuts, sugar cane, and mungo beans leading the list. The farming of secondary crops is largely of the backyard gardening scale with all crops amounting to fewer than 130 acres.

In addition to the secondary crops listed above, a number of minor crops are grown for home consumption. Such crops include squash, gabi, cassava, sweet potatoes, and water melons.

Fishing

Although A----- is located relatively near the coast, the residents do not engage in deep-sea or marine fishing. The extent of fishing activities consists of culturing "bangus" in large inland fishponds which are harvested 3 times a year.

Cottage Industry

There is no major industrial activity in A-----. The most common industries in the study area are broom-making and mat-weaving with approximately one-third and one-fifth of the community engaging in those enterprises, respectively.

Both undertakings provide sources of supplemental income for A-----.

g. Roads and Transportation Situation

The National Highway does not cut through the barangay and therefore products have to be transported from the farm via the barrio road (a 2 km. feeder road constructed by the local government in 1973) by carabao-drawn carts and to town by calesa, jeeps, or tricycle. Transportation facilities in the study area are as follows:

10 horse-drawn vehicles or calesas
5 tricycles
4 jeeps

Improvement of roads leading to the barangay are considered a necessity so as to strengthen the linkage between the barangay and the nearby town and for the transportation of products from farm to market.

h. Community Development

When asked what they wanted most for their barangay, the barangay respondents noted the following:

(1) Electrification.

(2) The improvement and development of the existing free-artesian well into a simple waterworks system, expected to service the whole barrio as well as those adjacently located.

(3) Materials for school building improvement.

(4) The construction of a feeder road.

(5) The construction of a multi-purpose pavement.

(6) Sports development projects.

i. Overall Profile of Philippine Rural Barangays

The recent census reports a population of around 43,000,000 people in the Philippines. There are some 43,000 barangays in the country. Thus, the average population for a barangay is around 1,000 people, slightly more people than the barangay of A------. It should be noted, however, that rural barangays commonly range in size from fewer than 300 people up to 5000. In urban areas barangays are, of course, considerably larger than the 5000 used as the upper boundary for participation in the Barangay Water Project.

Irrespective of size, most rural barangays generally bear the characteristics of barangay A------ in that they are predominantly agricultural, lack sufficient sanitation and health facilities, have minimal contact with local extension workers, and have poor access to services outside the barangay. Therefore valid comparisons on the important conditions of life can be drawn between A------ and most barangays to be served under the Project. Barangays chosen by local governments for inclusion in the project will fit specified criteria as outlined in Administrative Procedures Booklet #2 (already pouched to AID/W).

The reader's attention is also called to the Social Soundness Analysis prepared by Dr. Kenneth Orr on the Barangay Water Project. Particularly noteworthy is Dr. Orr's treatment of the uses of water and the role of women with respect to water acquisition and water use.

2. Describe the Administrative Arrangements which ensure that project beneficiaries will be reached.

The degree of beneficiary incidence in a project of this type is a function of both national and local government commitment to the project, the performance of government personnel at the various planning and implementing levels, and the adequacy of the administrative structure and its attendant operational procedures. Each will be briefly discussed.

Commitment/Performance of Government Personnel:

The lack of potable (safe) drinking water in small rural communities in the Philippines poses a number of serious problems in health and environmental sanitation. The need for a convenient, inexpensive and safe water supply is acutely felt by rural barangay residents and is recognized by government officials at all levels. Social analyses in rural areas in the Philippines reveal that one of the few, but consistent demands of rural residents upon barangay leaders and local officials is for projects which provide people with cheap, reliable drinking water.

A number of fragmented efforts have been made in the past to resolve the water problem. These prior projects have failed because a paucity of resources, overconcentration on engineering and construction without attention being given to system amortization, formation of local consumer associations, or operation/maintenance training. In addition, previous efforts made very little use of local resources and initiatives.

The development of the present Barangay Water Project results from extensive research on the water problem and lessons learned from past program efforts. The project design itself is the product of considerable participation by local government officials who will later implement the project. Its primary approach is to facilitate rural barangay identification of water needs, and ensure delivery of household water through maximum employment of provincial and barangay resources.

In an effort to "test and refine" the concept of the Barangay Water Project in advance of the authorization of the proposed USAID loan, USAID and host gov counterpart officials sought and received GOP funding for a pilot undertaking in 1977. The response to this pilot effort from both national and provincial level officials has been uniformly favorable. Our limited experience thus far has shown that performance by local officials can follow uniform procedures in assuring delivery of services. This pattern of behavior on part of local officials is a key element underlying the project's success.

The national government has established an office in the Department of Local Government and Community Development to implement the project and

provided it with ₱9 million ($1.2 million). This office is to be responsible for the pilot effort in four provinces and to initiate training and organizational activities in an additional eleven provinces in preparation for fuller implementation of the project under USAID loan funding in 1978, 1979, and 1980.

Provincial governments have shown considerable enthusiasm to be admitted to the program by having committed substantial amounts of their own resources in advance of any external assistance. The 15 provinces participating in 1977, for example, have:

a. Recruited five additional staff personnel per province to implement the project;

b. Have sent all personnel to attend the basic training package for waterworks personnel (six training programs in all);

c. Conducted preliminary provincial water resource inventories and developed 5-year water resource development plans;

d. Expanded equipment pool operations to include waterworks repair shops; and

e. In four of the fifteen provinces, construction of water systems utilizing the procedures to be employed under the BWP has already commenced. Activities being carried out include the organization and training of the barangay water associations which will own, manage, maintain, and operate the systems.

The provincial input alone amounts to more than ₱2.6 million ($350,000) in CY 1977. In view of the constant shortage of local funds to accommodate the plethora of project proposals pending implementation, these contributions to the project reflect the high level of commitment and priority which national and local officials assign to the Barangay Water Program.

The Approach, Administrative Structure, and Operational Procedures

The GOP and USAID have rejected the idea of implementing the project through a large national organization working directly with the beneficiary communities. The scale (number of communities) is too great and the technical and organizational capacity of national agencies, even large ones, would be too limited to make a significant impact on the overall problem.

Thus, the approach is to develop the planning, implementation, and organizational capacity of local government units (provincial and municipal governments) themselves. Such capacity is developed through a series of training programs, the provision of operational guidelines and manuals,

technical assistance provided by USAID and a private architect and engineering firm, and through continuous follow-up field work on design, construction, community organization, and actual operation of the systems once they are constructed.

The national staff serves as the unit to design the project and set program policies and standards. It also has the responsibility to develop the capacity of local government units to plan, implement and monitor sub-projects in compliance with the accepted standards, criteria and procedures.

It is the individual local government units, however, who will select, plan, and implement the subprojects. Detailed administrative procedures have been developed, and pilot tested during 1977, for the planning and implementation of subprojects. The procedures are emphasized in all training programs and their application is closely monitored by both the national staff and A&E personnel. Compliance with the procedures basically ensures that the intended beneficiary communities are reached.

Subprojects will be implemented with local government funds on a fixed-amount reimbursable basis (FAR) therefore non-compliance with the procedures, or selection of communities outside the target group, will result in non-reimbursement of the project constructed. Non-reimbursement is not expected to be a common occurrence, however, as there are various check and approval points built into the process which help to assure compliance throughout the course of project origination, approval, and implementation.*

AA/Asia and the Philippine Desk have been provided with copies of the original administrative procedures governing the Barangay Water Project. A revised set of procedures, based on the 1977 pilot experience, is now being printed and will be forwarded as soon as available. Two revised booklets are being pouched at this time.

Basically, the procedures outline a strategy whereby the need for water systems are identified in the barangay itself, and are channeled through local governments to the responsible project office. This office then decides on the barangay's eligibility to participate in the project based on a pre-determined profile**. Before construction actually begins a barangay water association is formed with full participation of those residents desiring to be included in the water system. Extensive training

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* Mission experience with the Rural Roads Project, which follows similar procedures, has revealed little problem in this respect.

** See Administrative Procedures Booklet No. 2 which outlines BWP feasibility procedures in selecting eligible barangays.

of water association officers is conducted following which construction begins. Following completion of construction, residents are instructed on operation and maintenance of the system, with provincial engineering representatives making follow-up visits to the barangays to make sure no serious problems develop. However, the waterworks systems themselves will be owned, managed, and maintained by the established barangay water associations.

The actual design of the individual barangay water systems will be such that water service should be within the economic reach of almost everyone in the community. As a matter of policy, ninety percent of the community must agree to join the barangay water association before a system is constructed, in order to ensure that virtually everyone has access to the project at the community level. There will always be a few cases (the widow with eight children and no income, etc.) that could fall outside the reach of the project. The project is addressing such cases by encouraging the local water associations themselves to make decisions in the direction of providing socialized water on a limited basis for families who have the willingness but not the financial capability to participate. One scheme along these lines involves in-kind payment (labor, bill collection, and other required operational inputs) in lieu of cash water fees for impoverished families.

The Mission believes that the Project is directed to the economically least privileged communities in the country. The Government of the Philippines concurs and supports the selection of small, rural villages as the beneficiaries of the Project. As outlined in the beneficiaries discussion above, local governments will require that barangays be rural predominantly farming and fishing, have electricity or a gravity fed source of surface water, and demonstrate financial viability. The task of assuring that inputs result in the desired outputs and reach the intended beneficiaries will be a manageable one. The challenge to the Philippine Government in implementing this Project will be not simply to reach the poor but to work with impoverished communities while at the same time developing the degree of administrative and fiscal self-sufficiency required to insure the viability of the systems once they are built.

STILL

ANNEX B-1

Design Guidance

I. General:

The design of all subprojects in the Barangay Water Project must include special considerations for ecology, health safety, minimal construction and operation cost, community involvement, and insure both acceptable and appropriate levels of technology and engineering practices. Care must be exercised to design systems which are large enough to adequately handle the population without exceeding the local managerial and financial capacity to operate, maintain, and sustain such systems. (See Attachment F, Design Policies, Booklet No. 1, Barangay Water Administrative Procedures).

II. Design Criteria:

There is very little accumulated information on design criteria for small rural water system available in the Philippines. In the absence of locally tested design criteria, it is suggested that this guide be used on the pilot systems now being undertaken by the Project. The establishment of these guidelines are not intended to limit, or substitute for the professional judgment of the designing engineer or architect. They are rather meant to provide basic guidance in an area where essential engineering data is necessary but lacking. Deviation from design guidelines is fully permissible when sufficient justification is included, in writing, as a part of the preliminary engineering report.

Detailed studies of the pilot project systems should be made by the Department of Local Government and Community Development (DLGCD) in order to develop a more specific and broader basis for formulating design criteria. Such studies are projected in accordance with the existing Administrative Procedures.

A. Local Laws and Regulations

All water related facilities shall be designed and constructed to conform with applicable national laws, ordinances, and regulations which relate to the safety, security, and sanitation of the facility. These guides should not be construed as a lowering the special requirements which may be established by local laws, ordinances or regulations to meet the specific needs of a given locality.

B. Health Department

Subproject plans and specifications should be reviewed and approved by the Philippine Deparment of Health (DOH) in accordance with P.D. 856. The Department of Health should also make a final inspection of subprojects before reimbursements are made to the participating provinces.

C. Fire Protection

It is not anticipated that the average barangay will be able to afford fire-protection hydrants or other fire-fighting equipment. In the larger communities, it might be possible to provide limited fire protection for "business districts" of the town. Normally speaking, however, the Barangay Water Project

will not contemplate the design of fire hydrants.

D. Water Quality

The quality of water supplied should be in accordance with the requirements established by the Philippine Department of Health when possible, however, safe water is acceptable when it is not possible to meet the stringent international standards required and when the water produced represents a great improvement over the existing quality of water. (See attachment to this Annex).

E. Supply

The Bureau of Wells and Springs and other agencies have technical data which in some cases, can assist the Provincial Engineer's Office (PEO) in locating the best possible source of water for exploitation. When no such data is available, consideration should be given to the construction of a test well. In no case should the construction of the distribution network, storage tanks, or other major capital outlay be initiated until the water supply is tested and proved acceptable for human consumption.

(1) Quantity

The quantity of water should be adequate to provide a continuous water supply over the expected life of the Project. In order to provide for peak day usage, the supply sources should be adequate to supply the per capita usage per day within a period of eight (8) hours or less. The per capita usage is planned at 15 gallons per person, per day.

(2) Surface Water Source

It is anticipated that small water systems will experience difficulty in properly operating and maintaining surface-water treatment plants.

If surface-water treatment plants, however, are to be designed, the option should be for slow, not rapid, sand filters.

F. Pumps and Motor

Pump selection should be based on pre-determined conditions of head and demand. Plumbing (fittings) and valves should be arranged to accommodate easy removal and replacement.

(1) Size

The size of pumps and motors should normally be based on the existing flow conditions plus allowance for the service area population growth which is reasonably expected to occur within the life of the pump or motor. Plant or well piping should be sized for a population growth allowance over an even longer period of time. Water velocity in plant piping should not exceed 10 feet per second in systems of the type proposed.

(2) Power Supply

Prior to the preparation of engineering and feasibility studies, and the selection of pumping

sites, the Provincial Engineer's Office (PEO) must contact the local power company in order to determine if the power supply is adequate to drive pumps of the necessary specifications for the project. At the same time it should be determined what the approximate cost of electricity per month will be for operating a pump of the proposed (required) size. Many localities in the Philippines are only supplied with open Delta, 3-phase, power. In some rural areas visited by this technician, imbalance between pump requirements and available power is common. If the local power company cannot guarantee the required balance of current, the use of the next larger size motor is recommended.

(3) Motor Protective Devices

For larger motors, it may be desireable to install power monitors to protect electric motors from excessively high or low voltage, phase failure and phase reversal.

G. Storage

Storage capacity should be designed to provide for at least one full day of use-requirements-15 gallons per person, per day, under this Project. Additional storage should also be provided to accommodate the expected population growth within

the Project. Storage requirements can be relaxed if a large water supply is available and if water drawdown can be replaced rapidly.

For the location of large standpipes, the foundations will be based on a careful soil investigation and analysis. It is also important to locate storage facilities on the most suitable elevated point in the general proximity to the service area in order to increase gravity flow and promote the lowest possible operational costs.

H. Distribution System

(1) Water Pressure:

Water pressure should be adequate to provide satisfactory service to all customers. Systems should be designed in such a manner as to prevent negative pressure. Delivery pressure should normally not be less than 20 psi is excessive.

(2) Flow Rates:

Flow rates will be computed later on based on data gained from specific evaluation of projects. Pipe sizes shall be computed at the rate required to serve all existing houses as well as potential users, in the service area during the peak hours of usage. The project engineer should also consider sizing the pipe for potential extensions, and loop completions.

(3) Future Design Capacity:

Experience in the Philippines demonstrates that

system users will want to convert from public faucets to indvidual house connections after the systems have been in existence for a period of time. The designing engineer must keep this phenomenon in mind when installing public faucets and should accordingly size the pipelines sufficiently large to accommodate individual connections.

I. Meters:

It is planned that all service connections will be metered. Metering of a water system provides a basis for billing customers for water consumed, furnishes a continuing record of water demand to help plan for future expansion, and establishes a means of determining water loss from the system due to leakage, a variety of abuses and illegal connections.

Many systems will not be able to provide water service to each house so public faucets will instead be used. Public faucets will also be metered.

As it is almost impossible to provide constant and equal pressure in the water mains to all parts of the barangay, water meters will help by reducing water wasted in high pressure areas. Customers in the low pressure areas will also be consoled that while their water pressure is low, they are only paying for the actual water that they consume.

The Barangay Water Project has developed a method of billing the customers using public hydrants. Barangay Water Administrative Procedure Booklet No. 6 spells out the billing procedure in greater detail.

A training program has been planned for operators on methods of repairing the water meters. Replacement meters will be maintained in the barangay to facilitate and expedite minor repairs. Major repairs will be performed by the Provincial Engineer's Office (PEO) but the charges for replacement parts will be borne by the respective barangay association.

A study of 10 cities in the Philippines conducted by the Local Water Utilities Association (LWUA) and a private engineering firm found that 70% of the water produced was lost in the system due to leakage, wastage, and other factors. (See attachment to this Annex).

A major cause of water loss in many of the existing systems is leaky faucets.

It is recommended that, for water systems which are piped directly to the houses, the barangay water system operators make periodic inspections of faucets on a house-to-house basis and effect on-the-spot repairs at the owners expense. The charge for repair would be added to the users' water bills.

During the Pilot Program, other methods of providing water on an equity basis besides metering should be tried. The "Social Soundness Analysis" indicates that the "poor" people were willing to pay for water provided that the system established for administering it is equitable.

Because meters are expensive, and because the people will eventually demand water piped directly to their households, it may

even be possible to serve more than one household on a single meter. A typical rural barangay may have clusters of extended families that could be served on a pro-rata basis by a common meter.

When metering is not provided, the Provincial Engineer's Office (PEO) and the Department of Local Government and Community Development (DLGCD) should establish:

1. That the community has strong enough leadership to exercise controls and prevent wastage and abuses of water without meters.
2. That the barangay operator has the authority to make inspections of faucets in homes and that a periodic inspection program is instituted to repair leaks.
3. That additional charges should be levied on a customer found guilty of wasting, or illegally using, community water.
4. That any water sold to users not a part of the water association will result in income for the association rather than individual income for a member-user.

J. Public Faucets

1. Type

Experience by World Health Organization (WHO) on systems in the Philippines shows that people object to

spring operated faucets and will damage them, or replace them with regular faucets that do not require being held open by continuous hand pressure. Regular hand-turn faucets should be used for the proposed Barangay Water Project.

2. Drainage and public faucets must be designed and installed in such a manner that adequate drainage away from the faucet can be obtained. A concrete apron of approximately 4 feet square must be placed around the faucet. The apron should be designed to include drainage furrows or canals that will empty into catch basins or similar recommended catch devices for removing excess water.

K. Pipeline Materials

1. Pipeline materials can be cast iron, galvanized iron or plastic pipe.

All pipe materials, however, must meet the national quality control standards. Where national standards have not been specified, the American Society for Testing and Materials (A.S.T.M.) standards can be referenced as guidelines.

Due to its low cost, resistance to corrosion, lack of tuberculation, light weight, lower maintenance features, lower coefficient-of-friction, and longer length-of-life, the use of plastic pipe is recommended for use in the Barangay Water Project systems. When crossing bridges, streams and in other situations of extreme stress, plastic pipe will not be suitable.

As with all other pipe materials, plastic pipe must be installed in accordance with the manufacturer's recommendations. It is the practice in the Philippines to install galvanized pipe above ground. This helps prevent corrosion due to soil reaction. Plastic pipe, however, must be buried. When it is not possible to bury the pipe due to underground rock, or for other possible reasons, pipe such as galvanized iron and cast iron must be used.

The type of plastic pipe to be used can be either Polythelene (P.E.) or polyvinyl chloride (P.V.C.). Both are manufactured and accessible in the Philippines. Static pressure on plastic pipe should not exceed 65% of the rate pressure.

2. Pipe Material Inspection

All pipeline material must be inspected by the Provincial Engineer's Office (PEO) and the architectural and engineering firm prior to installation. When the project engineer does not have the necessary micrometer calipers for direct reading of the wall thickness, and there is the possible presence of a defect, he should take samples of the pipe to the nearest machine shop where the thickness and tolerance can be adequately measured. The pipe should be free of foreign material, scratches, indentations, cracks and other defects such as out-of-roundness. If for any reason the pipe has a visual appearance of not meeting quality control standards, samples should be drawn and forwarded to a private, or governmental, testing laboratory for testing and quality confirmation before use.

3. Pipeline Installation

All pipeline installations must be made in strict compliance with the manufacturer's recommendations and written specifications.

Many barangays, in order to lower the cost of installation should provide free labor for trenching. In such cases, the Provincial Engineer's Office (PEO) will provide qualified supervision. Only trained and certified Provincial Engineer's Office (PEO) or general contractor employees will be permitted to join pipe. Such employees must be previously trained, both by instruction and through practical field experience, so that proper installation and quality workmanship can be achieved.

4. Pipeline Locations

Pipelines will be located in such a manner to assure ready accessibility by the customers. As it is a common practice in the Philippines to dispose of waste in street gutters and ditches, the pipeline should be on the opposite side of the road or away from such pollution hazards.

L. Pump Controls

1. Type

Pumps should be steady in performance and simple, automatic in most cases, and of adequate size to maintain proper flow requirements. All automatic controls should be backed up with manual controls.

When controls are required to operate valves, and switches are needed to fill distant tanks, the engineer

will include a narrative, in the final design, detailing the sequence for such operations.

2. Motor Protection

Provide adequate motor protection as discussed in Paragraph F, Subpara 2.

3. Thermal Overloads

Normal thermal overloads used for standard motors will not trip fast enough to protect submersible pump motors, thus, the extra-quick type heaters must be specified.

M. Valves:

1. A sufficient number of strategically placed gate valves should be installed so that lines can be isolated to make necessary repairs. Valves should meet current local, or in their absence, (A.W.W.A.) standards.

2. Adequate air relief and flushing valves must be provided. (May not be needed, however, on small systems where long transmission lines are not required.)

3. Non-slam check valves should be used on the discharge lines of booster pumps and in other critical areas where pressure surges are expected.

N. System Testing and Disinfecting:

1. Before being placed into service, the entire system shall be disinfected until two consecutive samples of chlorine-free water from each line is found to be free of organisms of the

Coli-Aerogenes groups. The disinfection and submission of samples shall be in accordance with the requirements of the Department of Health (DOH) or in compliance with standards imposed by local health authorities.

2. Explosions have occured when granular calcium hypochlorite was used to disinfect PVC plastic pipes. The calcium hypochlorite reacts violently with the solvent weld materials under certain field conditions. When solvent welded PVC is used, the granular calcium hypochlorite must not be used in the system until it has been dissolved in water. When chlorinated water is pumped into the lines to sterilize the system, these explosions will not occur.

3. Adequate water pressure tests should be made on the distribution system prior to disinfecting it. Each pipe joint should also be inspected under pressure to test for leakage prior to covering with fill material.

O. Preliminary Engineering Reports

Engineering reports will be prepared in accordance with a format which is under preparation and in accordance with requirements already specified in the Administrative Procedures for the Barangay Water Project. The following additional information should also be included:

1. Water Supply

A complete chemical analysis of the water taken from the proposed source must be shown. When water is proposed from a deep well a chemical analysis of a water sample taken from the

nearest well in the vicinity of the proposed well should be shown. The distance, as well as the direction, between this proposed well and the well where the sample was taken should be stated. The analysis should be compared with current Philippine Department of Health standards. Include the name of the formation and depth of the proposed well.

2. Hydraulic Computations

The hydraulic computations should include, in tabular form, headloss calculations for each connection, number of connections, flow in gpm, distance in feet, diameter of pipe in inches, headloss between connections, elevations at each connection, operating head at each connection, and a "remarks" column to show location of in-line or individual pressure controls. An explanation of tabulated data should accompany the tables and should include the appropriate friction factors used.

3. Preliminary Maps

A preliminary map showing the location of proposed lines, water storage, pump station, roads and location of houses should be prepared. This map can be on a smaller scale than required for construction plans. Ground elevations should be shown at key points. Contours would be helpful if available.

P. Construction Plans

A general construction plan will be prepared by the Provincial Engineer's Office (PEO). The final plans will be

approved by a consulting architectural and engineering firm, Department of Local Government and Community Development (DLGCD), the Philippine Department of Health (DOH) and the provincial health authorities. The following format is suggested to be used for construction plans. This format supplements the design procedures in Administrative Procedure Booklet No. 1 and does not supplant such procedures.

(1) Title Sheet

(a) Name of project, province, municipality and barangay, etc.

(b) Barangay Water Association board of directors (names listed).

(c) Acceptance of project plans.

(2) Key Map

(a) Present a key map of the project showing the roads, towns, communities, pumping stations, well, etc. If the area to be served is shown on two or more sheets, the key map supplied should show, by sheet number, the area covered by the various sheets.

(b) General notes to the contractor or project engineer.

(c) Legend

(3) Pipeline Construction Plans

(a) Scales should be approximately 1" to 100', or 1" to 200'. Larger scales should be used where needed.

(b) Maps should be approximately 24" x 36" in size.

(c) North arrow and scale should be shown on each sheet and arranged so that north is at the top of the sheet.

(d) The plan map should include location of the pipeline, water source, pumping plants, storage facilities, easements and right-of-way, roads, fences, culverts, other pipelines, underground cables, creeks or rivers, bridges, names of roads or highway numbers, and construction hazards.

(e) The customer's name and map location.

(f) The location of in-line pressure reducing valves and outlet pressure settings.

(g) Highway crossings, length, size and type of encasement.

(h) Location and size of all proposed pipelines and valves, markers.

(i) Special appurtenences. Use enlarged "insets" to show location of valves or other special appurtenences.

(j) Elevations should be shown at the wells, pump plants, storage facilities, pressure regulators, intersections, changes in pipe sizes, ends of lines, junctions of laterals, and high and low locations of the lines.

(4) Detailed Construction Plans

Plans should include:

(a) Water plant layout showing:

Plot of the site with orientation, topography, dimensions, drainage, existing easements (power, others), piping and valve arrangement, buildings, well storage tanks, fences, gates, master meters, etc.

Construction details of all structures such as foundations, retainer rings, splash blocks, drainage, roads, buildings, piping, electrical heating, sanitary structures, storage tanks, water treatment facilities, wells, backwash pits, plant ventilation and pressure tanks.

(b) Plan views and individual details of storage tanks or elevated tank. The supply line to the storage tank should discharge above high-water level. A steel ground storage tank should be set on a layer of oil-saturated gravel , few such tanks are anticipated.

Reinforced concrete foundations may be required for large standpipes and elevated tanks. Where a well is discharging into the tank, show the location of the electrode "on", "off", and "emergency off" settings.

(c) The spacing and size of reinforced steel in concrete footings and foundations.

(d) Elevation and plan views of buildings and plant piping.

(e) Include any other details, drawings, specifications and dimensions deemed necessary for undertaking construction.

(5) Standard Detail Sheet

Include all dimensions, sizes, specifications, and details as needed. The standard detail sheet should include details for:

(a) Blow-off valves.

(b) Regulator valves and meter installations.

(c) Creek or river crossings.

(d) Railroad, road, and highway crossings.

(e) Pipe installation and bedding.

(f) Standard valve installation for various types of pipe, by pipe, and valve sizes.

(g) Air relief valves to be located in right-of-way or lines or other protected locations in non-traffic areas.

(h) Flush valves if any. Discharge should be 18" above ground and located within the right-of-way.

(i) Service tap for various type of materials.

(j) Meter or valve vaults, boxes, etc.

(k) Concrete thrust blocks.

(l) Fire hydrant (Perhaps on a few of the larger systems, centrally located.)

(m) Standard service loops and meters.

(n) Fencing on walls if any.

(o) Pipeline and valve markers

(p) Typical public faucets.

(6) Procurement, Bidding, and Contract Awards

(a) Procurement, bidding and contracts will be accomplished in accordance with local requirements and guidelines developed by the Department of Local Government and Community Development (DLGCD) and the United States Agency for International Development (USAID) in the Barangay Water Administrative Procedures.

(7) Performing Construction

(a) Construction will be performed in accordance with the approved plans, specifications and costs.

(b) The Provincial Engineer's Office (PEO) and the architectural and engineering (A &E) firm will inspect all materials prior to the installation of a system. They will also inspect the installation of material. The placement of reinforcement steel must be inspected prior to the pouring of concrete.

(c) Change orders - change in construction plans must be made only after approved by an appropriately submitted "change order". See change order procedure in Booklet No. 1 of Barangay Water Administrative Procedures.

(d) Problems - If problems develop during construction, the local inspector or barangay officials must notify the Provincial Engineer's Office (PEO) and the Department of Local Government and Community Development (DLGCD), immediately, (as per Booklet No. 1, Administrative Procedures).

(8) As-Built Plans and Warrantees

(a) As-Built Plans

The Provincial Engineer's Office (PEO) will prepare as-built plans. Each sheet will be marked "as-built" with date. Copies of "as-built" plans should be furnished to the recipient barangay, Department of Local Government and Community Development (DLGCD), Department of Health (DOH) and other parties as required.

The Provincial Engineer's Office (PEO) will maintain a file of the original reproduction of as-built plans.

(b) Warrantees and Guides

A minimum of two sets of warrantees and guides will be required. One copy will be kept by the Provincial Engineer's Office (PEO) and another by the local barangay.

The warrantees and guides required are generally as follows but not limited to these situations:

(1) A formation log, electric log, production and test log.

(2) Pump brochures.

(3) Brochures, operator's manuals, parts catalogs, tests, etc.

(9) Final Acceptance of Project

When all planned development has been completed in accordance with approved plans and specifications, and operational checks show that all items, singular or in combination, serve intended purpose in an acceptable manner, the project will be accepted. See Barangay Water Project, Administrative Procedures, Booklet No. 1 for detailed explanation of acceptance procedures.

NATIONAL STANDARDS FOR DRINKING WATER (1)

Constituent	Unit	Permissible Concentration	Excessive Concentration	Maximum Allowable
		Physical Characteristics		
Turbidity	Turbidity Units	5		
Color	Color Units	15		
Threshold Odor	Odor Units	3		
		Chemical Characteristics		
Calcium	mg/l	75	200	
Chloride	mg/l	200	600	
Copper	mg/l	1.0	1.5	
Iron	mg/l	.3	1.0	
Magnesium	mg/l	50	150	
Manganese	mg/l	.1	.5	
Zinc	mg/l	5.0	15.0	
Sulfate	mg/l	200	400	
Manganese Sulfate plus Sodium Sulfate	mg/l	500	1,000	
Total Solids	mg/l	500	1,500	
pH Range		7.0 to 8.5	below 6.5 above 9.2	
Phenolic Substances (as phenol)	mg/l	.001	.002	
		Toxic Substances		
Arsenic	mg/l		.2	
Barium	mg/l		1.0	
Cadmium	mg/l		.01	
Chromium (Hexavalent)	mg/l		.05	
Cyanide	mg/l		.01	
Lead	mg/l		.1	
Selenium	mg/l		.05	
Silver	mg/l		.05	

NOTE:

(1) Recommended by the Philippine National Committee on Drinking Standards, 1963.

ANNEX B-2

SELECTION

C R I T E R I A

AND

REQUIREMENTS

I. CRITERIA AND REQUIREMENTS FOR THE SELECTION OF PARTICIPATING PROVINCES

A. Province must meet the following criteria for participation

STAFFING

1. Provincial Development Staff

   a. PDC
   b. Project Analyst
   c. Infrastructure Analyst
   d. Agricultural Analyst
   e. Fiscal Analyst
   f. Researcher
   g. Water Resource Analyst*

* New personnel required to be appointed not later than 15 April 197__.

2. Provincial Engineer's Office

   a. The PEO must have adequate engineers and other personnel capable of planning and implementing the SIP and/or RRP projects in the province.

   b. An additional sanitary/civil engineer must be appointed not later than 15 April, 197__.

   c. Two employees must be hired or designated from the existing PEO staff, as Water Technicians. They will assist in the maintenance and repair of water systems.

B. Documentation Required of Each Province

1. Capital Improvement Program (CIP)
2. Municipal Capital Improvement Program (MCIP)
3. Road Network Development Program (RNDP)
4. Real Property Tax Administration (RPTA)
5. Equipment Pool Development Plan (EPDP)
6. Socio-Economic Profile
7. Performance Budget

C. Facilities

General Requirements

1. Equipment Pool
2. Quality Control Laboratory in-place and functional

D. Specific Requirements

A work bay must be reserved for the Barangay Water Project.

E. Basic Memorandum of Agreement between the province and DLGCD.

BUDGETARY REQUIREMENTS AS PROVINCE CONTRIBUTION FOR THE FIRST YEAR

A. Training - Trainings shall be conducted for the Task Force at the Provincial level and for the association/coop at the Barangay Level.

1. Provincial level

a.	Initial Training	₱5,000.00
b.	Workshop	3,000.00
c.	Organization and Management	7,000.00
	Sub-Total	₱15,000.00

2. Barangay Association/Coop

a.	Membership training	
bb.	Management training	₱15,000.00
c.	Specialized training	
	Sub-Total	₱15,000.00

TOTAL FOR TRAININGQ ₱30,000.00

B. Personnel

1 Trng Officer	₱7,200.00
1 Water Resource Analyst	9,000.00
1 Sanitary/civil engineer	12,000.00
2 Water Works Technicians	14,400.00

TOTAL FOR PERSONNEL ₱42,600.00

C. Projects

The total cost for sub-projects will range from ₱600,000 - ₱1,800,000 depending on the size and number of sub-projects. (An average size project will cost around ₱200,000.)

D. Other Cost

Administrative Expenses, Per diem, materials POL, etc. ₱5,000.00

Recapitulation of Budget Requirements

1.	Personnel	₱42,600.00
2.	Training	30,000.00
3.	Projects	
4.	Other costs	5,000,00
	GRAND TOTAL FOR CY 197__	₱77,600.00

PILOT PROJECTS

Provinces selected to participate in the pilot projects will need to appropriate additionally around ₱400,000.00 for project costs to be undertaken on a Fixed Amount Reimbursement (FAR) in CY 1977.

ADDITIONAL DOCUMENTATION REQUIREMENTS

A. Water Resource Inventory to be submitted on or before 15 February 197__.

B. Five-Year Water Resource Development Plan for 1978-1982 to be submitted by 15 March 197__.

C. One Feasibility Study to be submitted by 15 April 197__. (Pilot Provinces)

ESTABLISHMENT OF WATERWORK REPAIR BAY WITHIN THE EQUIPMENT POOL

THE PROVINCE MUST HAVE A FUNCTIONAL QUALITY CONTROL LABORATORY

THE PROVINCE MUST BE WILLING TO FOLLOW THE GUIDELINES ADOPTED BY PDAP/DLGCD

PROVINCE SHOULD AGREE TO ASSIST THE BARANGAY WATER USERS ASSOCIATION WITH THE TECHNICAL ASSISTANCE AS REQUIRED FOR WATERWORKS REPAIRS ON A REIMBURSABLE BASIS. (REPLACEMENT PARTS)

ADDITIONAL PERSONNEL

JOB DESCRIPTIONS

BARANGAY WATER PROJECT

II. JOB DESCRIPTIONS

A. Water Resource Analyst

The Water Resource Analyst works under the supervision of the Provincial Development Coordinator.

He is responsible for:

1. The preparation of the Provincial Water Resource Inventory, and the Five-Year Provincial Water Research Development Plan.

2. Coordinating and collaborating with the other agencies concerned with the domestic water supply and treatment, wastewater collection and treatment, etc.

3. Assisting in the organization of the Barangay Water Coops/Association.

4. Assisting in the training of Barangay Water Coops/Association, especially on the general management of the waterworks systems.

Qualification Requirements

1. Education - Completion of a Bachelor Degree in Sanitary, Civil, or industrial Engineering, Statistics, Mathematics or Business Management.

2. Experienced in the performance of work requiring knowledge in Sanitary or Civil Engineering principles related work.

B. Sanitary/Civil Engineer

The sanitary/civil engineer works in the construction division of the Provincial Engineer's Office.

He is in-charge of the Waterworks Section and is responsible for:

1. Designing waterworks systems.

2. Supervising, inspecting and monitoring the construction of waterworks systems.

3. Assisting in the preparation of the Provincial Water Resource Inventory and the provincial Five-Year Water Resource Development Plan.

4. Advising Barangay Water Cooperative/Associations on the technical aspects of maintaining, repairing, and operating small water systems.

5. Assisting in the training of water cooperatives and associations.

6. Supervising the repair of machinery connected with the Barangay Water systems.

7. Supervising waterwork technicians assigned to the Waterworks Repair Bay in the Provincial Equipment Pool.

Qualification:

1. Educational background:

   Completion of Bachelors degree in Sanitary or Civil Engineering.

2. Experience:

   It is desirable that the candidate have at least one year of experience in reading and interpreting of working drawings of buildings and other comparable structures, especially those used in water systems such as dams, storage tanks, treatment plants, transmission mains and distribution lines, etc. or other related civil engineering works.

WATER RESOURCE DEVELOPMENT

PROVINCIAL TASK FORCE

III. INSTRUCTIONS FOR THE PREPARATION OF PROVINCIAL WATER RESOURCE INVENTORY AND FIVE-YEAR PROVINCIAL WATER RESOURCE DEVELOPMENT PLAN

A. The Provincial Governor will appoint a Provincial Water Resource Development task force to be composed of the following members or their duly authorized representatives:

Provincial Engineer
Provincial Development Coordinator
Public Works District Engineer
Provincial Development Officer
Provincial Health Officer
Provincial Treasurer
Provincial Auditor
Senior member of Sangguniang Panlalawigan
Others as deemed necessary

1. The purpose of PWRD Task Force is to promote inter-institutional cooperation and coordination by facilitating the exchange of information and providing technical assitance as required for the preparation of the Provincial Water Resource Inventory, the 5-year Provincial Water Resource Development Plan, and the future development plans for Provincial Water Resources.

2. The Task Force is to be Chaired by the Governor or his representative and should meet at least once a month on a regular basis but may be convened as often as necessary.

B. The Provincial Development Staff will be the principal agency responsible for the collection of data, the preparation of document and the submission of both the Provincial Water Resource Inventory and the 5-Year Provincial Water Resource Development Plan. Both documents will be approved by the PWRD Task Force, and adopted by the Sangguniang Panlalawigan.

Preparation of the PWRD Inventory will involve:

1. Reviewing the existing data or documentation on provincial water resources, namely:

   a. Socio-Economic Profile
   b. PCP/PCIP/MCIP
   c. BPW Water Resource Inventory
   d. DOH data
   e. National Census and Statistics Data
   f. NEDA Data
   g. Other Sources

2. To the extent possible, after the review of existing literature, use primary data.

   a. Informants for Non-Technical Data:

      - Barangay Captain/Barangay Council/School teachers working through the MDO/MDC

   b. Informants for technical data:

      - BPW, PDO, LWJA, MWSS and Municipal Engineer, if any.

PROVINCIAL

WATER RESOURCE DEVELOPMENT

INVENTORY

AND

ATTACHMENTS

IV. FORMAT FOR INVENTORY

PROVINCE OF _____

PROVINCIAL WATER RESOURCE INVENTORY

197___

PROVINCIAL
SEAL

1. **INTRODUCTION:**

(Present a general overview of the existing water supply situation in the Province) This may include the following:

a) Brief description of the present water supply systems existing in the Province.

b) Summary of drinking water requirements in the Province.

c) Other relevant and significant data.

3. METHODODOLOGY IN DATA GATHERING

(Describe briefly the methods and procedures in data gathering and identify the sources of these information.)

4. Selection criteria for Barangays that have been surveyed.

(See Attachment A)

5. SUMMARY REPORT

Give a summary of the Water Resource Inventory based on the tabular data obtained. Cite statistics or percentages of needed information or state specific problem areas in the Province with regard to water.

6. TABLES

(Water Resource Inventory with system and without systems)

Table 1 - Barangays without system

Table 2a - Barangays with system (Part 1)

Table 2b - Barangays with system (Part 2)

7. APPENDICES

(Maps, Diagrams may include the following:

(1) Map of provinces showing barangays with existing water supply systems indicate shaded area being served.

(2) Tables on prevalent diseases in the Province by Barangays, by municipality or province wide which ever is available.

(3) Table of cooperative, organizations with salient features.

(4) Rainfall Map of Province

(5) Land use map

(6) Soil map

A. ATTACHMENT "A"

SELECTION CRITERIA FOR BARANGAYS TO BE INCLUDED IN THE SURVEY:

1. Barangays to be surveyed

   a. All Barangays with present population ranging from 300-5000 with or without existing water supply system

2. Barangays not to be surveyed

   a. All Barangays within the existing water district pursuant to PD 198.

   b. Barangays for possible inclusion in LWUA program within the next ten years.

   c. Barangays being presently served by systems operated by other agencies, such as MWSS & BPW, etc.

B. **ATTACHMENT "B"**

WATER RESOURCE INVENTORY SURVEY FORMS

FORM I - Barangays without existing water supply system

1. Province _____
2. Municipality _____
3. Barangay _____
4. Population _____
5. Average Annual Family Income _____
6. Major Sources of Income
   a. Farming _____
   b. Fishing _____
   c. Others (Specify) _____
7. Existing Local Organizations
   a. S.N. (No. of members) _____
   b. K.B. (No. of members) _____
   c. Others (Specify) _____
8. Existing plans for Water Supply system development

	AGENCY INVOLVED	EST. DATE OF EMPL.
a. National	_____	_____
b. Provincial	_____	_____
c. Municipal	_____	_____

9. Most Prevalent Water Borne Diseases
   a. c.
   b. d.
10. Distance of potential water sources from center of Barangay
    a. Steam/River _____ KM
    b. Spring _____ KM
    c. Groundwater (estimated depth of water table _____ KM

11. Estimated discharge/capacity of sources

a. river/stream

1. Approximate width

dry season _____ meters

rainy season _____ meters

2. Approximate depth

dry season _____ meters

rainy season _____ meters

3. Speed of flow _____ seconds for a piece of paper to travel 10 meters over the portion of the river where measurements of Width and Depth were taken

b. Spring

Time to fill one can of kerosene (5 gals.) _____ mins.

c. Ground water

Approximate depth of water table

dry season _____ meters

rainy season _____ meters

12. Does your Barangay have electricity?

a. YES _____

managed by:

1. NEA _____

2. Cooperative _____

3. Private _____

4. Others (Specify) _____

b. NO _____

13. Are there plans to provide electricity to the barangay?

YES _____ NO _____

_____

(If yes state estimated date of implementation and by whom?)

14. Distribution of population

a. Concentrated _____

(approximate population _____
in controlled areas)

b. Scattered _____

c. Combination % of total

population in concentrated

area _____

WATER RESOURCE INVENTORY

FORM 2 - Barangay with water supply systems

1. Province _____
2. Municipality _____
3. Barangay _____
4. Population _____
5. Average Annual Family Income _____
6. Major sources of income (CHECK)
   a. Farming _____
   b. Fishing _____
   c. Cottage Industry _____
7. Does the Barangay have electricity?
   a. YES _____

      Managed by: (CHECK)

      1. NEA (cooperative) _____
      2. Private _____
      3. Others (specify) _____

   b. NO _____

      Is there a plan to provide electricity to the Barangay?

      1. YES _____
         a. Implementing Agency _____
         b. Estimated date of implementation _____
8. Sources of water supply system (CHECK)
   a. Spring _____

      How is the system operated? (CHECK)

      1. By pump _____
      2. By gravity _____

b. River/stream _____

How is the system operated (CHECK)

1. By pump _____

2. By gravity _____

c. Ground water _____

How is the system operated? (CHECK)

1. Gas pump _____

2. Electric pump _____

3. Manual pump _____

9. Capacity of system

a. Size of storage tank _____cm

b. Size of main distribution pipe _____mm

c. Size of main transmission pipe _____mm

d. Pump horsepower rating _____

10. Physical condition of the system (CHECK)

a. Operational _____

The performance of the system is:

Excellent _____

Satisfactory _____

Fair _____

Poor _____

b. Not operational _____

1. Repaivable _____

a. Parts of the system to be repaired

1. Source _____

2. Storage _____

3. Distribution _____

4. Others (Specify) _____

b. Cost of repair _____

2. Not repairable (CHECK)

a. Source depleted _____

b. Area abandoned _____

c. Demand small _____

d. Other reasons (specify) _____

_____

11. Is water treated?

a. YES _____ How? (CHECK)

1. By chlorination _____

2. By filtration _____

3. By sedementation _____

4. Others (Specify) _____

_____

b. NO. _____

12. How is the system (Fill in appropriate agency/institution)

	National	Prov'l.	Municipal	Barangay	Private
a. Managed	_____	_____	_____	_____	_____
b. Operated	_____	_____	_____	_____	_____
c. Maintained	_____	_____	_____	_____	_____
d. Repaired	_____	_____	_____	_____	_____

13. How is the system financed?

a. Cost of construction _____

b. Source of funds _____

c. Date of construction _____

14. Operational cost

a. Source of funds _____

b. Water rate/connection or per household/month _____

15. **Beneficiaries**

a. Number of people served by the system

b. Other water uses (CHECK)

1. Irrigation _____

2. Industry _____

3. Others (specify) _____

16. Other water sources

Number of public/private wells _____

17. Are there other potential water sources in the community?

YES _____ (Answer question 18-20)

NO _____ (Do not answer questions 18-20)

18. Distance of potential water sources from center of Barangay

a. Stream/river _____ KM

b. Spring _____ KM

c. Ground _____ m

(Estimate depth of water table)

19. Estimated discharge/capacity of sources

a. River/streams

1. Approximate width

dry season _____M

rainy season _____M

2. Approximate depth

dry season _____M

rainy season _____M

3. The time it takes for a piece of paper to travel thru a distance of 10 meters on a flat portion of the river where the width and depth where taken

_____seconds

b. Spring

Time to fill one can of Kerosene (5 gallons) _____ seconds/ minutes

c. Ground water

1. Approximate depth of water Table

dry season _____

rainy season _____

20. Quality of water (CHECK)

1. Salty _____

2. Fresh _____

3. Turbid _____

4. Muddy _____

5. Others (specify) _____

21. Most prevalent waterborne diseases

a. _____

b. _____

c. _____

C. ATTACHEMENT "C"

PROVINCE
WATER RESOURCE INVENTORY
TABLE I

BARANGAYS WITHOUT WATER SYSTEM

Page _____

NAME OF BARANGAY	BARANGAY DESCRIPTION							SOURCE DESCRIPTION								
										CAPACITY						
										RIVER STREAM		SPRING		Ground Water		
	Population	Population Distribution	Major Sources of Income	Annual Family Income	Local Organizations	Electrification Status	Water Development Plans	Potential Water Sources	Distance (Km)	Width dry/ rainy (m)	Depth dry/ rainy (m)	Speed	Fill-ing Time Dry/ Rainy (secs)	Water Table Depth Dry/ Rainy (m)	Quality of Water	Three Most Prevalent Health Disorders
Municipality 1) Barangays 2) 3) etc.																
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11a)	(11b)	(11c)	(11d)	(11e)	(12)	(13)

INSTRUCTION FOR USE OF TABLE I

This table will be preapred to summarize the data gathered in inventory form _____.

The following is information that must be supplied to complete the table.

Top of Page

Right Side: Fill in appropriate page number

Column 1: Name of Barangay

Column 2: Present population of Barangay

Column 3: Write the appropriate symbol for the different types of population distribution namely:

a. for concentrated population
b. for scattered population
c. for combination type under letter c place the percentage of the population located within the Barangay Center or potential service area.

Column 4: Major sources of income. If possible limit to three categories (major) only.

Example:
Fishing
Cottage Industry
Farming

Column 5: Estimated annual family

Column 6: All political/social/civic organizations with more than 15 members

Column 7: For a Barangay with electricity indicate managing agency/institution

Example: NEA

For a Barangay without electricity but with existing electrification plans. Write the implementing agency and the estimated year of implementation.

Example: NEA/1979

For a Barangay without electricity and existing plans write None.

Column 8: Agency (National, Provincial or Municipal) with plans of constructing water supply systems in the Barangay. Include also estimated date of implementation.

Example: BPW/1980

Column 9: All potential water sources. Such as rivers, streams and springs. If groundwater exists, write groundwater.

Column 10: Estimated distance of spring, river or stream from service area in kms. for groundwater, record the estimated water table in meters.

CAPACITY

Column 11a: Estimated width of river or stream during dry/rainy season, in meters.

Example:

Width during dry season = 10 m
Width during rainy season = 12 m
Data to be entered: 10/12

Column 11b: Estimated depth of river of stream during dry/rainy season. (same procedure for entering data as in column 11a)

Column 11c: The time in seconds it takes for a piece of paper to travel thru a distance of 10 meters on a flat portion of the river where the width and depth are taken.

Column 11d: Time it takes to fill up a 5 gallons kerosene can during dry and rainy seasons, in seconds.

Column 11e: Estimated depth of water tables during dry and rainy season, in meters.

Column 12: Quality of water may either be salty, fresh or turbid, muddy etc., as the case may be. Quality, aside from the four types listed, please specify.

Column 13: Three most prevalent diseases experienced in the community. (Consult DOH/Provincial Health for this data).

(PROVINCE)

WATER RESOURCE INVENTORY

TABLE 2a

BARANGAYS WITH SYSTEM

PAGE _____

1	2	3	4	5	6	7	8	9	10	11	12	CAPACITY						
												RIVER STREAM			SPRING	GROUND-WATER		
NAME OF BARANGAY	POPULATION (TOTAL)	POPULATION SERVED BY SYSTEM	MAJOR SOURCES OF INCOME	ANNUAL FAMILY INCOME	LOCAL ORGANIZATION	ELECTRIFICATION STATUS	NUMBER OF PUBLIC AND PRIVATE WELLS	OTHER WATER USES	MOST PREVALENT DISEASES	POTENTIAL WATER SOURCE	DISTANCE	WIDTH DRY/RAINY (M)	DEPTH DRY/RAINY (M)	SPEED (SECS)	FILLING TIME DRY/RAINY	WATER TABLE DEPTH DRY/RAINY (M)		QUALITY OF WATER
												13a	13b	13c	13d	13d	13e	14

INSTRUCTION FOR USE OF TABLE 2a

The following information must be supplied to complete the table.

Top of Page Right Side	:	Appropriate page number
Column 1	:	Name of Barangay
2	:	Present total population of the Barangay
3	:	Estimated number of people served by system
4	:	Major sources of income (farming, fishing cottage industry, etc.) if possible limit to three only
5	:	Estimated annual family income
6	:	All political/social/civic organizations with more than 15 members
7	:	For a barangay w/electricity indicate managing agency/institution Example: NEA
	:	For a Barangay without electricity but with existing electrification plan write the implementing agency and the estimated year of implementation Example: NEA/1979
	:	For a Barangay without electricity and existing plans write NONE
8	:	Number of existing and operating public and private wells other than those included in the Water Supply System
9	:	Other water uses aside from domestic use Example: Irrigation Industry
10	:	Three most prevalent health diseases experienced in the community. (Refer to DOH/Provincial Health Office
11	:	All rivers/streams and springs that are potential water sources. When groundwater exists, write groundwater and estimated depth of water table

Column 12	:	Estimated distance of spring, river or stream from service area, in KMS. for groundwater, record the estimated water table in meters.
13a	:	Estimated width of river or stream during dry/rainy season, in meters Example: Width during dry season = 10M Width during rainy season = 12M Date to be entered = 10/12
13b	:	Estimated depth of water or stream during dry/rainy season. (same procedure for entering data as in column 11a)
13c	:	The time in seconds it takes for a piece of paper to travel thru a distance of 10 meters on a flat portion of the river where the width and depth were taken
13d	:	Time in minutes it takes to fill a 5 gallons of kerosene can during day and rainy season
13e	:	Estimated depth of water tables during dry and rainy seasons, in meters
14	:	Quality of water; may either be salty, fresh, turbid or muddy etc. as the case may be. Quality aside from this four listed, specify

WATER RESOURCE INVENTORY

BARANGAY WITH SYSTEM

TABLE 2b

NAME OF BARANGAY	TYPE OF SOURCE			WATER TREATMENT	CAPACITY				OPERATING CONDITION			
										NOT OPERABLE		
										REPARABLE		
	SURFACE WATER (RIVERS/ STREAM)	SPRINGS	WELLS (GROUND WATER)		STORAGE TANK (CM)	MAIN TRANS-MISSION PIPES DIAME-TER (MM)	MAIN DISTRI-BUTION PIPES DIAME-TER (MM)	PUMP RATED HORSE-POWER	OPERA-TIONAL	DEFECT-IVE PARTS	EST. COST OF REPAIR	NOT REPARA-BLE
(1)	2a	2b	2c	3	4a	4b	4c	4d	5a	5b	5c	5d
(Municipality)												

Page _____

MANAGEMENT				CONSTRUCTION COST			OPERATION COSTS		
MANAGEMENT	OPERATION	REPAIR	MAINTENANCE	COST	SOURCE OF FUNDS	DATE OF CONSTRUCTION	SOURCE OF FUNDS	WATER RATE/connection/ Month	
(6a)	(6b)	(6c)	(6d)	(7a)	(7b)	(7c)	(8a)	(8b)	

INSTRUCTION FOR USE OF TABLE 2b

This table will be prepared along with Table 2a to summarize data gathered in Inventory Form _____.

The following are the information that must be supplied to complete the table.

Top of Page

Right Side: Appropriate Page Number

Column 1 : Name of Barangay
2a : Indicate whether system is operated by pump or by gravity
2b : same as column 2
2c : Indicate whether system is operated by Gas, electric, or hand pump

3 : If water is treated just indicate method of treatment
Example: By chlorination
By filtration
By sedimentation

Others (Specify)

4a : Total volume of storage tank (cubic meter)
4b : Diameter of main transmission pipe, in mm
4c : Diameter of main distribution pipes, in mm
4d : Rated horsepower of pump. (See specification plate of pump for this data)

5a : If system is operational, indicate if performance is excellent, satisfactory, fair, poor or very poor
5b : If system is not operational but repairable, indicate the defective parts that need repair
5c : Cost of repair for these parts
5d : If not repairable, indicate reason why
Example: 1 Area abandoned
2 Depleted Source
3 Uneconomical to operate

6a : Agency/institution that manages the system
6b : Agency/institution that operates the system
6c : Agency/institution that is responsible for the repair of the system
6d : Agency/institution that is responsible for the maintenance of the system

7a : Total construction cost of system
7b : Source of construction fund
7c : Date/year system was constructed

8a : Sources of operating funds
8b : Present water per connection or per household per month

FIVE YEAR PLAN

- CRITERIA

-- GUIDELINES

- SUGGESTED FORMAT

V. Five-Year Water Resource Development Plan

A. Project Selection Criteria

1. The barangay should have a population ranging from 300-5000.

2. The proposed system should be powered by electricity or operated by gravity flow.

3. The population must be grouped or concentrated in the area to be served.

4. The water source to be developed must be adequate, that is,, demonstrate reliability.

5. Beneficiaries agree to form water-users coop/association, sign Memorandum of Agreement with the province, deposit in advance the first six months operational funds, and undertake training prior to the construction of subproject. Barangay must also agree to operate, maintain and repair the system as required.

B. Guidelines in the Preparation of 5 Year WRDP

1. Prepare a five-year plan based on date in Water Resource Inventory.

2. a. Province should base the number of subprojects to be financed under Barangay Water Project on estimated financial capacity. (This should normally be from ₱600,000 to ₱1.8M/year/province or 3-9 subprojects.)

   b. the province should also list subprojects in the plan to be financed by other donors or sources of funding.

3. Prepare feasibility study of at least one subproject to be implemented in the first year (1978) of the program.

   a. All subprojects require feasibility study prior to construction.

   b. Feasibility study format and instructions will be sent to participating provinces by mid-January, 1977. (Format has been completed all participating provinces have been given training is the format.)

C. Suggested Table of Contents

PROVINCIAL WATER RESOURCE DEVELOPMENT PLAN

INTRODUCTION : GOVERNOR'S MESSAGE

:: SANG. PANLALAWIGAN RESOLUTION

SECTION I : THE PLAN

CHAPTER 1 : Rationale
CHAPTER 2 Scope
CHAPTER 3 Goals and Objectives

SECTION II : DEVELOPMENT STRATEGY

CHAPTER 4 Sub-Project Selection Criteria
CHAPTER 5 Sub-Project Description
CHAPTER 6 Implementation Plan/Schedule
CHAPTER 7 Financial Summary

SECTION III : SUMMARY AND CONCLUSION

SECTION IV : TABLES AND APPENDICES

SUGGESTED CHAPTER CONTENT

RATIONALE

- A justification for the preparation of a Water Resource Development Plan

    a. Importance of adequate water supply

        1. Health Aspects
        2. Economic Aspects
        3. Social Aspects
        4. Other Aspects

SCOPE

- An explanation of the limited nature of the preliminary plan

GOALS/OBJECTIVES

- A narration of the immediate and long range goals/objectives of the plan

SUB-PROJECT SELECTION CRITERIA

- A listing of the criteria used in the selection of potential projects

A BROAD DESCRIPTION OF SUB-PROJECT

IMPLEMENTATION PLAN/SCHEDULE

FINANCIAL SUMMARY

(Compilation of data in Chapter 6 of Five-Year Plan)

D. Sample Format for Five-Year Water Resource Development Plan

FIVE YEAR

PROVINCIAL WATER RESOURCE

DEVELOPMENT PLAN

CY 78 TO CY 82

PROVINCIAL SEAL

PROVINCE OF _____

E. WATER RESOURCE DEVELOPMENT PLAN
TABLE 1
IMPLEMENTATION SCHEDULE

Page _____

PROJECT NO.	PROJECT TITLE/DESCRIPTION	IMPLEMENTING AGENCY	SOURCE OF FUNDS	IMPLEMENTATION SCHEDULE					
				CY 78	CY 79	CY 80	CY 81	CY 82	Later
USE CIP NUMBERING SYSTEM									
TOTAL									

A P P E N D I C E S

CAPITAL IMPROVEMENT PROGRAM

STANDARD CIP PROJECT NUMBERING SYSTEM

National endorsement of the Capital Improvement Program requires standardization of Project numbering. The numbering systems described below is intended to meet this requirement. All participating provinces, cities and municipalities should utilize this systems for numbering all CIP projects.

Fiscal Year	Government Unit	Type of Project or Purchase	Sequence In order of	Number Priority

FISCAL YEAR
DESIGNATED BY THE LAST FIGURE OF THE FIRST FISCAL YEAR COVERED BY THE DOCUMENT. ALL PROJECTS/ PURCHASES IN ANY SINGLE CIP DOCUMENT, IRRESPECTIVE OF THE YEAR IN WHICH IMPLEMENTATION IS PLANNED. WILL TAKE THE SAME PREFIX,

EXAMPLE: FISCAL YEAR 75-76

GOVERNMENT UNIT

BARANGAY	0
MUNICIPALITY	1
MUNICIPALITY	2
PROVINCIAL ENGINEER'S OFFICE	3
ALL OTHER PROVINCIAL OFFICES	4
DEPARTMENT OF PUBLIC HIGHWAYS	5
DEPARTMENT OF PUBLIC WORKS	6
DLGCD	7
_____ . .	8*
ALL OTHER NATIONAL OFFICES .	9

*ASSIGNMENT OF NATIONAL AGENCIES TO NUMBER 8 AT THE OPTION OF THE LOCAL GOVERNMENT.

A. . . PURCHASE *** 01 - 99
0. . . ROADS
1. . . ROADS
2. . . ROADS
3. . . ROADS
4. . . BRIDGES
5..... IRRIGATION/DRINKING WATER SYSTEMS
6. . . BUILDINGS
7. . . PORTS AND AIRPORTS
8. . . _____**
9. . . ALL OTHERS

** ASSIGNMENT OF TYPE OF PROJECT TO NUMBER 8 AT THE OPTION OF THE LOCAL GOVERNMENT.

*** IF DESIRED A DIFFERENT TITLE CAN BE ASSIGNED FOR EACH MAKING CAPITAL PURCHASES. HOWEVER, THIS IS NOT ENCOURAGED EXCEPT IN THE LARGER LOCAL GOVERNMENTS

EXAMPLES: 63001 CIP DOCUMENT FY 76/PROVINCIAL ENGINEER/THE FIRST ROAD TO BE UNDERTAKEN. (HIGHEST PRIORITY)

65407 CIP DOCUMENT FY 76/BUREAU OF PUBLIC HIGHWAYS SEVENTH BRIDGE TO BE CONSTRUCTED IN ORDER OF PRIORITY

APPENDIX 2

BARANGAY WATER PROGRAM

PILOT PROJECT IMPLEMENTATION SCHEDULE

1.	Formation of Provincial Water Resource Task Force	31 December '76
2.	Submission of Provincial Water Resource Inventory	15 February '77
3.	Submission of 5-Year Provincial Water Resource Development Plan	15 March '77
4.	Signing of Memorandum of Agreement between Province and DLGCD	15 March '77
5.	Submission of Revised	15 March '77
6.	Submission of Supplemental Budget	31 March '77
7.	Hiring of Appointment of Required Personnel	1 April '77
8.	Pre-selection of Projects	15 March '77
9.	Submission of AIP and Feasibility Studies	15 April '77
10.	Preparation of Project Plans, Costs, and Specifications	15 April '77 (BEGIN)
11.	Training for Provincial Trainors	18 April '77
12.	Training of Province/Barangay Memorandum of Agreement	22 April '77
13.	Signing of Province/Barangay Memorandum of Agreement	30 April '77
14.	Organization and Training of Water Association	15 May-June 30 '77
15.	Signing of Contract of Loan Between Province and Barangays	15 July '77
16.	Deposit of Barangay Operational Funds	15 July '77
17.	Initiate Construction	15 July '77 (NLT)
18.	Formation of Provincial Evaluation Team	Not later than two weeks before the turnover of the individual subproject
19.	Completion of Subprojects	31 December '77 (NLT)
20.	Turnover of subprojects	31 December '77 (D/before)
21.	On-site training	Two weeks following the turnover of subprojects
22.	Visit of Provincial Evaluation Team	Visits as prescribed in Booklet I Administrative Procedures BWP.
23.	Establishment of Repair Bay and Water Testing Laboratory	Open

NOTE: NLT - Not Later Than

APPENDIX 3

Hon. Salvador P. Socrates
Undersecretary, Local Government
DLGCD, New City Hall
Quezon City

Dear Undersecretary:

The Province of ____(Province)_____ had been briefed on the general concept, principles and procedures of the Barangay Water Program to be implemented by the Department of Local Government and Community Development through Local Government bodies. It is the intention of this province to be among the group of provinces to participate in activities starting in CY 197_.

We understand that upon consideration of this request for inclusion in the program, the Department, through your Office will arrange for the signing of a more formal agreement for our participation.

Very truly yours,

_____
GOVERNOR

cc:

Mr. JESUS I. INGENIERO
Acting Project Director
Provincial Dev'l Assistance
Project
Ablaza Bldg., Quezon Blvd.
Quezon City

A G R E E M E N T

KNOW ALL MEN BY THESE PRESENTS:

This AGREEMENT, known as the DLGCD/PROVINCE SUPPLEMENTARY AGREEMENT, made and executed in the City of Quezon, Philippines, this _____th day of _____, 19_____ by and between:

The Provincial Government of _____,
with offices at _____,
represented herein by the Provincial Governor, duly authorized, hereinafter referred to as the PROVINCE,

- and -

The Department of Local Government and Community Development, represent therein by the Secretary, duly authorized, hereinafter referred to as DLGCD.

WITNESSETH THAT:

WHEREAS, pursuant to the provisions of PD 1050 otherwise known as the General Appropriations Acts, funds have been made available by the national government to identify, plan, organize and install functional barangay cooperative water systems with an indigenous maintenance capacity to provide safe, reliable, low-cost water to residents of selected small rural communities in provinces meeting the specific requirements for participation herein after referred to as Participant.

WHEREAS, PDAP/DLGCD and the PROVINCE have had a working agreement for a number of years to promote the social and economic development of the province;

WHEREAS, the PROVINCE has only limited financial ability to immediately undertake some of the needed Barangay Water Projects identified by its local planning process;

WHEREAS, DLGCD has certified that the PROVINCE has met all the pre-conditions necessary to be eligible to participate in the Barangay Water Program;

WHEREAS, DLGCD desires to assist, and the PROVINCE, which desires to participate in the Barangay Water Project and is willing to accept external assistance in the implementation of its local development programs;

NOW, THEREFORE, for and in consideration of the foregoing, DLGCD and the PROVINCE have agreed as follows:

SECTION I - ELIGIBILITY

The PROVINCE is eligible to participate in the Barangay Water Program.

SECTION 2 - IMPLEMENTATION REQUIREMENTS

In order to be eligible for reimbursement, projects must be implemented in accordance with the terms and conditions setforth in the Barangay Water Administrative Procedures, which will be made a part of this Agreement.

SECTION 3 - PROJECT REIMBURSEMENT

DLGCD and the PROVINCE will annually execute an AIP AGREEMENT that will provide for the reservation of a specific amount from any sources as may be available to reimburse the PROVINCE for the projects completed in accordance with the terms and conditions of the Administrative Procedures.

SECTION 4 - AMENDMENTS

Amendments to this Agreement require the written concurrence of the signatories.

SECTION 5 - DURATION OF AGREEMENT

This AGREEMENT will be in full force and effect until 31 December following the date execution, provided however, that this Agreement will automatically be extended for an additional twelve months period each time the PROVINCE is recertified by DLGCD as provided by the certification process described in the Barangay Water Administrative Procedures.

PROVINCE OF _____	DEPARTMENT OF
_____	LOCAL GOVERNMENT AND COMMUNITY DEVELOPMENT
BY:	BY:
_____	_____
Provincial Governor	Secretary

SIGNED IN THE PRESENCE OF:

_____ _____

_____ _____

APPENDIX 5

LWUA PROGRAM - 1976-1977
As of 1 Sept. 1976

I. On-going AID Projects - Comprehensive

Water District	Population	Remarks
1. Bacolod City	222,740	Under construction by J.V. Angeles
2. Cagayan de Oro City	164,780	Under construction by Filipino Pipes & Foundry
3. San Pablo City	116,330	Under construction by Filipino Pipes & Foundry
4. Davao City	482,230	Construction contract awarded to L.S. Sarmiento
5. Leyte Metro	53,160	Under A & E by TAP

II. On-going DANIDA Projects - Interim/Comprehensive

1. Batangas City	125,040	Under construction by Guzman-Ong-Tengonciang
2. Marawi City	69,890	Under A & E by KK (interim)

III. On-going ADB projects - Comprehensive

1. Butuan City	131,340	Under A & E by Renardet-FF Cruz
2. Cams. Norte Metro	171,640	- do -
3. Ozamis	146,850	- do -
4. Zamboanga City	261,930	- do -
5. Cebu Metro	525,350	Under A & E by KK-Lahmayer-DCCD-EDCOP (only interim)

IV. Proposed IBRD Projects - Interim/Comprehensive

1. Tarlac, Tarlac	158,340
2. Cabanatuan City	113,810
3. La Union Metro	149,650

Water District	Population	Remarks
4. Lucena-Pagbilao-Tayabas	156,610	
5. Lipa City	105,940	
6. Baguio City	96,250	
V. On-going F/S projects (c/o CDM) - Interim/Comprehensive		
1. Calamba, Laguna	96,310	
2. Bislig, Surigao del Sur	56,340	
3. Bangued, Abra	26,780	
4. Gapan, N. Ecija	134,800	
5. Urdaneta, Pangasinan	64,880	
6. Silay, Negros Occ.	104,550	
7. Iloilo City 1/	227,370	
8. Olongapo City 1/ or	156,650	
San Fernando, Pampanga 1/	97,800	
9. Roxas City 1/	57,400	
10. Baybay, Leyte 2/	63,660	
VI. Proposed DANIDA pre-design study projects (c/o KK) - Interim		
1. Malaybalay, Bukidnon 2/	55,130	
2. Gingoog,City	66,370	
3. Bulan, Sorsogon	55,720	
4. Alaminos, Pangasinan 2/	52,620	
5. Puerto Princesa City	45,920	For detailed design
6. Hagonoy, Bulacan 1/	65,410	
VII. Proposed Demonstration (Interim) Projects (for direct LWUA implementation)		
1. Tabaco, Albay	65,120	

	Water District	Population	Remarks
2.	Tagaytay City 2/	13,050	
3.	Sorsogon, Sorsogon	56,840	
4.	Vigan & Bantay 2/ Talisay, Negros Occ.	52,350	
5.	Tuguegarao, Cagayan	61,980	
6.	Guagua, Pampanga 1/	62,550	
7.	Toledo, Cebu 1/	75,710	
8.	Aparri, Cagayan 1/ or	40,200	
	Baliwag, Bulacan 1/	52,130	
9.	Dagupan, Pangasinan 1/ or	84,800	
10.	Cotabato City 2/	66,760	

1/ WD still to be formed

2/ WD without CCC

Interim - improvement of existing facilities

Comprehensive - total improvement, may or may not integrate existing facilities

ANNEX B-3

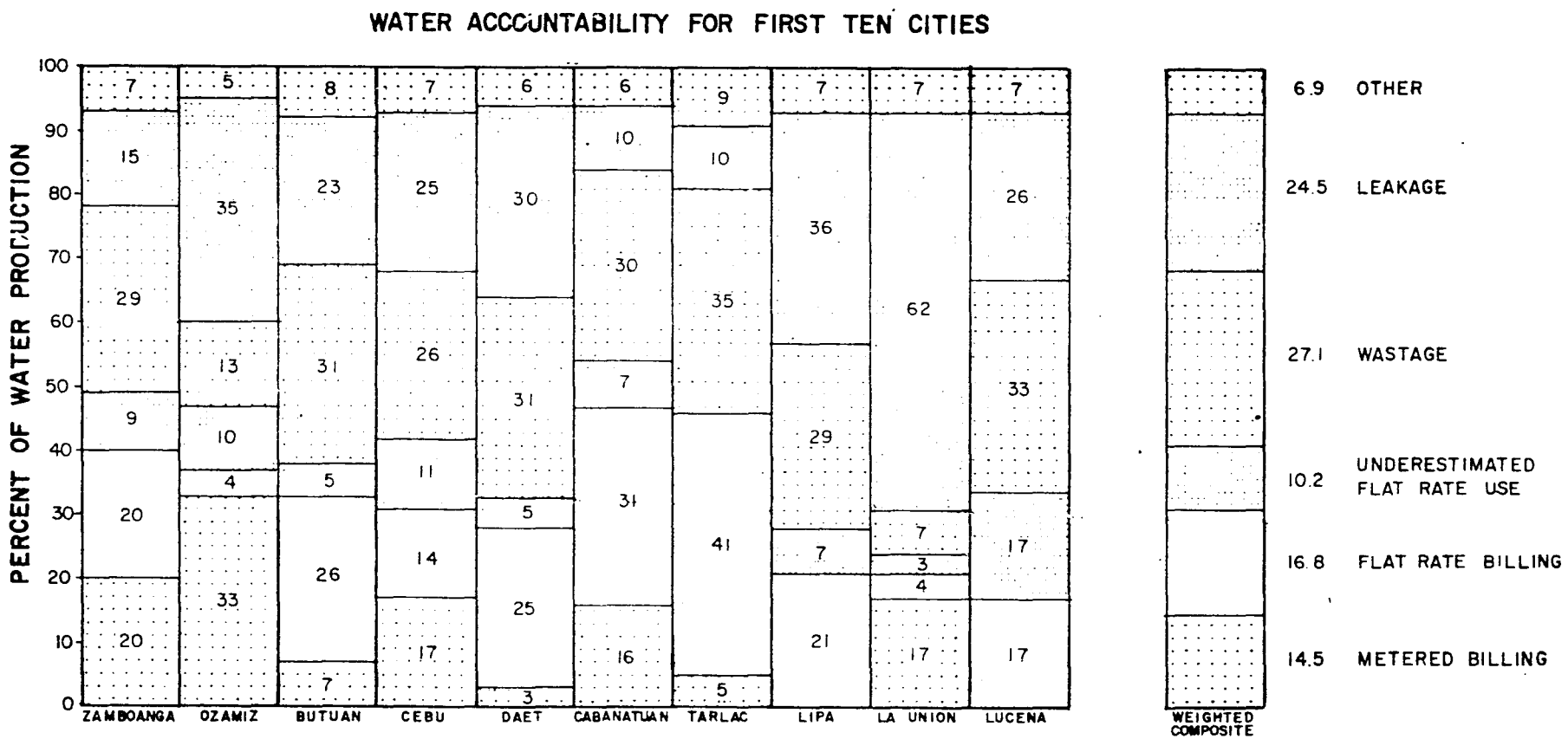
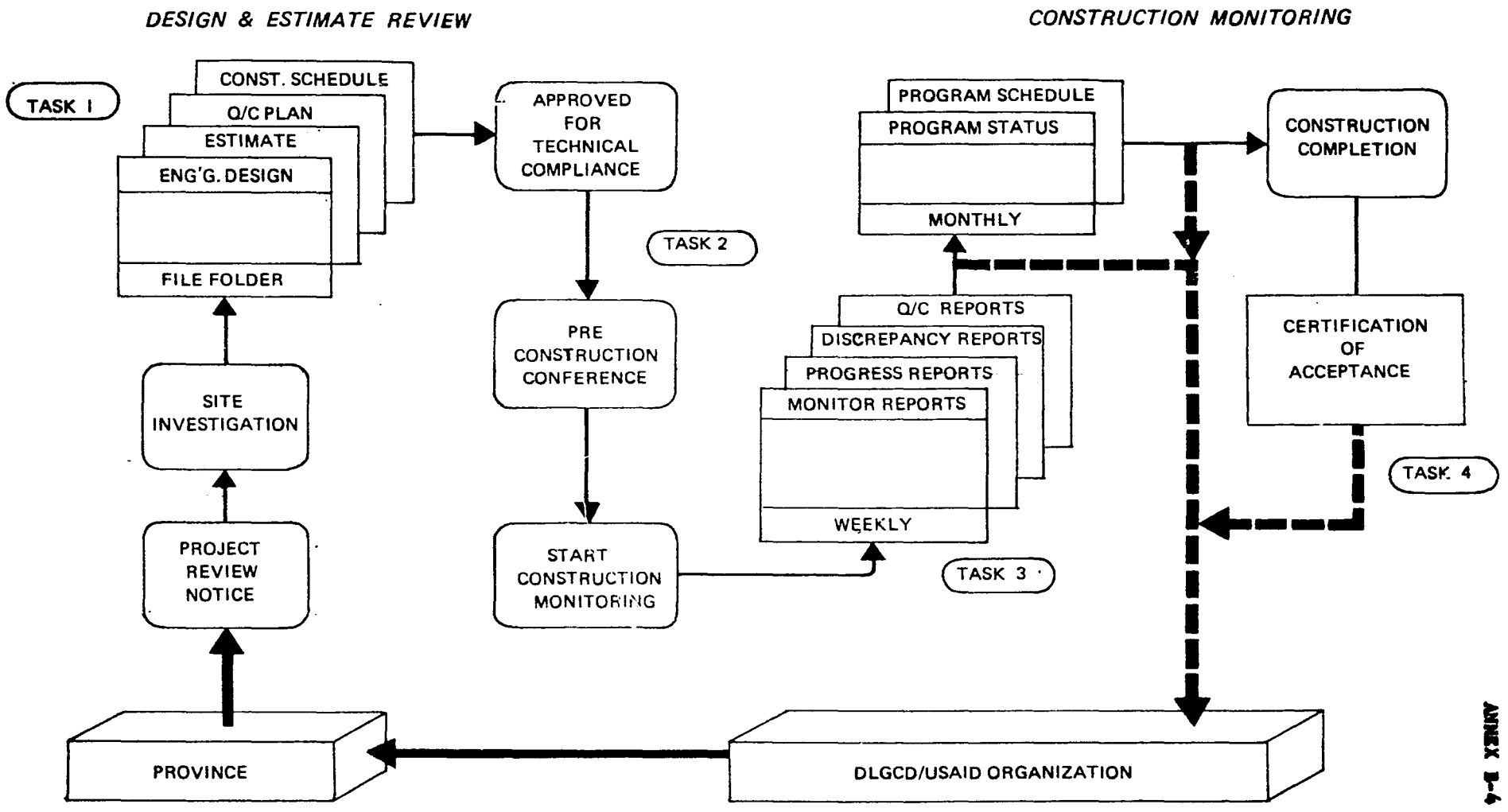


FIGURE V-1
WATER ACCOUNTABILITY
FIRST 10 CITIES

ANNEX B-4

ARCHITECT AND ENGINEERING REVIEW PROCEDURES



ANNEX C

ANNEX C

C. ENVIRONMENTAL ASSESSMENT

An environmental assessment is currently being conducted by Dr. Luken of the Capital Development Division and Dr. Kintanar of the Interagency Committee on Environmental Studies.

When the assessment is completed, it will be analyzed and all pertinent recommendations will be adopted by the Barangay Water Project.

ANNEX D

Life of Project: 3 years
From FY [illegible] To FY 86
Total U.S. Funding: [illegible]
Date Prepared: August 24, 1978

Project title & Number: BARANGAY WATER PROJECT

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Program or Sector Goal. The broader objective to which this project contributes: (A-1) To improve the general health of the residents serviced in the Barangay Water System area.	**Measures of Goal Achievement:** (A-2) Within 3 years of Barangay Water System installation there will be: 1. No cholera or typhoid outbreak directly traceable to project water supply. 2. A 50% decrease in infant morbidity and mortality caused by gastro-enteritis and 3. A decrease in reported skin disease cases (etapi and strep) of at least 50%.	(A-3) 1. By resurvey of one evaluation system in each participating province.	**Assumptions for achieving Goal Targets:** (A-4) 1. An adequate supply of safe water is the major requirement for control and elimination of water-borne diseases. 2. The results from the evaluation projects will be typical of all systems.
Project Purpose: (B-1) 1. To provide safe, reliable, low-cost water to deprived residents of selected small rural communities (under 3,000 population).	**Conditions that will indicate purpose has been achieved. End-of-Project Status.** (B-2) 1. All installed system will be collecting sufficient fees to assure continuing operations. 2. The delivered cost of water does not exceed 5% of the average family income. 3. Regular quality testing is being performed on each system. 4. At least 90% of the residents are using the installed system as their primary source of potable water.	(B-3) Province Reports. Field Inspections. Household Surveys.	**Assumptions for achieving Purpose:** (B-4) Construction of Barangay Water Systems will continue to be a high priority of participating provinces.
Project Outputs: Stage II 1. To establish the capability of selected local governments to identify, plan, organize and install functional barangay cooperative water systems with an indigenous maintenance capability.	**Magnitude of Outputs: Stage II** (C-2a) 1a. Existence of a Provincial/City Development Staff that can identify potential barangay water systems and organize cooperatives to support and manage same. b. Existence of a Provincial/City Engineering Office that is capable of designing and installing barangay water systems plus technical assistance for maintenance of same.	**Stage II** (C-3a) 1a. Evaluation b. Reports, Surveys, Inventories c. Field Inspections d. Physical counts and actual measurements e. Periodic audits	**Assumptions for achieving Outputs: Stage II** (C-4a) The authority and control over planning and implementing subprojects will be retained by local government units.
Project Outputs: Stage I (C-1b) 1. Trained DLGCD Project Management Staff Personnel 2. Executed participating province agreements 3. Trained provincial staff personnel 4. Completed Provincial Water Resources Development Plans 5. Target barangays selected 6. Barangay Water Associations established and trained. 7. water systems constructed	**Magnitude of Outputs: Stage I** (C-2b) (Cumulative) 1. Personnel — FY 78: 9; FY 79: 9; FY 80: 9 2. Agreements — FY 78: 15; FY 79: 20; FY 80: 25 3. Staff Trained — FY 78: 180; FY 79: 240; FY 80: 300 4. PWRDP — FY 78: 15; FY 79: 20; FY 80: 25 5. Barangay — FY 78: 150; FY 79: 350; FY 80: 480 6. BWA — FY 78: 150; FY 79: 350; FY 80: 480 7. Water Systems — FY 78: 60-120; FY 79: 140-320; FY 80: 230-480	**Stage I** (C-3b) 1. DLGCD reports 2. Field observations 3. Certified reimbursements for completed projects 4. USAID & GOP audit/inspections	**Assumptions for achieving Outputs: Stage I** (C-4b) 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.
Project Inputs: (D-1) 1. USAID a) Personnel Service Contractor b) $3 Million Local Bank Deposit Loan 2. GOP a) Project Management Staff Salaries and Allowances b) Technical Assistance (A&E Services) c) Administration, Operation & Support d) Training 1) Local Government 2) Project Management Staff Development e) Peso Reimbursement for direct construction costs f) Grants-in-Aid g) Waterworks Repair Boys 3. Local Government a) Personnel (Salaried) b) Operation & Administration c) Training 1) Staff Development 2) Water Associations	**Implementation Target: (Type and Quantity)** (D-2) ($000) 1. USAID — FY 78: 100; FY 79: 86; FY 80: -; Total: 186 a) Personnel Ser. b) $3 Million — FY 78: 3,000; FY 79: -; FY 80: -; Total: 3,000 2. GOP a) Proj. Mgmt. Sal./Allow. — FY 78: 20; FY 79: 21; FY 80: 22; Total: 63 b) A&E Services — FY 78: 39; FY 79: 102; FY 80: 159; Total: 300 c) Admin/Op/Supp. — FY 78: 85; FY 79: 105; FY 80: 162; Total: 352 d) Training 1) Local Gov't. — FY 78: --; FY 79: 52; FY 80: 57; Total: 153 2) Proj. Mgmt. Staff Dev. — FY 78: 7; FY 79: 7; FY 80: 7; Total: 21 e) Peso Reimbursement — FY 78: (390)[f]; FY 79: (1,020)[f]; FY 80: (1,590)[f]; Total: (3,000)[f] f) Grants-in-Aid — FY 78: 24; FY 79: 153; FY 80: 239; Total: 450 3. Local Government a) Personnel — FY 78: 125; FY 79: 146; FY 80: 161; Total: 432 b) Op/Admin — FY 78: 14; FY 79: 18; FY 80: 20; Total: 52 c) Training 1) Staff Dev. — FY 78: --; FY 79: 52; FY 80: 57; Total: 153 2) Water Assoc. — FY 78: --; FY 79: 52; FY 80: 57; Total: 153 Total — FY 78: [illegible]; FY 79: [illegible]; FY 80: [illegible]; Total: 6,363	(D-3) 1. Periodic Progress Reports 2. Field observations	**Assumptions for providing Inputs:** (D-4) Funds available for development projects will be maintained at no less than present levels.

ANNEX E

COUNTRY	PROJECT NO.	PROJECT TITLE	DATE		APPROVED
Philippines	492-0291	Barangay Water Project	4/13/77	[ ] ORIGINAL [x] REVISION # 1	

PROJECT PURPOSE (FROM PRP FACESHEET)

To provide safe, reliable, low-cost water to deprived residents of selected small rural communities (under 5,000 population).

Prior Actions

A. December 31, 1976

Project Management Staff chosen (DLGCD)

B. January 15, 1977

The fifteen provinces in Phase I chosen (DLGCD/USAID)

C. Feburary 15, 1977

Phase I Water Inventories due (Provinces/DLGCD)

D. March 15, 1977

Phase I Water Resource Development Plans due (Provinces/DLGCD)

E. April 15, 1977

Phase I Sub-project Feasibility Studies approved for first seven provinces (DLGCD/USAID)

F. April 18, 1977

First group of Phase I Provincial Trainers trained (DLGCD/USAID)

G. April 25, 1977

First group of Phase I Water Works Engineers trained (DLGCD/USAID)

H. July 30, 1977

Barangay Water Associations organized and trained in first seven provinces of Phase I (DLGCD/Province/USAID)

I. August 1, 1977

The five provinces of Phase II chosen (DLGCD/USAID)

J. August 10, 1977

Second group of Phase I Provincial Trainers trained (DLGCD/USAID)

K. August 17, 1977

Second group of Phase I Water Works Engineers trained (DLGCD/USAID)

L. November 10, 1977

Phase I Sub-project Feasibility Studies approved for all 15 provinces (DLGCD/USAID)

C.P.I. Description

1. December 1, 1977

ProAg signed (GOP/USAID)

2. December 31, 1977

Barangay Water Associations organized and trained in second group of eight provinces in Phase I (Provinces/DLGCD/USAID)

COUNTRY	PROJECT NO.	PROJECT TITLE	DATE	☐ ORIGINAL ☐ REVISION # ____	APPROVED

3. January 1, 1978

   Begin design and construction of Phase I water systems (Province/DLGCD/Water Association/USAID)

4. February 15, 1978

   Phase II Water Resource Inventories due (Provinces/DLGCD)

5. March 15, 1978

   Phase II Water Resource Development Plans due (Provinces/DLGCD)

6. April 30, 1978

   Phase II Provincial Trainers trained (DLGCD/USAID)

7. April 30, 1978

   Phase II Water Works Engineers trained (DLGCD/USAID)

8. August 1, 1978

   The five provinces of Phase III chosen (DLGCD/USAID)

9. November 10, 1978

   Phase II Sub-project Feasibility Studies approved (DLGCD/USAID)

10. December 31, 1978

    Phase II Barangay Water Associations organized and trained (Provinces/DLGCD/USAID)

11. January 1, 1979

    Begin design and construction of Phase II Water Systems (Provinces/DLGCD/Water Association/USAID)

12. February 15, 1979

    Phase III Water Resource Inventories due (Provinces/DLGCD)

13. March 15, 1979

    Phase III Water Resource Development Plans due (Provinces/DLGCD)

14. April 30, 1979

    Phase III Provincial Trainers trained (DLGCD/USAID)

15. April 30, 1979

    Phase III Water Works Engineers trained (DLGCD/USAID)

16. May 31, 1979

    First major Evaluation completed (DLGCD/USAID)

COUNTRY	PROJECT NO.	PROJECT TITLE	DATE	☐ ORIGINAL ☐ REVISION # ____	APPROVED

17. November 10, 1979

    Phase III Sub-project Feasibility Studies approved (DLGCD/USAID)

18. December 31, 1979

    Phase III Barangay Water Associations organized and trained (Provinces/DLGCD/USAID)

19. January 1, 1979

    Begin design and construction of Phase III water systems (Provinces/DLGCD/Water Association/USAID)

20. May 31, 1980

    Second major Evaluation completed (DLGCD/USAID)

21. March 3, 1981

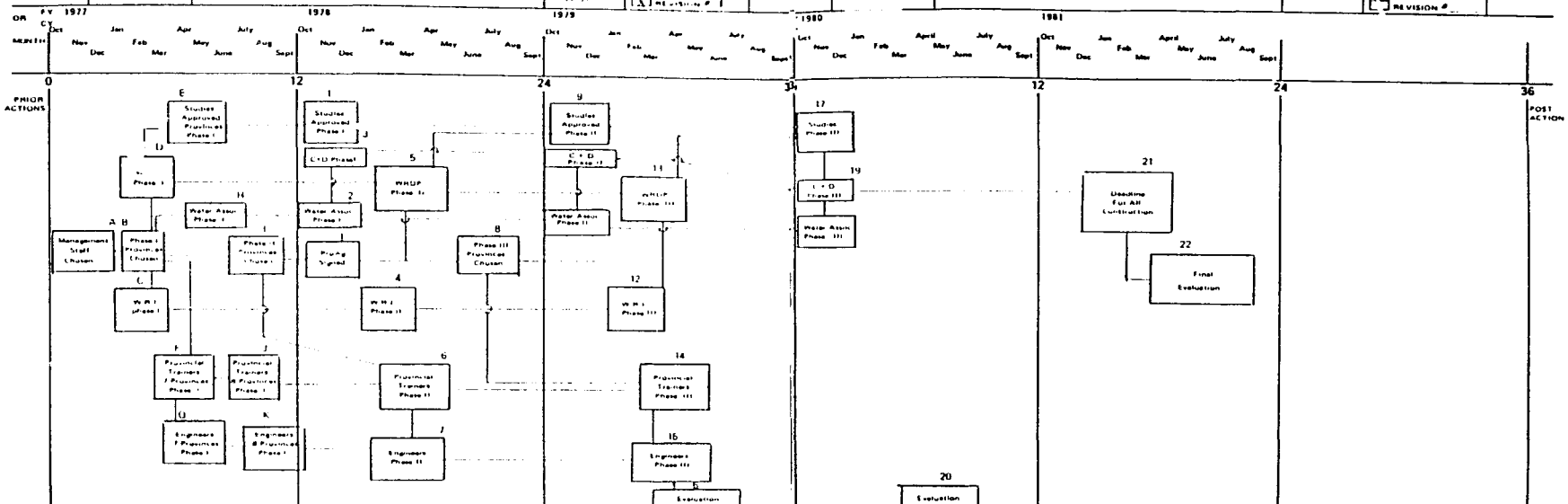
    Deadline for all construction (Provinces/DLGCD/USAID)

22. May 31, 1981

    Final Evaluation completed (DLGCD/USAID)

COUNTRY	PROJECT NO	PROJECT TITLE	DATE		APPROVED
	492 0291	BARANGAY WATER PROJECT	4/11/77	[X] ORIGINAL REVISION # 1	

PROJECT TITLE	DATE		APPROVED
		[ ] ORIGINAL REVISION #	



AID 1030 36 (6 78)

CRITICAL PERFORMANCE INDICATOR (CPI) NETWORK

R 36 (6 78)

CRITICAL PERFORMANCE INDICATOR (CPI) NETWORK

ANNEX F

STATUTORY CHECKLIST

A. General Criteria for Project

1. App. Unnumbered; FAA Sec. 653(b) (a) Describe how Committees on Appropriations of Senate and House have been or will be notified concerning the project; (b) is assistance within (Operational Year Budget) country or international organization allocation reported to Congress (or not more than $1 million over that figure plus 10%)?	(a) Committees on Appropriations of Senate and House have been notified via the Congressional Presentation submitted by USAID (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); App. Sec. 101. If for water or water-related land resource construction, has project met the standards and criteria as per Memorandum of the President dated Sept. 5, 1973 (replaces Memorandum of May 15, 1962; see Fed. Register, Vol 38, No. 174, Part III, Sept. 10, 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 the country's capability effectively to maintain and utilize the project?	Yes
6. FAA Sec. 209, 619. 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. If assistance is for newly independent country, is it fur-	N/A

nished through multilateral organizations or plans to the maximum extent appropriate?

7.	FAA Sec. 601(a); (and Sec. 201(f) for development loans). 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 free labor unions.	(a) N/A (b) N/A (c) water cooperatives are crucial component of the project (d) N/A (e) N/A (f) N/A
8.	FAA Sec. 601(b). Information and conclusion on how project will encourage U.S. private trade and investment abroad and encourage private U.S. participating in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise).	N/A
9.	FAA Sec. 612(b); 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 exceptions of a personnel services contract for the USAID project manager) will be paid out of local currencies contributed by either the GOP or the U.S.
10.	FAA Sec. 612(d). Does the U.S. own excess foreign currency and, if so, what arrangements have been made for its release?	No.

B. Funding Criteria for Project

1. Development Assistance Project Criteria

a. FAA Sec. 102(c); Sec. 111; Sec. 281a. Extent to which activity will (a) effectively involve the poor in development, by extending access to economy at local level, increasing labor-intensive production, spreading investment out from cities to small towns and rural areas;	(a) The water associations founded under this project will play an integral role in the planning and construction of the water systems, since most members of

and (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?	these association are poor this project will therefore be involving the poor in development. (b) The water associations (cooperatives) are a key component of the project. By entrusting the control of a basic resource such as water to these cooperatives it is believed that democratic institutions will be encouraged.
b. FAA Sec. 103, 103A, 104, 105, 106, 107. Is assistance being made available: (include only applicable paragraph -- e.g., a, b, etc. -- which corresponds to source of funds used. If more than one fund source is used for project, include relevant paragraph for each fund source.)	103 funding for rural development.
c. FAA Sec. 110(a); Sec. 208(e). Is the recipient country willing to contribute funds to the project, and in what manner has or will it provide assurances that it will 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)?	The GOP will contribute 58% of total funding if the $1,142,000 contributed to the CY 1977 pre-implementation phase is included, otherwise the GOP will contribute 50% of the cost of the project proper.
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?	No.
e. FAA Sec. 207; Sec. 113. Extent to which assistance reflects appropriate emphasis on: (1) encouraging development of democratic, economic, political, and social institutions; (2) self-help in meeting the country's food needs; (3) improving availability of trained worker-	(1) By use of the water association the development of democratic and economic institutions is encouraged at the barangay level.

power in the country; (4) programs designed to meet the country's health needs; (5) other important areas of economic, political, and social development, including industry; free labor unions, cooperatives, and Voluntary Agencies; transportation and communication; planning and public administration; urban development, and modernization of existing laws; or (6) integrating women into the recipient country's national economy.

(3) The project will train technicians in the barangay to do the necessary maintenance work that the water systems will require, thereby improving the availability of trained worker-power in the country.
(4) By providing potable water the project will aid in reducing water borne disease.
(6) The project reflects appropriate emphasis on integrating women into the recipient country's national economy by encouraging their active participation in the national economy and by freeing them from the excessive amounts of time currently required to fetch and haul water.

f. 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 civic education and training in skills required for effective participation in governmental and political processes essential to self-government.

The need for potable water distribution systems in the rural barangays is acute. The people of these barangays will be required to ask for inclusion in the project (requests are expected to far exceed the GOP's ability to effectively respond). The project will use simple technology and train the water associations in the proper running of the water systems constructed. The experience of the water associations will support civic education and training in skills required for effective participation in the governmental processes essential to self-government.

g. FAA Sec. 201(b)(2)-(4) and -(8); Sec. 201(e); Sec. 211(a)(1)-(3) and -(8). 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; or of educational or other institutions directed toward social progress? Is is related to and consistent with other development activities, and will it contribute to realizable long-range objectives? And does project paper provide information and conclusion on an activity's economic and technical soundness?	Though the project is primarily a health related project it will contribute to the development of economic resources by freeing time presently engaged in hauling water and by facilitating economic activities that require water. The project is related to the overall Mission goal of improving the quality of life in the rural sector. The Project Paper provides information and conclusion on the project's economic and technical soundness.
h. FAA Sec. 201(b)(6); Sec. 211(a)(5), (6). Information and conclusions on possible effects of the assistance on U.S. economy, with special reference to areas of substantial labor surplus, and extent to which U.S. commodities and assistance are furnished in a manner consistent with improving or safeguarding the U.S. balance-of-payments position.	N/A
2. Development Assistance Project Criteria (Loans Only)	
a. FAA Sec. 201(b)(1). Information and conclusion on availability of financing from other free-world sources, including private sources within U.S.	No other source currently available.
b. FAA Sec. 201(b)(2); 201(d). Information and conclusion on (1) capacity of the country to repay the loan, including reasonableness of repayment prospects, and (2) reasonableness and legality (under laws of country and U.S.) of lending and relending terms of the loan.	(1) GOP has capacity to repay the loan; prospects of repayment are reasonable. (2) Terms of the loans are both reasonable and meet all legal restrictions of both US and Philippine Law.
c. FAA Sec. 201(e). If loan is not made pursuant to a multilateral plan, and the amount of the loan exceeds $100,000, has country submitted to AID an application for such funds together with assurances to indicate that funds will be used in an economically and technically sound manner?	Yes.

d.	FAA Sec. 201(f). Does project paper describe how project will promote the country's economic development taking into account the country's human and material resources requirements and relationship between ultimate objectives of the project and overall economic development?	Yes
e.	FAA Sec. 202(a). Total amount of money under loan which is going directly to private enterprise, is going to intermediate credit institutions or other borrowers for use by private enterprise, is being used to finance imports from private sources, or is otherwise being used to finance procurements from private sources?	N/A
f.	FAA Sec. 620(d). If assistance is for any productive enterprise which will compete in the U.S. with U.S. enterprise, 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

ANNEX G

ANNEX G

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 PETER M. CODY, 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 Project.

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

Peter M. Cody, Director
USAID/Philippines

August 24, 1977
Date

ANNEX H

ANNEX H

REPUBLIC OF THE PHILIPPINES
NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY
P.O. Box 1116, Manila

Tel. 50 39 71
Cable Address: [illegible]

August 22, 1977

Mr. Peter M. Cody
Director, USAID Mission
M a n i l a

Dear Mr. Cody,

I wish to refer to USAID letter of May 9, 1977 presenting the project paper on Barangay Water Project.

I endorse the project and its component and hereby request assistance in the amount of $184,000 and a development loan of $3.0 million.

It is my understanding that the cost figures indicated in the project paper are planning figures and that these will be subject to refinements when a more detailed calculation of requirements for each activity shall have been determined.

Sincerely yours,

GERARDO P. SICAT
Secretary of Economic Planning
(Director-General)

DIV.	ACT.	INF
ODM		✓
PE		
LA		
PO		✓
TD		
OEO		
CMD		
CSD		
GSO H		
GSO S		
LOG		
PER		
OC		
AD		
CD		✓
HRD		
PD	✓	
RD		
HS		
AAA EA		
TRV		

ACTION TAKEN
NAN _____ Other _____
Type _____ No _____
Dated _____ Initials _____

DATE ACTION DUE 8-30-77

AUG [illegible]
USA[illegible]

ANNEX I

DRAFT OF PROJECT DESCRIPTION FOR PROJECT AGREEMENT

Community water systems in most of the Philippines are either non-existent, woefully inadequate, or provide water which is considered unsafe for human consumption. Studies indicate that approximately 80% of the population lives outside an organized system altogether. The remaining 20% of the population that does come under the jurisdiction of a water system is in one way or another seriously inconvenienced or beset by a host of problems related to the provision of an adequate quantity and an acceptable quality of potable water.

Most of the water utilities serving provincial communities were constructed in the 1940's. Since that time, the migration from more remote areas and the normal growth in population have increased the size of the barangays many times over. Without exception, the utilities have not been expanded to keep pace with the resultant population growth. These factors, together with the failure to adequately maintain the previously constructed facilities have reduced the capabilities of the utilities to meet the needs of today's consumers.

The Barangay Water Program is a rural program. It aims at providing domestic water to small rural communities ranging from 300-5000 people in size.

The objective of the program is to improve the general health and productivity in the areas to be serviced by the Project and in so doing improve the quality of life.

A more specific and intermediate objective is to establish the capability of selected local governments to identify, plan, organize, and install functional barangay cooperative water systems with an indigenous maintenance capacity to provide safe, reliable, low-cost water through small systems with appropriate technology and organization.

The Project will be developed through the Provincial Development Assistance Project (PDAP) and the Department of Local Government and Community Development (DLGCD) working in close cooperative with other pertinent national and international agencies and the respective participating provinces and barangays. Both the Provincial Development Assistant Project (PDAP) and the Department of Local Government and Community Development (DLGCD) are well established, on-going organizations. Furthermore, they have demonstrated both the institutional capacity and the procedural means to execute relatively sophisticated infrastructure projects. It is anticipated that a minor addition of personnel will be required by the Department of Local Government and Community Development (DLGCD) at the national level. The participating provinces will also be required to increase both their planning and technical capacity in order to conduct feasibility studies, prepare project design, train local institutions, and implement the construction of the subprojects themselves.

The individual subprojects to be undertaken at the community level will emanate from the Provincial Water Resource Development Plans. The latter will be an integral part of the overall provincial comprehensive development plan and the preparation of such documents will be the

responsibility of the various provincial development staff personnel working in coordination with the appropriate collateral agencies at the provincial level and the respective barangays to be assisted. Sub-projects that are identified, deemed technically sound, economically feasible, acceptable to the provincial Sangguniang Panlalawigan, and which meet the criteria outlined by the Department of Local Government and Community Development (DLGCD) will be eligible for funding.

The intent of this proposal is to assist local government units in the formation of water associations with the capacity to deliver safe, potable water; be reliable; service as large a segment of the community as is economically possible; match the growth of the population; maintain rates and charges that are within the financial means of all customers, and at the same time be self-supporting.

Training will be an essential element of the Project. It will be offered on an on-going basis through the Department of Local Government and Community Development (DLGCD) and the United States Agency for International Development (USAID) for both the participating provinces and the barangay water associations.

Participating provinces will number 15 in FY 78; 20 in FY 79; and 25 in FY 80. Approximately 315 local government officials connected with provincial engineering, provincial development planning staffs, and other offices vital to the Project's success will be trained. Provincial Water Resource Inventories and 5-Year Plans will be prepared. Additionally, Barangay Water Associations will be organized and trained.

Over the three year life of the project, up to 480 water associations are expected to be organized and trained.

ANNEX J

Draft Authorizing Document

Philippines

Barangay Water Project
Project Number 492-0291

Pursuant to Part I, Chapter I, Section 103 of the Foreign Assistance Act of 1961, as amended, I hereby authorize a Loan and a Grant to the Government of the Republic of the Philippines of not to exceed three million, one-hundred eight-four thousand United States dollars ($3,184,000) to help in financing certain foreign exchange cost of goods and services required for the project as described in the following paragraph. The Project consists of the Barangay Water Project which will establish the capability of selected local governments to identify, plan, organize and install functional barangay cooperative water systems with an indigenous maintenance capacity to provide safe, reliable, low-cost water to residents of selected rural communities of 300 to 5,000 population. Of the authorized amount three million dollars ($3,000,000) will be loaned to the Government of the Republic of the Philippines to assist in financing certain Foreign Exchange costs of goods and services required for the Project. The entire amount of the AID financing herein authorized for the project will be obligated when the Project Agreement is executed.

I approve the total level of AID appropriated funding planned for this project of not to exceed three-million, one-hundred eighty-four thousand United States dollars ($3,184,000) of which $3,000,000 will be Loan funded and $184,000 Grant funded including the funding authorized above, during the period FY 1978 through FY 1979.

I hereby authorize the initiation of negotiation and execution of the Project Agreement by the officer to whom such authority has been delegated in accordance with AID regulations and delegation of authority subject to the following essential terms and covenants and major conditions; together with such other terms and conditions as AID may deem appropriate:

a. Interest Rate and Terms of Repayment

The Government of the Republic of the Philippines shall repay the Loan to AID in United States 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 Government of the Republic of the Philippines shall pay to AID in United States dollars interest from the date of first disbursement of the Loan at a 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 financed by AID under the project shall have their source and origin in the Republic of the Philippines or in the United States, or in countries included in AID Geographic Code 941 except as AID may otherwise agree in writing.

c. Conditions, Covenants, Negotiating Status

The major conditions precedent required of the Borrower and/or the Department of Local Government and Community Development (DLGCD) in addition to the standard CP's prior to any disbursement of loan funds are recommended as follows:

1) Written assurance from the Department of Public Health (DOH) endorsing the Department of Local Government and Community Development (DLGCD) and the Department of Health (DOH) outlining the respective responsibilities of each, the former and the latter, with respect to training, project design and implementation, community organization, and follow-on supervision and vigilance of systems constructed under this project in substantial compliance with regulatory decrees PD-198 and PD-856.

2) Written assurance from the DLGCD that within 90 days from the signing of the loan that a Project Management Staff at the national level will have been established with an adequate number of professional, and permanent, personnel to assure the successful execution of the Project. An adequate number of staff personnel is construed to be the assignment of at least seven full time and professional employees to the Management Staff in the following configuration: one (1) Project Director, two (2) professionals to each of the principal operational division (operations, organization and training, and administration), and a small administrative support element.

3) The Department of Local Government and Community Development (DLGCD) will contract with a local firm, with concurrence of the United States Agency for International Development (USAID) to provide review and monitoring services for subproject design and implementation.

4) Written assurance that the DLGCD will conduct annual re-certification of participating provinces in order to demonstrate

that the respective provinces have complied as follows:

a) Hired the recommended number and type of personnel in both the Provincial Development Staff and Provincial Engineer's Offices.

b) Participated in all scheduled training programs.

c) Prepared both a Provincial Water Resource Inventory and a 5-year Water Resource Development Plan.

d) Undertaken feasibility studies for each barangay subproject in accordance with the Barangay Water Administrative Procedure Booklet No. 2 or its subsequent revised editions.

e) Organized and trained all participating barangay water association in advance of subproject construction.

f) Designed and constructed subprojects in accordance with the adopted administrative procedures and in accordance specifications, plans, and costs agreed upon by a local architectural and engineering firm.

g) Provided adequate follow-on training, supervision, and evaluation of all barangay water association and subprojects.

h) Selected one evaluation project for in-depth evaluation (a before and after study) in accordance with Supplement H, Booklet #1, Administrative Procedures, Barangay Water Project.

Clearances:	Typed Name	Office Symbol	Date	Initial
A.				
B.				
C.				
D.				

Signature

Type Name of Authorizing Officer

Office Symbol

ANNEX K-1

AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT IDENTIFICATION DOCUMENT FACESHEET

TO BE COMPLETED BY ORIGINATING OFFICE

1. TRANSACTION CODE: A (A = ADD, C = CHANGE, D = DELETE)

PID

2. DOCUMENT CODE: 1

3. COUNTRY/ENTITY: Philippines

4. DOCUMENT REVISION NUMBER:

5. PROJECT NUMBER (7 DIGITS): 492-0291

6. BUREAU/OFFICE: A. SYMBOL: ASIA; B. CODE: 04

7. PROJECT TITLE (MAXIMUM 40 CHARACTERS): Barangay Water Systems

8. PROPOSED NEXT DOCUMENT: A. 2 (2 = PRP, 3 = PP); B. DATE: MM 10, YY 76

9. ESTIMATED FY OF AUTHORIZATION/OBLIGATION: a. INITIAL FY 78; b. FINAL FY 78

10. ESTIMATED COSTS ($000 OR EQUIVALENT, $1 = P7.50)

FUNDING SOURCE	LIFE OF PROJECT
A. AID APPROPRIATED	3,000
B. OTHER U.S. 1.	
B. OTHER U.S. 2.	
C. HOST COUNTRY	3,600
D. OTHER DONOR(S)	
TOTAL	6,600

11. PROPOSED BUDGET AID APPROPRIATED FUNDS ($000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	PRIMARY TECH. CODE C. GRANT	PRIMARY TECH. CODE D. LOAN	E. FIRST FY 78 F. GRANT	E. FIRST FY 78 G. LOAN	LIFE OF PROJECT H. GRANT	LIFE OF PROJECT I. LOAN
(1) PH	B280		252		$3,000		$3,000
(2)							
(3)							
(4)							
			TOTAL		3,000		3,000

12. SECONDARY TECHNICAL CODES (MAXIMUM SIX CODES OF THREE POSITIONS EACH): 242

13. SPECIAL CONCERNS CODES (MAXIMUM SIX CODES OF FOUR POSITIONS EACH): BR, COOP, NUTR

14. SECONDARY PURPOSE CODE:

15. PROJECT GOAL (MAXIMUM 240 CHARACTERS)

To provide a strong local government capability to deliver government services to the low income and rural poor families, throughout the Philippines, thus improving their perceived quality of life.

16. PROJECT PURPOSE (MAXIMUM 480 CHARACTERS)

1. To institutionalize the capability of selected local government units to identify, plan, organize and install functional barangay cooperative water systems with an indigenous maintenance capacity.
2. To provide a safe water supply to the residents in the system service area.

17. PLANNING RESOURCE REQUIREMENTS (staff/funds)

a. TDY consultants to develop PRP - $10,000
b. TDY consultant to develop PP - $ 7,000

18. ORIGINATING OFFICE CLEARANCE

Signature: Thomas D. Rice

Title: Assistant Director for Provincial Development

Date Signed: MM 05, DD 28, YY 76

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

AID 1330-2 (5-70)

ANNEX K-2

AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT REVIEW PAPER FACESHEET

1. TRANSACTION CODE: A (A = ADD, C = CHANGE, D = DELETE)

PRP

2. DOCUMENT CODE: 2

3. COUNTRY/ENTITY: Philippines

4. DOCUMENT REVISION NUMBER:

5. PROJECT NUMBER (7 digits): 492-0291

6. BUREAU/OFFICE: A. SYMBOL: ASIA; B. CODE: 04

7. PROJECT TITLE (Maximum 40 characters): Barangay Water Project

8. PROPOSED NEXT DOCUMENT: A. 3 PP; B. DATE: MM 03 YY 77

9. ESTIMATED FY OF AUTHORIZATION/OBLIGATION: A. INITIAL FY 78; B. FINAL FY 79

10. ESTIMATED COSTS ($000 OR EQUIVALENT $1 =)

A. FUNDING SOURCE	FIRST FY 78 B. FX	C. L/C	D. TOTAL	LIFE OF PROJECT E. FX	F. L/C	G. TOTAL
AID APPROPRIATED TOTAL	3,099		3,099	3,184		3,184
(GRANT)	(99)	( )	(99)	(184)	( )	(184)
(LOAN)	(3,000)	( )	(3,000)	(3,000)	( )	(3,000)
OTHER U.S. 1.						
OTHER U.S. 2.						
HOST COUNTRY						2,150
OTHER DONOR(S)						
TOTALS						5,334

11. PROPOSED BUDGET AID APPROPRIATED FUNDS ($000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	PRIMARY TECH. CODE C. GRANT	D. LOAN	E. FIRST FY 78 F. GRANT	G. LOAN	LIFE OF PROJECT H. GRANT	I. LOAN
(1) PH	510	250	545	54	3,000	184	3,000
(2)							
(3)							
(4)							
			TOTAL				

12. PROJECT PURPOSE (Maximum 480 characters) [X] "X" IF DIFFERENT FROM PID

To provide safe, reliable, low cost, water to deprived residents of selected small rural communities (under 5,000 population).

13. DATA CHANGE INDICATOR. WERE CHANGES MADE IN PID FACESHEET DATA, BLOCKS 12, 13, 14, OR 15? IF YES, ATTACH CHANGED PID FACE SHEET.

2 (1 = NO, 2 = YES) Block 15 - PID Facesheet attached

14. PLANNING RESOURCE REQUIREMENTS (Staff/Funds)

Two TDY consultants to help develop Project Paper IMM each $18,000.

15. ORIGINATING OFFICE CLEARANCE

SIGNATURE: Thomas L. Rose

Thomas L. Rose

TITLE: Assistant Director for Provincial Development

DATE SIGNED: MM 09 DD 19 YY 76

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

AID 1330-3 (3-76)

ANNEX L

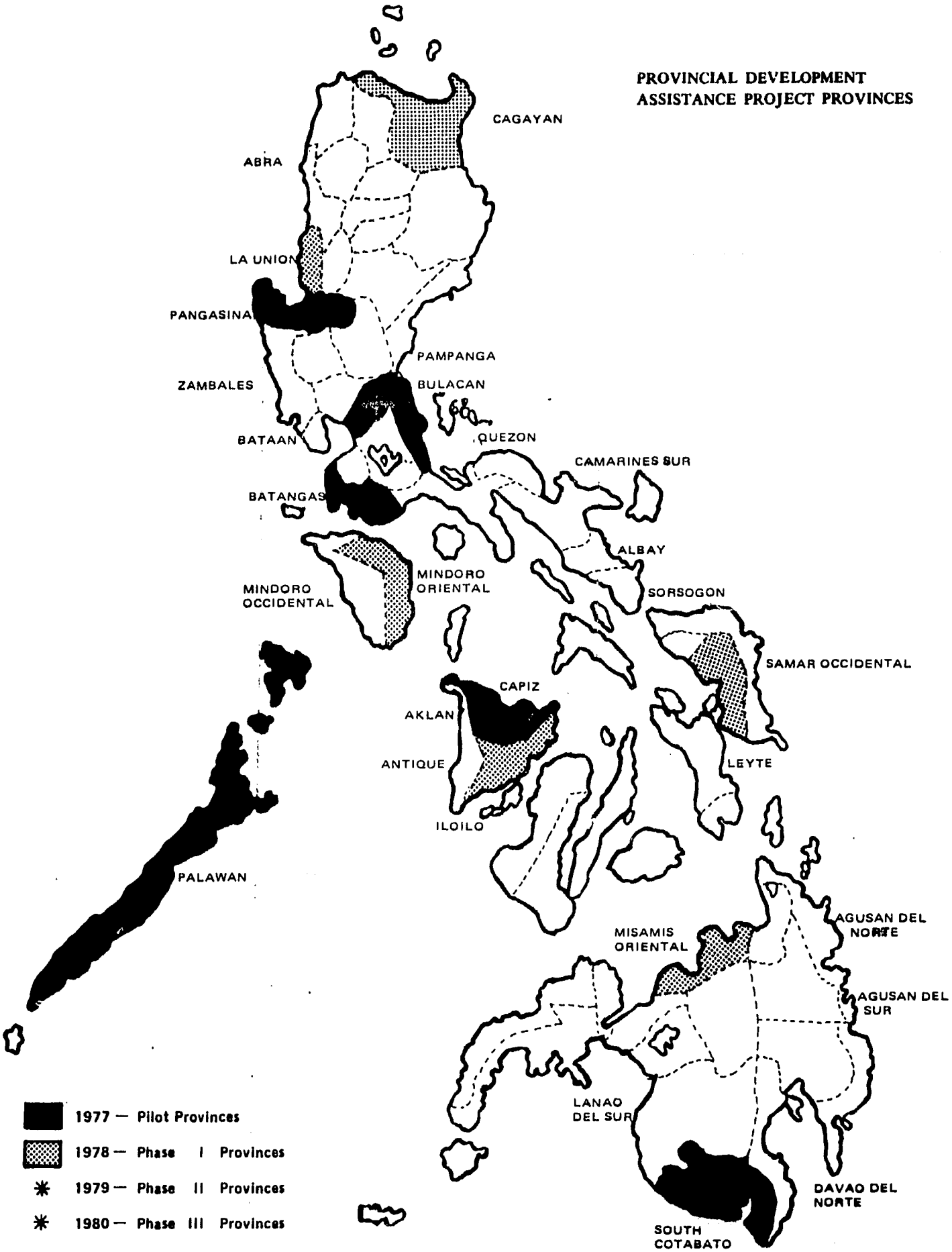
LISTING OF PROVINCES

PROSPECTIVE PROVINCE LISTING
BARANGAY WATER PROJECT
AND IDENTIFICATION CODE NUMBERS

I.D. Code No.	Province
02	Cagayan*
04	Abra
08	La Union -
13	Pangasinan*
15	Quezon
16	Zambales
18	Bataan -
19	Pampanga
20	Bulacan*
24	Batangas*
26	Camarines Sur
28	Mindoro Occidental
29	Mindoro Oriental
31	Albay
32	Sorsogon
36	Samar -
38	Aklan*
39	Capiz*
40	Antique
41	Iloilo -
44	Leyte
52	Misamis Oriental -
53	Agusan del Norte
54	Agusan del Sur
58	Lanao del Sur
61	South Cotabato*
63	Davao (Norte)
66	Palawan*

*Denotes Pilot Provinces 1977

-Denotes Provinces to enter Program Phase I 1978



*TO BE DETERMINED ON THE BASIS OF GENERAL PERFORMANCE.

ANNEX M

MEMORANDUM OF AGREEMENT

This Memorandum of Agreement entered into by and between:

The Department of Local Government and Community Development herein represented by _____, Undersecretary, with office at the 2nd Floor, Ablaza Building, E. Rodriguez Ave., Quezon City, Philippines, hereinafter referred to as DLGCD; and

JOSE A. ROÑO
Secretary, DLGCD

Witness

and

The Department of Health herein represented by CLEMENTE S. GATMAITAN, M.D., M.P.H., Secretary, with offices at San Lazaro Compound, Manila, herein after referred to as DOH.

- W I T N E S S E T H -

WHEREAS, the DLGCD has a Barangay Water Program to be implemented for the purpose of identifying, planning and installing functional barangay cooperative water systems with an indigenous maintenance capacity to provide safe, reliable, low-cost water to residents of selected rural communities with populations ranging from 300-500 people.

CLEMENTE S. GATMAITAN, M.D., M.P.H.
Secretary of Health

Witness

WHEREAS, the DLGCD is desirous to involve other government agencies that can assist in the implementation of the Barangay Water Program;

WHEREAS, the goal of the DOH is to improve the general health of residents in the areas to be served by the water systems;

WHEREAS, the DOH is desirous to assist and provide technical assistance to DLGCD in areas wherein the latter has limited experience and know-how;

WHEREAS, the DLGCD and DOH realizes that the goals and objectives of the Barangay Water Program can be better achieved by mere coordination and cooperation between the two offices;

NOW, THEREFORE, for and in consideration of the foregoing, the DLGCD and the DOH have agreed as follows:

SECTION I - PROGRAM OF COOPERATION

The DEPARTMENT OF HEALTH will:

a) provide technical assistance in water analysis, selection of water sources, and the determination of the kinds of water treatment needed in provinces needing such assistance;

b) provide technical assistance in the preparation of project plans and specifications, specifically on the sanitary and health aspects of the water systems;

c) assist in the final inspection of completed projects and help determine the potability of water being delivered to the consumers;

d) assist in the conduct of periodic sampling and analysis of water from taps;

e) participate in the design and formulation of training programs for national, provincial and barangay levels of training;

f) assist in the conduct of water supply training programs specifically on water supply sanitation for the Barangay Water Users Associations;

g) make available the services of DOH sanitary engineers and other technical personnels when requested at the national and provincial level.

The DEPARTMENT OF LOCAL GOVERNMENT AND COMMUNITY DEVELOPMENT will:

a) train provincial executives to upgrade their planning and implementing capabilities needed in the implementation of the Barangay Water Program;

b) assist the provinces in meeting all the pre-donditions required to be able to participate in the Barangay Water Program;

c) provide policies, guidelines and administrative procedures to insure a smooth implementation of the Barangay Water Program;

d) provide in its budget the amounts for the reimbursement of projects completed under the Barangay Water Program.

SECTION II - DURATION OF AGREEMENT

This agreement shall remain in force and effect within the duration of the Barangay Water Program, to commence upon signing, unless sooner terminated by any of the parties concerned by giving notice thirty (30) days in advance.

IN WITNESS WHEREOF, the parties hereto have set their signatures this _____ day of _____, 1977.

DEPARTMENT OF LOCAL GOVERNMENT

_____
Jose A. Rono
Secretary
DLGCD

DEPARTMENT OF HEALTH

_____
Clemente S. Gatmaitan, M.D., M.P.H.
Secretary
DOH

SIGNED IN THE PRESENCE OF:

_____
WITNESS

_____
WITNESS

-ACKNOWLEDGMENT-

REPUBLIC OF THE PHILIPPINES)
CITY OF MANILA) S.S.

BEFORE ME, this _____ day of _____, 1977, in the City Manila, Philippines, personally appeared Clementa S. Gatmaitan, with Residence Certificate No. A-_____, issued at _____ on _____, and Jose A. Roño, with Residence Certificate No. A-_____, issued at _____ on _____, known to me to be the same persons who executed the foregoing Agreement, and they acknowledged to me that the same is their free act and deed.

This Agreement, consisting of 4 pages, including the page on which this acknowledgment is written, has been signed on each and every page thereof, excluding this page by the parties hereof and their witnesses, and sealed with my notarial seal.

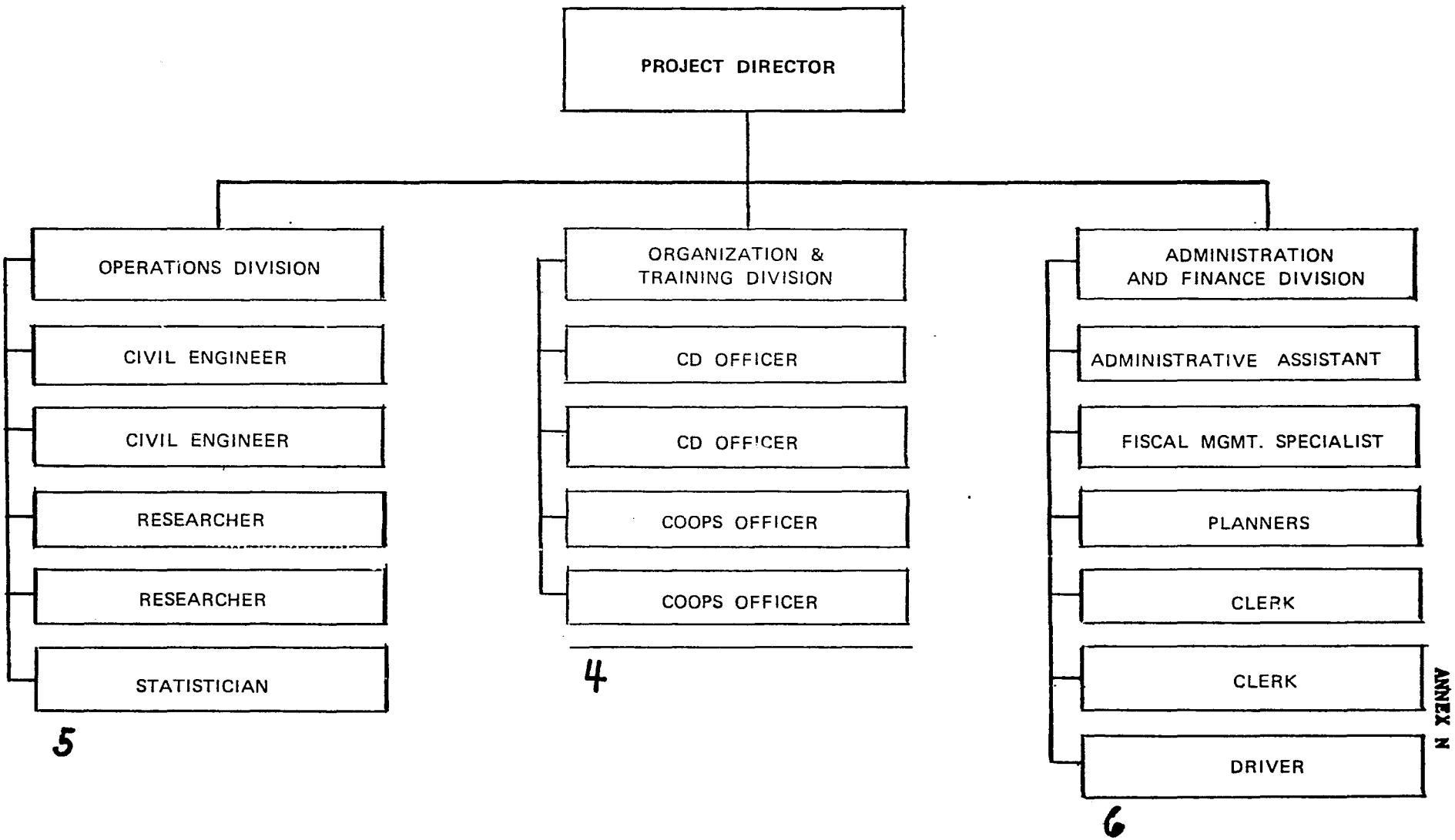
IN WITNESS WHEREOF, I have hereunto set may hand, the day, year and place above written.

_____
Notary Public
Until December 31, 197__
PTR No._____
Issued at _____
On _____

Doc. No. _____
Page NO. _____
Book No. _____
Series of _____

ANNEX N

BARANGAY WATER PROJECT
ORGANIZATION CHART

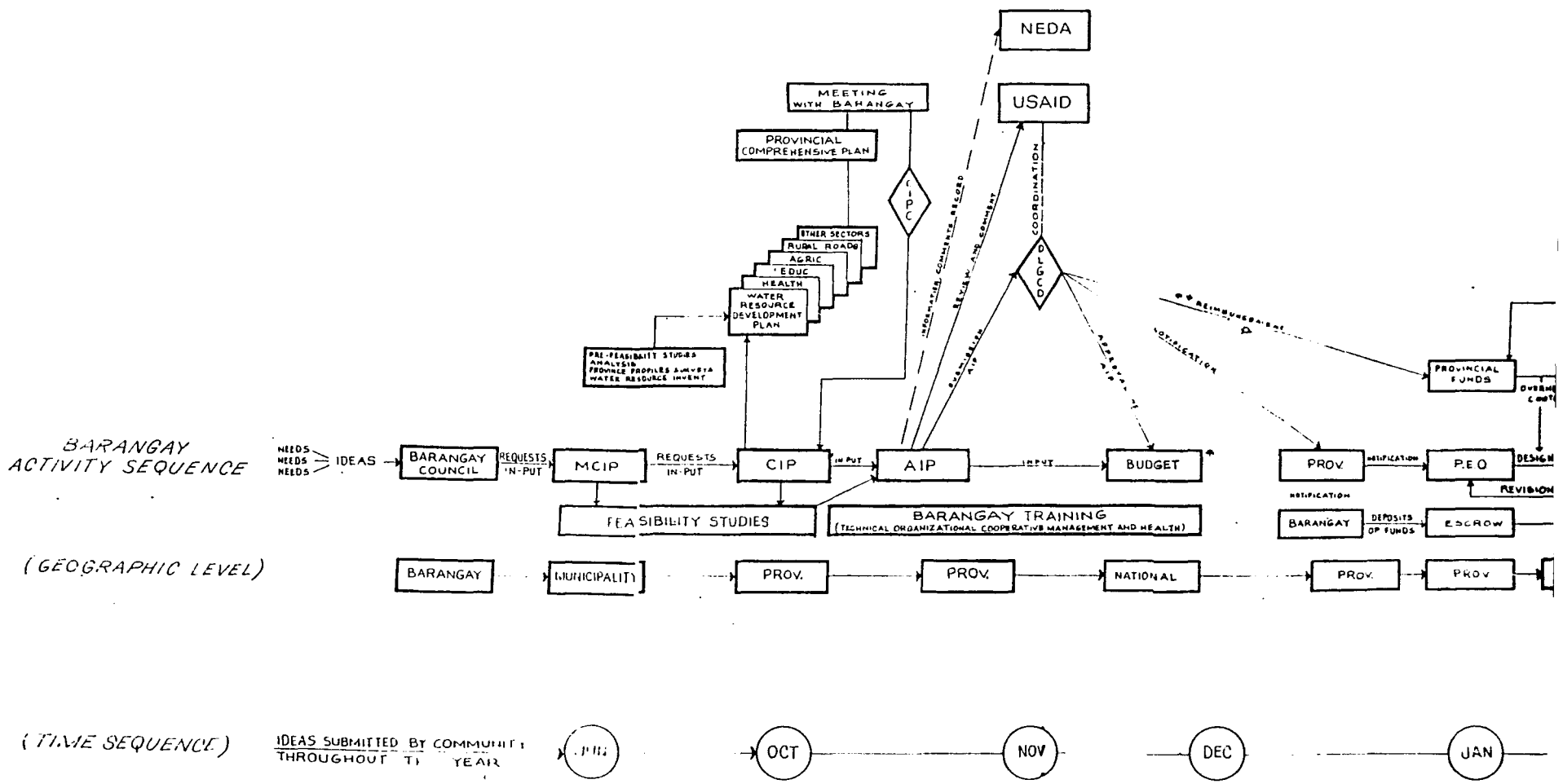


ANNEX N

ANNEX O

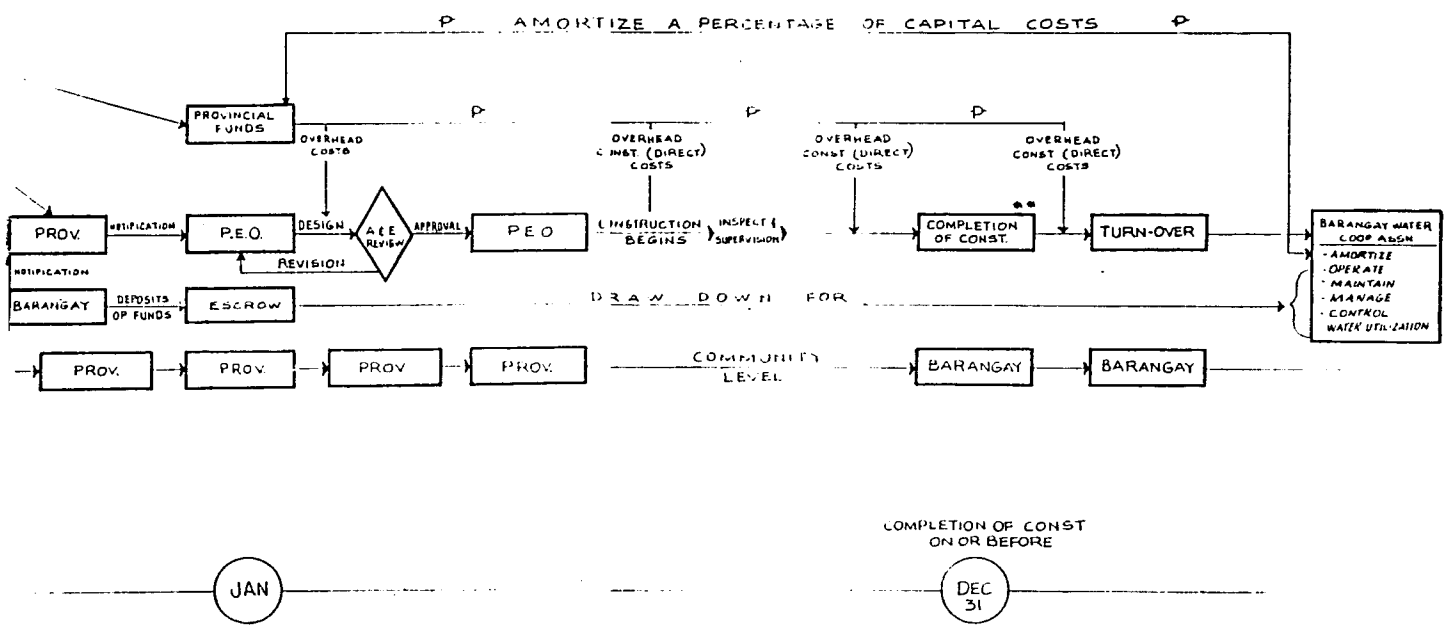
BARANGAY WATER SYSTEMS PRO

PLANNING



TEMS PROJECT FLOW

IMPLEMENTATION ——→ OPERATION



*ANNUAL BUDGET SUBMISSION TO DEPT OF FINANCE 30 DECEMBER

**REIMBURSEMENT

SEE APPENDIX # 3 FOR ACTIVITY FLOW