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

PROJECT PAPER

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210p

Proposal and Recommendations  
For the Review of the  
Development Loan Committee

PHILIPPINES - PANAY UNIFIED SERVICES FOR HEALTH (PUSH)

AID-DLC/P-2286

01/31/78

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

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AID-DLC/P-2286

April 3, 1978

MEMORANDUM FOR THE DEVELOPMENT LOAN COMMITTEE

SUBJECT: Philippines - Panay Unified Services for Health (PUSH)

Attached for your review are recommendations for authorization of a loan to the Government of the Republic of the Philippines in an amount not to exceed Five Million Four Hundred Thousand United States Dollars (\$5,400,000) to help finance certain foreign exchange and local currency costs required to implement the Panay Unified Services for Health (PUSH) Project, which aims to improve the health status of the residents of 600 depressed villages in the Island of Panay, Philippines, by: (a) reducing the incidence of tuberculosis, diphtheria, tetanus and gastro-intestinal infections, (b) reducing the infant mortality rate, (c) reducing the crude birthrate, and (d) reducing the incidence of malnutrition among children aged six years and below.

This loan is scheduled for consideration by the Development Loan Staff Committee on Wednesday, April 12, 1978, at 2:30 p.m., in Room 3524 New State. If you are a voting member, a poll sheet has been enclosed for your response.

Development Loan Committee  
Office of Policy Development and  
Program Review

Attachments:

Summary and Recommendations  
Project Analysis  
Annexes A - J

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PROJECT PAPER  
(PP)

PANAY UNIFIED SERVICES FOR HEALTH  
(PUSH)

USAID/Philippines

HRD/Health

January 31, 1978

**PROJECT PAPER**  
**PANAY UNIFIED SERVICES FOR HEALTH (PUSH)**

**TABLE OF CONTENTS**

	<b><u>Page</u></b>
	<b><u>No.</u></b>
<b>Abbreviations Used in the PUSH Project Paper</b>	
<b>PP Face Sheet</b>	
<b>I. Project Detailed Description</b>	
1. Background	1
2. Detailed Description	6
<b>II. Project Specific Analysis</b>	
1. Social Analysis	19
2. Environmental Assessment	28
<b>III. Economic, Technical and Administrative Feasibility</b>	
1. Economic Analysis	30
2. Technical Analysis	41
3. Administrative Arrangements	44
<b>IV. Financial Analysis and Plan</b>	
1. Financial Plan and Project Budget	60
2. Budget Analysis of Implementing Agencies	64
3. Financial Viability and Replicability	64
4. Financial Effect on Project Participants	66
<b>V. Implementation Plan</b>	67
<b>VI. Evaluation Arrangements</b>	82
<b>VII. ANNEXES</b>	
<b>A. Supplementary Technical Details</b>	
<b>B. Supplementary Financial and Economic Tables</b>	
<u>Financial Cost Estimates Tables</u>	
Table B1 - USAID Grant Contribution	
B2 - USAID Loan Contribution	
B3 - GOP & Local Government Contribution	
B4 - USAID Loan Contribution (Pesos)	
B5 - Environmental Sanitation Construction Costs	
B6 - Barangay Health Worker Training & Salary	
B7 - Equipment & Supplies (AID Loan Contribution)	

Table B8 - Equipment List Training and Support Staff

B9 - Project Support Staff Costs

B10 - GOP and Local Government Contribution

B11 - Imputed Administration and Supervision Costs  
Estimated NEDA Contribution

B12 - Imputed Administration and Supervision Costs  
Estimated Department of Health Contribution

B13 - Imputed Administration and Supervision Costs  
Estimated BPW, DLGCD & POPCOM Contribution

B14 - Imputed Administration and Supervision Costs  
Estimated Provincial Government Contribution

B15 - Imputed Administration and Supervision Costs  
Estimated Municipal and Barangay Government Contribution

B16 - Imputed Rent and Utilities Cost, GOP Contribution

Provincial Budget Analysis Tables

Table B17 - Projected Provincial Expenditures on BHW Salaries  
1981 - 1985

B18 - Projected Increase in Real Property Tax (RPT)  
Collections & Comparison with BHW Salaries

B19 - Average Real Growth Rates and Real Property Tax

B20 - Sources of Revenue by Fund, Aklan Province

B21 - Sources of Revenue by Fund, Antique Province

B22 - Sources of Revenue by Fund, Capiz Province

B23 - Sources of Revenue by Fund, Iloilo Province

B24 - Expenditure Pattern, Province of Aklan

B25 - Expenditure Pattern, Province of Antique

B26 - Expenditure Pattern, Province of Capiz

B27 - Expenditure Pattern, Province of Iloilo

Economic Tables

Table B28 - Estimated Benefits due to Reduction in Intestinal  
Parasitism

B29 - Estimated Benefits due to Reduction in Incidence of  
Intestinal Mal-Absorption

B30 - Estimated Benefits due to Reduction in Incidence of  
Enteric Diseases

B31 - Estimated Benefits due to Reduction in Incidence of  
Tuberculosis

B32 - Estimated Increase in Productivity Resulting from  
Improved Nutrition and Health

B33 - Estimated Increase in Returns to Education

B34 - Economic Cost-Benefit Analysis

B35 - Sensitivity Cost-Benefit Analysis

- C. Initial Environmental Examination (IEE)**
- D. Project Design Logical Framework Summary**
- E. Project Checklist**
- F. PUSH Project Beneficiaries Profile**
- G. Mission Director's Section 611(e) Certification**
- H. RDC Resolution**
- I. Draft Project Authorization**
- J. Borrower/Grantee's Request for Assistance**

## ABBREVIATIONS USED IN PUSH PP

BAEX	- Bureau of Agricultural Extension
BHS	- Barangay Health Station
BHW	- Barangay Health Worker
COA	- Commission on Audit
CRS	- Catholic Relief Service
DEC	- Department of Education and Culture
DIC	- Disease Intelligence Center
DLGCD	- Department of Local Government & Community Dev.
DOF	- Department of Finance
DOH	- Department of Health
DPW	- Department of Public Works
DSSD	- Department of Social Services & Development (formerly Department of Social Welfare)
FAR	- Fixed Amount Reimbursement
GOP	- Government of the Philippines
LWUA	- Local Water Utility Administration
MDO	- Municipal Development Office
NEDA	- National Economic & Development Authority
NCSO	- National Census & Statistics Office
NNC	- National Nutrition Council
PDAP	- Provincial Development Assistance Project
PDO	- Provincial Development Office
PDS	- Provincial Development Staff
PHO	- Provincial Health Office
POPCOM	- Commission on Population
PUSH	- Panay Unified Services for Health
RDC	- Regional Development Council
RHO	- Regional Health Office
RHU	- Rural Health Unit

AGENCY FOR INTERNATIONAL DEVELOPMENT

**PROJECT PAPER FACESHEET**

TRANSACTION CODE

**A** ADD  
C CHANGE  
D DELETE

PP

2. DOCUMENT CODE  
3

3 COUNTRY ENTITY  
Philippines

4 DOCUMENT REVISION NUMBER

5. PROJECT NUMBER (7 digits)  
492-0312

6 BUREAU OFFICE

A SYMBOL Asia B CODE 04

7 PROJECT TITLE (Maximum 40 characters)

Panay Unified Services for Health (PUSH)

8. ESTIMATED FY OF PROJECT COMPLETION

FY 82

9 ESTIMATED DATE OF OBLIGATION

A INITIAL FY 78 B QUARTER 2  
C FINAL FY 78 (Enter 1, 2, 3 or 4)

10 ESTIMATED COSTS \$000 OR EQUIVALENT \$1 - P7.50

A. FUNDING SOURCE	FIRST FY			LIFE OF PROJECT		
	B. FR	C	D. TOTAL	E. FR	F. LC	G. TOTAL
AID APPROPRIATED TOTAL	493	586	1079	590	5110	5716
GRANT	37	18	55	142	174	316
LOAN	456	568	1024	456	4944	5400
OTHER						
U.S.						
HOST COUNTRY		412	412		3000	3000
OTHER DONOR(S)		20	20		1000	1000
TOTALS	493	1018	1511	590	9110	9700

11 PROPOSED BUDGET APPROPRIATED FUNDS \$000

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	PRIMARY TECH CODE		E. 1ST FY 78		H. 2ND FY		K. 3RD FY	
		C. GRANT	D. LOAN	F. GRANT	G. LOAN	I. GRANT	J. LOAN	L. GRANT	M. LOAN
(1) PH	533B	540	540	316	5400				
(2)									
(3)									
(4)									
TOTALS				316	5400				

A. APPROPRIATION	N. 4TH FY		O. 5TH FY		LIFE OF PROJECT		12. IN DEPTH EVAL. SCHEDULED
	P. GRANT	Q. LOAN	R. GRANT	S. LOAN	T. GRANT	U. LOAN	
(1) PH					316	5400	
(2)							
(3)							
(4)							
TOTALS					316	5400	

MM YY  
02 79

13. DATA CHANGE INDICATOR WERE CHANGES MADE IN THE ORIGINAL DATA BLOCKS 10, 13, 14, OR 15 OR IN PRP FACESHEET DATA, BLOCK 12? IF YES, ATTACH CHANGED PIP FACESHEET

1 NO

14. ORIGINATING OFFICE CLEARANCE

SIGNATURE  
Gerold van der Vlugt  
TITLE  
Chief, Health Division

Herbert W. Dodge  
AD/HRD

15. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION

DATE  
MM DD YY  
11 8 77

1. DETAILED DESCRIPTION

## 1. BACKGROUND

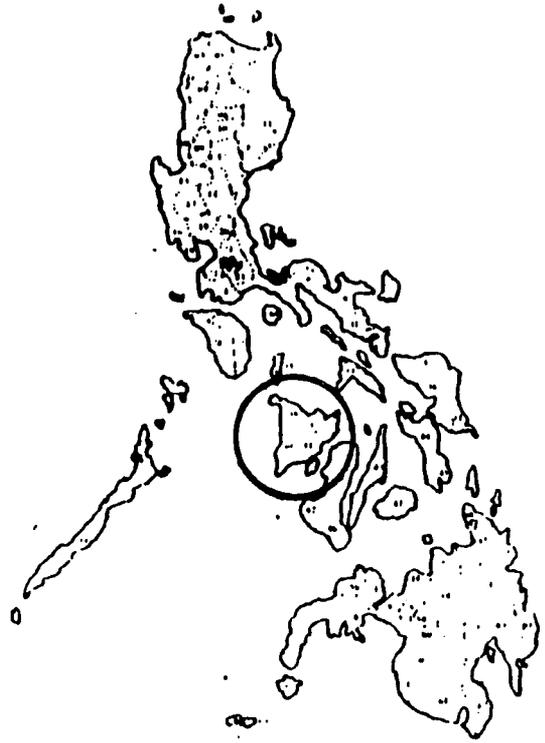
The island of Panay is located in the Western Visayan region of the Philippines. Made up of four provinces, Iloilo, Antique, Aklan and Capiz, the island has a population of 2.4 million representing 6% of the total population of the Philippines. Although the island is a food export area (rice, fish, fruit and feed grains), malnutrition is a major problem in that 85% of the children between the ages of 0-6 are malnourished.

The area also suffers from a very high TB rate (284/100,000) and pneumonia rate (225/100,000) making these two diseases the number one and two causes, respectively, of morbidity and mortality. In addition, poor water supplies and sanitation facilities have made gastro-enteritis and parasitism the number three and four causes, respectively, of morbidity and an undocumented secondary cause in the mortality statistics. Health and nutrition problems of the island are further complicated by the high birth rate thus increasing the burden of meager family incomes, estimated at less than \$200 (US) per year for 70% of the population. (Philippine Bureau of Census and Statistics Reports)

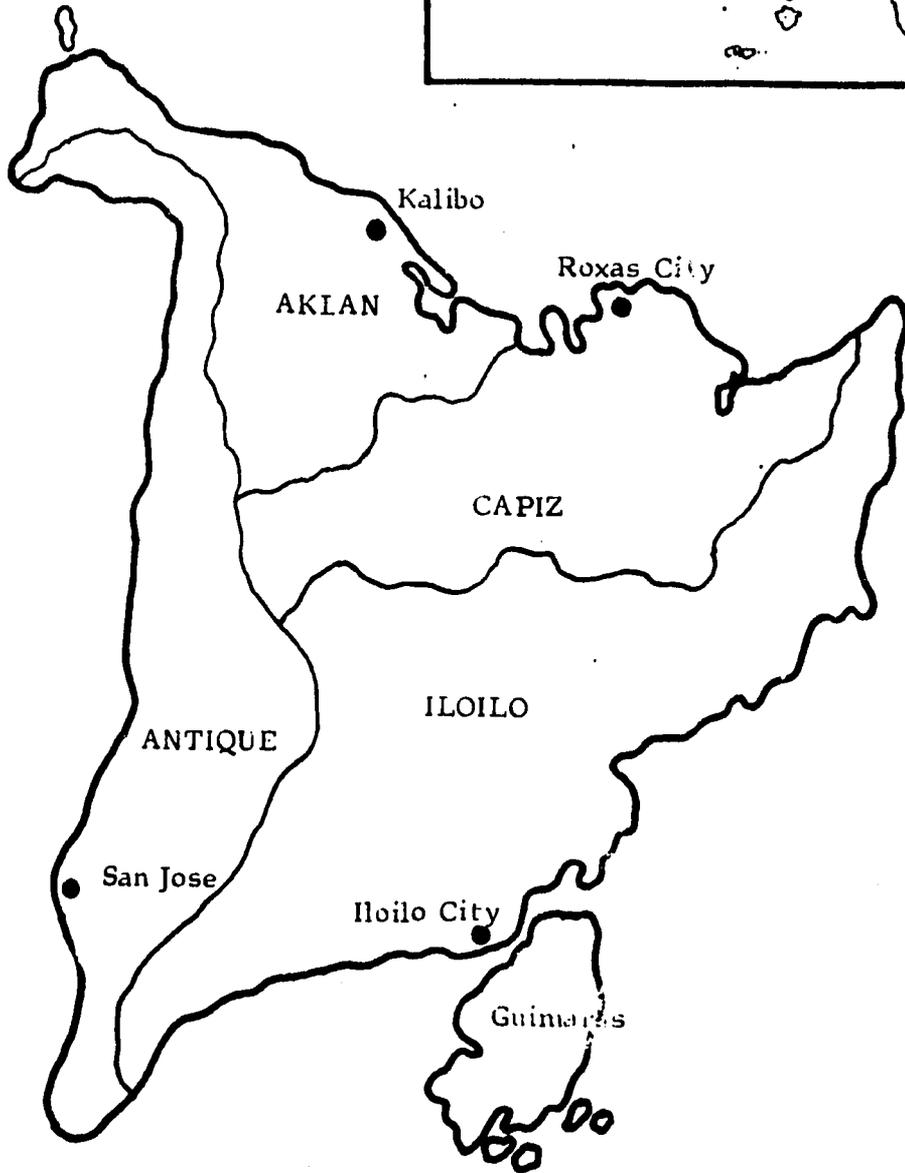
While the rural population makes up at least 70% of Panay's inhabitants, it is the recipient of only a very limited share of the total Philippine Government's investments and services. The government's "Outreach" is generally ineffective in the rural areas of Panay pointing out the great disparity between the rural poor majority and their urban cousins who have better access to improved education, health and employment opportunities in the cities and municipalities.

Traditionally in the Philippines, much of the planning for development investment had been originating from and controlled by the national government. This was due mainly to a traditional lack of expertise at the local level. However, the situation has changed in many parts of the country, particularly in Panay, where an increasingly competent local planning capability can be found within the four provincial government's planning staffs, buttressed by a strong Region VI Office in Iloilo. All the four Panay provinces are members of the Provincial Development Assistance Project (PDAP), which indicates the priority assigned to the area by the Government of the Philippines. As a result of PDAP involvement, the provinces have made long range development plans for their respective areas, and in all cases, adequate health services have been identified as the

REPUBLIC OF THE PHILIPPINES



PANAY ISLAND



number one priority for development along with the supportive services needed for successful health improvements (household water, increased family food levels, improved incomes, etc.)

In the past, much of the budget of the Department of Health has been allocated for curative activities with a minimal amount of funds being provided for preventive medicine. Despite extensive facilities located in the larger communities, there has been a limited percentage of population served. In the depressed areas, limited facilities and health manpower resources exist. When services are available, they are often delivered on a temporary basis which is not enough to produce any significant impact on the morbidity picture.

It has been estimated that only 15-20% of the total population have access to adequate medical care, and the 70% of the population, who live in rural areas, have little or no access to organized medical care.

There have been numerous health programs instituted along specialized lines which are efforts to improve the quality of life. Currently, such programs as Project Compassion, Green Revolution, Family Planning, Nutrition Program and "Operation Timbang" have been launched in an effort to accomplish this.

However, with few exceptions most programs had adopted a pragmatic approach and had been developed in a vertical pattern so as to address certain aspects of health with little emphasis on their interphasing to improve the overall village well being.

A review of the statistics reveals that more than 50% of hospital admissions on Panay are due to preventable diseases which are related to deficiencies in nutrition, sanitation or personal hygiene.

Malnutrition constitutes the most serious single public health problem affecting an estimated 85% of children aged six years and below. The incidence of third degree malnutrition alone is 7,000/100,000, higher than for any other recorded illness. The four other major causes of morbidity are pneumonia, TB, gastro-enteritis and parasitic diseases.

The region's statistical profile indicates that 55% of the population do not have adequate or safe sources of household water. Thirty-five percent of total households do not have latrines and of the 65% who do, only 30% meet minimum sanitation standards. While the aggregate regional picture is already bad, the situation is even much worse in the depressed barangays in the region where only 35% of the population is estimated to have an adequate supply of potable water, and only 15% have sanitary excreta disposal facilities.

The regional leadership is of the firm belief that an accelerated health development program is imperative in order to hasten the attainment of the region's total development goals. While it is felt that investments in health should be intensified, it is likewise felt that a rational investment policy should be adopted. A health care delivery system that is heavily based on hospitals and on professional health manpower will require heavy capital and maintenance investments with limited cost-benefit returns. It will also be expensive to consumers because of the high cost that such a system entails. These hospitals will likely be urban-based and not necessarily serve the rural population. The realities are that many hospitals in the country are encountering under-utilization problems because of physical and financial inaccessibility.

The majority of the disease problems in Panay at present do not require a high level of technology to control, in terms of both manpower and facilities. Almost all of the top ten causes of morbidity, in fact, can be prevented by simple public health measures.

Physicians in the Philippines do not seem to find rural practice attractive. While the regional leadership should start considering policies of attraction, efforts should be made to maximize the effectiveness of what is currently available. It is felt that one way of realizing this is to energize a machinery at the barangay level that will carry out simple public health and disease-control measures, treat minor health problems that do not require the expertise of a physician, and link the barangay to the higher levels of the region's health care delivery system. The same machinery should serve as the integration point of all health and health-related projects being implemented in the barangay by the different regional and national offices.

#### Why Panay was Selected for the PUSH Project

Panay Island consists of four provinces which are easily accessible to one another in terms of roads and communications, thus, making for a favorable working environment. However, the four provinces are also a self-contained unit separated from other islands enough to allow controlled evaluation of project significance. As far as its population is concerned, Panay has characteristics similar to other areas in the Philippines in terms of vital statistical indices and age/sex composition. Experience gained on Panay should produce systems replicable in other areas. The size of the population is large enough to give significant results, and small enough to be manageable.

The four Panay provinces, being Provincial Development Assistance

Program (PDAP) provinces, have fully organized Provincial Development Staffs trained and experienced in planning, administration and evaluation of development processes and are receptive to change. Panay has a strong Regional Development Council (Region VI RDC) composed of members who have collaborated actively and effectively and have demonstrated full support for PUSH throughout the project design phase. We are assured of effective monitoring and technical support of PUSH once implemented.

While not wealthy, Panay has a stable enough economy, which should assure maintenance of financial support for PUSH, once external assistance is withdrawn. The people of Panay have already a relatively developed social consciousness which creates an expectation of responsiveness to the changes inherent in this project.

As stated earlier, the four provinces of Panay Island have been active participants in the AID-supported Provincial Development Assistance effort. As the local planning staffs have gained experience in confronting development issues in the region, certain basic problems of public health have emerged. The nature and incidence of these health constraints have been more fully treated in the PRP prepared for this project, but it is important to stress that the major constraint revealed has been the absence of health services and particularly preventive infrastructure such as sanitary facilities and safe water at the lowest political unit, the barangay. This lack is even more apparent among the more economically depressed barangays which have been chosen therefore as the specific target for deployment of the inputs to be made under this project. These are the basic considerations for the choice of Panay for the PUSH Project.

## 2. DETAILED DESCRIPTION<sup>1/</sup>

### Project Goal

The goal of the Panay Unified Services for Health (PUSH) Project is to improve the health status of the residents of 600 depressed barangays in Panay Island. The 600 barangays will be selected, using a set of socio-economic indicators, from Class V municipalities in the provinces of Iloilo, Antique, Capiz and Aklan. Class V municipalities occupy the lowest position in what used to be the GOP socio-economic classification of municipalities.

The project is expected to benefit directly a population of 336,360 in 61,200 households, who have least benefitted from the present health service delivery system. The 600 project barangays constitute 20% of the total number of barangays in Panay and the PUSH beneficiaries constitute 15% of the total Panay population. (See Annex F for a profile of project beneficiaries)

The goal of improving the health status of project beneficiaries will be reflected in terms of reducing by 25% the incidence of tuberculosis, tetanus and gastro-intestinal infections, a 25% reduction in the infant mortality rate, the crude birth rate reduced from 31.5 to 24 per thousand, and together with the efforts of the Philippine National Nutrition Program, the reduction by 70% and 40%, respectively, of the incidence of second and third degree malnutrition among children aged six years and below.

### Project Purpose

The attainment of the project goal will require the strengthening of the present health care delivery system in Panay, which at present is deemed ineffective in reaching the barangay level. Due to severe logistic and organizational constraints, the health delivery system has limited its sphere of influence to 4-5 kilometers from the Rural Health Unit Center. As a result, the high morbidity rates of highly preventable and productivity-limiting disease conditions have remained unabated in the barangays distant to the health center. This situation has contributed heavily to the unending cycle of disease, low productivity and poverty.

The strengthening of the rural health care delivery system will require the installation of a barangay-based system that will provide, in an integrated fashion, basic preventive, educative and health promotive services and essential environmental sanitation and health services. In order to attain the goal of reducing by 25% the incidence of tuberculosis, tetanus and gastro-intestinal infections and the infant mortality rate, the strengthened health delivery system should enable at least 60% of the project households to use sanitary waste disposal facilities, provide 80% of the households with an adequate

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<sup>1/</sup> This section will constitute the Detailed Project Description of the Loan Agreement

water supply of improved quality, and immunize with BCG and DPT 70% of the target population.

The goal of reducing the crude birth rate from 31.5 to 24 per thousand can be attained by increasing the contraceptive prevalence rate from the present 23% to 38%. The reduction by 70% and 40%, respectively, of the incidence of second and third degree malnutrition among children aged six years and below will require the rehabilitation of at least 10,000 malnourished cases.

At the end of the project, it is expected that the regional health system will be strengthened to such a degree as to provide integrated health services in at least 600 barangays in order to achieve the above purposes, and that these services will be sustained even after external financial assistance has been terminated.

### Project Outputs

The achievement of the project purposes will require the following outputs:

#### 1. Barangay Health Workers (BHW)

The project will require the recruitment, training, equipping and deployment of 600 Barangay Health Workers. The key figure in the proposed barangay health care delivery system, the BHW is a male or female resident of the barangay, between 18 to 45 years old, with at least six years of formal education, who will undergo a six-week basic training course and 2 weeks refresher course every six months to enable him or her to respond to simple medical problems and undertake preventive and health promotive activities in the barangay.

The BHW will be from and based in the barangay, nominated by the barangay, endorsed by the Rural Health Unit and the Provincial Health Officer and appointed by the Provincial Governor. He or she will be under the technical and administrative supervision of the Rural Health Unit. The BHWs will be barangay contact points and facilitators for existing technical personnel such as sanitary inspectors, social workers, municipal population officers, nutrition workers and general health workers in carrying out their line agency functions. In this manner, line agency technical workers will also be assisted in assuring success of their programs at the barangay level.

In order to avoid confusion in the utilization of the BHWs by other line agency technicians, coordination of such activities will be maintained at the municipal level through the Rural Health Unit who will formulate the BHW's work program in the barangay.

The BHWs will be paid full-time employees of the provincial government. A monthly salary of ₱240.00 basic pay and ₱88.35 in government benefits (₱328.35) satisfies all requirements of Philippine wage and labor laws.

The BHWs will function as extenders of the services provided by the Rural Health Unit. At the barangay level, they will be working on seven general areas of concern:

a) Environmental Sanitation

The BHWs, with technical assistance from the sanitary engineer and the Provincial Engineering Office, will identify areas in the barangay where sanitation facilities need to be constructed or improved. They will organize the community and catalyze the efforts to obtain the commodities and expertise to construct or improve the water facility, and promote proper water handling and utilization practices. They will periodically monitor water quality and apply simple water treatment procedures, when necessary.

They will campaign for sanitary waste disposal and organize the community to obtain basic commodities and expertise for the construction of water-seal toilets for every household in the barangay. They will likewise provide practical advice on the proper handling of household refuse, fly and mosquito control, and other disease-causing environmental nuisance in the barangay.

b) Family Planning

The BHWs will provide information on the different forms of contraceptives available in the locality, motivate potential contraceptive users, refer acceptors to appropriate agencies and resupply ongoing users with the required commodities. The PUSH BHWs will provide necessary support services if the family planning program in the barangay is already established. Otherwise, they will take the primary initiative in organizing one.

c) Nutrition

The BHWs will periodically weigh and keep records of the weights of children in the barangay aged 6 years old and below, in order to prioritize the targets of the barangay nutrition program. They will provide barangay residents with basic information on nutrient requirements, common food sources of essential nutrients and proper infant feeding techniques. They will assist in the barangay food production campaign in coordination with other agencies, and in the distribution

of food assistance commodities. They will initiate and conduct barangay feeding programs for the first and second degree malnourished children, and refer for rehabilitation children with third degree malnutrition. In every contact with individual patients or groups of barangay residents, the BHW will use this opportunity to motivate the people to adopt proper nutrition habits and practices.

The BHW should not be duplicating or replacing the services of a nutrition worker who may be deployed in the barangay by the Philippine Nutrition Program coordinated by the National Nutrition Council. The BHW will provide support services if such a person has been deployed. If a nutrition program has not yet been established in the barangay, the BHW will take the initiative in organizing one.

d) Control of Communicable Diseases

The BHWs will identify and prioritize the targets of the barangay immunization program. They will spearhead the efforts to obtain technicians and supplies to achieve the objectives of the immunization campaign. Furthermore, they will identify the signs and symptoms of notifiable diseases, report and refer them for treatment and follow up these cases regularly. They will provide barangay level assistance to whatever disease-control campaign the RHU may be conducting in the barangay.

e) Curative Functions

The BHWs will be the first persons to be consulted in the barangay if medical problems arise. They will screen patients and identify those that need immediate care and refer them to the nearest medical facility. Patients that can be handled at their own level of competence will be given the appropriate treatment. They will follow up patients who are undergoing a prolonged treatment regimen to insure that medicines are being taken regularly and proper patient care is provided.

f) Vital Statistics

The BHWs will keep records of vital events in the barangay like deaths and births and submit periodic reports of these to the RHU. They will maintain spot-maps which are graphic portrayals of the households in the barangay to keep track of what is going on in the barangay. Individual family health folders will be kept and maintained which will contain records of illnesses, treatment received and outcome of illness of the household members.

g) Community Organization

Public Health is premised on community effort. One important function of the BHWs will be to organize the barangays and mobilize them into collective action to combat existing barangay health problems. They will provide assistance to the barangay in the identification of health projects, in the formulation of project plans and in securing external assistance needed for project implementation. Group meetings with barangay residents will be utilized also as avenues for the dissemination of nutrition and family planning information and on the promotion of proper health habits and practices.

A BHW Handbook will be developed to guide the BHW in the performance of his duties and responsibilities in the barangay.

The Philippines has a substantial amount of experience in the utilization of non-professionals for health service delivery, but in many instances, this type of health personnel had been utilized on a voluntary or semi-voluntary basis. These projects tended to be short-lived as interest waned after brief periods of enthusiastic response. The PUSH Project seeks to correct basic deficiencies of previous attempts at utilizing laymen for health care delivery by providing adequate salary support to the health worker and by energizing the various support mechanisms necessary to enable him to function effectively.

2. Barangay Household Water and Waste Disposal Facilities

In order to achieve the purpose of providing an adequate water supply of improved quality to the project beneficiaries, the project will need to construct 280 functional drilled deep wells, 1200 shallow driven wells, improve 5400 open dug wells, and construct 40,000 water-sealed toilets. The emphasis of the project on these environmental sanitation facilities is due to the fact that eight out of ten of the identified major causes of morbidity in Panay Island are directly or indirectly related to inadequate and/or unsafe water supply sources and unsanitary means of human waste disposal.

The official information on the water supply situation in Panay indicates that 44.09% of the island's population do not have adequate and/or safe water sources. Considering that this figure is a regional aggregate, and considering further that PUSH will be targeting the most depressed barangays in Panay, the planners of the project believe that 65% would be the most realistic figure for planning and programming purposes. Since a total of 61,200 households will be the expected beneficiaries of the PUSH Project, there will be 40,000 households (65%) for whom water sources will be improved and/or new water facilities will be provided.

There are 34,046 unimproved open dug wells in Panay (Region VI Annual Health Report, 1976) which are used as primary sources of household water. The Regional Sanitary Engineer estimates that 5,400 of these wells would be found in the 600 barangays where PUSH will be implemented, servicing the needs of an estimated 27,000 households. The improvement of open dug wells is one of the primary concerns of the PUSH Project, since this type of water facility is considered to be frequently contaminated.

The Regional Health Office further estimates that 13,000 households in the target barangays would require new water facilities. About 1/2 of these (6,000 households) could be provided with shallow driven wells (up to 60 feet) with jetmatic pumps which can adequately service five households per unit, or a total requirement of 1,200 units. The remaining 7000 will be provided with water drawn from drilled deep wells averaging 230 feet deep. Two hundred eighty units of this well type will be required, with each unit capable of providing adequate water for an average of 25 households.

The Department of Public Works (DPW) in Panay (Region VI) is presently engaged in a deep-well drilling program averaging 40 wells per province per year, as deep wells are considered the best source of potable water on the island. They are capable of drilling between 60 to 80 wells per province annually, if funding levels permitted. Their experience has shown that roughly 30% of exploratory wells (in barangays without a known deep water aquifer) are dry and another 20% produce water unfit for drinking due to high chemical content of other unsatisfactory properties.

Of the 800 deep wells, BPW expects to drill from its own sources of funding over the next five years, at least 20% or 160, will be placed in the barangays targeted by this project. This project will fund the drilling of another 400 deep wells in the target barangays. Of the 560 total, at least 280 can be expected to produce water satisfactory for household use, and these will be expected to serve an average of 25 households each, or a total of 7000 households.

To achieve the purpose of enabling 60% of the project households to utilize waste disposal facilities of acceptable quality, the project will require the construction of 40,000 water-sealed toilets. The Regional Sanitary Engineer estimates that only 15% of the households in the depressed barangays in Panay have excreta disposal facilities that meet minimum sanitation standards. If the target output will be realized, 80% of the project households will have waste disposal facilities of acceptable quality. It is believed, however, as borne by previous experiences in this country, that inspite of an aggressive Information-Education-Communication program, 25% of those who own toilets in the rural areas will not be using them.

### 3. Botica sa Barangay (Village Drugstores)

The Philippines, historically, has been dependent on Western medicine

for the treatment of illness. The cost of medicines and drugs used for the treatment of disease have become primary reasons for the inaccessibility of modern medical care to the poor. There is enough documentary evidence to show the inability of medical professionals to care for the sick because of the patient's inability to buy prescribed drugs or the shortage of their supply.

With its intention to make modern medical care more accessible to the rural poor, the PUSH Project will provide assistance in the organization of village drugstores which will enable project barangays to have within their reach a more adequate supply of commonly used drugs at a price that they can afford.

The village drugstores envisioned for PUSH will be owned, operated and managed by the barangay itself. Under the leadership and initiative of the BHW, the barangay will develop its own accounting, pricing and resupply system and arrangements for the custody of the drug supply. The Rural Health Units will provide continuing technical supervision in the process, especially on the nature of the drugs that the barangay need to stock. After showing evidence that the barangay has organized itself, a \$100 worth of drug supply will be provided by the project to the barangay as a starting capital. Depending on the preferences of the people, a small mark-up may be charged on the purchase cost of the drug to cover operational expenses and to generate funds to finance other community health projects. A total of 600 of these drugstores will be organized and stocked under this project.

#### 4. Rural Health Units

An estimated 100 Rural Health Units in the four provinces in Panay will be supplied with vaccines in support of the DPT and BCG immunization drive under this project. Anti-TB drugs will also be supplied for the treatment and control of tuberculosis in the project areas.

#### 5. Provincial Health Laboratories

Four Provincial Health Laboratories, one in each of the four Panay provinces will be equipped to perform such project support services as water analysis including bacteriological examination and sputum examination for the early detection of tuberculous cases.

#### 6. Barangay Nutrition Outreach Services

With the BHWs in place and in coordination with the Philippine National Nutrition Program, this project will establish a total of 600 barangay nutrition outreach service points, which will be expected to provide

nutrition services and commodities to an estimated 10,000 malnourished children.

### 7. Barangay-level Family Planning Supply Points and Services

With the efforts of the BHWs and together with the National Family Planning Outreach Program, this project will establish a total of 600 barangay-level Family Planning Supply Points and Services. The services will include the dissemination of Family Planning information, motivation of potential contraceptive users, resupplying of current users and referral services, which are required in order to achieve the purpose of increasing the contraceptive prevalence rate from 23 to 38%.

Table I below presents a summary of the PUSH Project Outputs.

#### Project Inputs

A total funding input of \$9.7 million is required to achieve the desired outputs in the 5-year implementation of the project. The funding requirement will be derived from the following sources:

USAID Loan	-	\$ 5.4 M	(56%)
USAID Grant	-	.3 M	( 3%)
GOP Counterpart	-	3.0 M	(31%)
Beneficiary Counterpart	-	<u>1.0 M</u>	<u>(10%)</u>
		\$ 9.7 M	(100%)

Table 2 below summarizes the allocation of the financial input for the different components of the project. The Financial Section and the financial tables in Annex B of this Project Paper provides a more detailed discussion on the budgetary requirements of the project and the bases of the cost estimates. An estimated \$.509 million worth of PL 480 food commodities coming from the National Nutrition Program, which will be used in this project, is included as a non-additive component in the financial plan.

**TABLE 1      Project Outputs  
                  PUSH Project**

<u>OUTPUTS</u>	<u>M a g n i t u d e   o f   O u t p u t s</u>					<u>TOTAL</u>
	<u>Year 1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	
1. Environmental Sanitation						
Drilled Deep Wells	112	112	112	112	112	560
Driven Shallow Wells	52	154	254	300	440	1200
Improved Dug Wells	104	412	866	1208	2810	5400
Water-sealed Toilets	966	3732	8298	12732	14272	40000
2. Barangay Health Workers Trained, equipped and deployed	50	100	150	150	150	600
3. Barangay Drugstores stocked	50	100	150	150	150	600
4. Rural Health Units supplied vaccines and TB drugs	100					
5. Provincial Labs upgraded	4					
6. Malnourished Children pro- vided Nutrition Services and commodities	400	800	2000	2800	4000	10000
7. Barangays provided family planning supplies points and services	50	100	150	150	150	600

**TABLE 2** Annual Cost Estimate Summary by Major Project Component (Inputs)  
**PUSH Project (\$1000)**

<u>Project Component</u>	<u>Year 1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>TOTAL</u>
1. Environmental Sanitation	405	519	689	836	1075	3524
Drilled Deep Wells	(361)	(361)	(361)	(361)	(361)	(1805)
Driven Shallow Wells	(10)	(29)	(47)	(56)	(82)	(224)
Improved Dug Wells	(12)	(46)	(97)	(135)	(315)	(605)
Water-sealed Toilets	(22)	(83)	(184)	(284)	(317)	(890)
2. Barangay Health Workers	58	116	203	298	384	1061
Training	(44)	(62)	(82)	(98)	(106)	(392)
Salaries	(14)	(54)	(121)	(200)	(278)	(669)
3. Equipment and Supplies	478					478
4. Project Support Staff	66	66	66	66	66	331
5. Consultants	18	28	28	28	66	168
6. Participant and Project Management Training	33	30	12			75
7. GOP Administration and Supervision	132	175	225	231	238	1001
8. Rent and Utilities	14	14	14	14	14	69
Sub-Total	1204	948	1237	1473	1843	6707
Contingency	181	142	186	221	276	1006
Cost Escalation	128	158	320	526	830	1962
<b>TOTAL</b>	1513	1248	1743	2220	2949	9675
(PL-480 Commodities)	(19)	(68)	(117)	(151)	(154)	(509)

NOTE: Figures may not add to totals due to rounding. See tables in Annex B for more detail.

## Relation of PUSH Project to Other Related USAID-Supported Projects

### 1. Water Projects

The water supply component of the PUSH Project aims to provide more convenient and adequate water supplies to clusters of households in underdeveloped and depressed rural communities. Each water facility that will be constructed will cost between ₱1,000 to ₱24,000.

PUSH will not duplicate the Barangay Water Project which targets bigger water systems costing ₱20,000-₱300,000 and servicing up to 5,000 population per system. The BWP requires the undertaking of thorough financial and technical feasibility studies, the organization of water cooperatives and the conduct of water systems and cooperative management training. The water projects of PUSH, on the other hand, will be put up in areas where big water systems are non-feasible. Nevertheless, a great deal of complementation and mutual reinforcement is expected to take place should the PUSH and BWP find themselves near each other.

The USAID-supported Local Water Utilities Administration (LUWA) Water Project is designed for large water systems intended for cities and big municipalities.

If a community should develop a plan for water supplies larger than stated above for PUSH, consideration should be given to funding it from the Barangay Water Project, after coordination with the Water Resources Development Staff at the provincial level. This Water Resources' Development Staff will be the source for guidance, technical expertise and the means for avoiding duplication of effort among the various water projects planned for a given area. These water projects should be viewed as complementary and linked by provincial and regional planning resources to assure maximum benefits from the resources provided by national, local and international agencies.

### 2. The National Nutrition Program

This project does not in any way intend to circumvent or replace the Philippine Nutrition Program coordinated by the National Nutrition Council. It is believed that with the efforts of PUSH will enhance the attainment, or even exceed, the goals set by the National Nutrition Program in Panay.

The National Nutrition Council, together with the Cebu Institute of Medicine and with USAID assistance, has completed operational research work on the subject of primary health service delivery through the use of indigenous workers. Through this research, it has developed a Training Manual for use by BHW trainers and a manual for use by BHWs in the field. These will be important resources in the training of BHWs and may serve as models for the development of the training program of PUSH.

The USAID-supported Philippine Nutrition Program is currently reaching 45,841 malnourished infants, pre-schoolers and pregnant and lactating mothers who are recipients of PL-480 Title II commodities. The School Nutrition Program is reaching 127,441 grade schoolers with its nutribun project. It is believed that with the presence of the BHWs, an additional 10,000 malnourished beneficiaries will be reached by the National Nutrition Program in the 600 barangays targetted for PUSH in Panay.

3. The National Family Planning Program

The PUSH Project will not be duplicating or competing with the USAID-assisted GOP Family Planning Program. As in the case of nutrition, BHWs will function primarily to enhance the attainment of, or even exceed the family planning goals set for Panay. The BHWs will perform a supportive role if the family planning program is already established in his barangay. They will take the initiative in organizing one, in coordination with the Family Planning Outreach Worker, if none has been established yet. BHWs who will serve as Barangay Supply Points will be preparing and submitting required reports to the FTOWs. Contraceptive supplies and IEC materials that will be used in conjunction with BHW family planning activities will be provided by the Provincial Family Planning Office. As stated earlier in this paper, the utilization of BHWs by other agencies will be coordinated at the municipal level through the Rural Health Unit, which will be formulating the BHW's monthly work program.

4. Department of Health Program

The Philippine Department of Health is one of the leading proponents of the concept of utilizing lower-category health manpower for the delivery of basic health services in the barangays. The IBRD-assisted Restructured Rural Health Care Delivery Project, which called for the training and deployment of midwives to man Barangay Health Stations servicing 5 barangays each, had been considered successful. As a follow-on project, the DOH is presently laying out plans for a nationwide training and deployment of BHWs.

In the preparation of this Project Paper, the PUSH Project Development Team had worked very closely with the DOH Project Management Staff which administers the IBRD Project in order to effect a synchronization of micro and macro-level plans. The DOH will be closely monitoring the PUSH Project because its implementation will provide valuable experiential information necessary for the planning of a national BHW program. This project has been designed with linkage points open to a possible broader DOH program.

## II. PROJECT SPECIFIC ANALYSIS

## 1. SOCIAL ANALYSIS

The following pages represent a summary of a larger report covering social issues and the PUSH Project. As such, this summary only highlights sections of that report considered most pertinent to the Handbook 3 requirements. For more detailed information, the original social soundness report can be consulted (copies provided to Washington).

Panay Island, the sixth largest island in the Philippines, comprises four provinces - Aklan, Antique, Capiz, and Iloilo. The island is made up of broad lowland areas, coastal and inland, and mountainous areas in the center of the island. The climate consists of pronounced wet and dry seasons. Fairly rich in natural resources, Panay has good agricultural land, fishing grounds and areas for aquaculture, an unexploited supply of minerals and rich forest resources.

Basically Malayan, most of the present inhabitants of Panay, or Panayanon, are an admixture of different racial strains and cultural influences, not radically different from other Filipinos. Some significant social differences do appear, however, between highland and lowland populations. Over 80% of the population reside in the rural areas where there is a slightly larger proportion of males than females as compared to the urban population.

Panay is plagued by communicable diseases, particularly tuberculosis, broncho-pneumonia and gastro-enteritis. It also has a high rate of malnutrition among the pre-school children (85%). There is an uneven distribution of health manpower and hospital facilities that tends to favor the urban areas. The overall picture for health on the island strongly suggests that in the remote areas, there is a tremendous need for improvements in environmental sanitation, safe water supply, and better health care.

To a larger degree, the same health conditions and needs hold for the PUSH target population, who live in the 31 most depressed municipalities of Panay where the need for adequate and safe water, sanitary waste disposal and basic preventive and curative health services is most evident and likewise expressed by respondents.

### Socio-Cultural Feasibility

#### a. Practices, Beliefs, and Values pertaining to Health and Sanitation

This section serves to highlight practices, beliefs, values and needs pertaining to health and sanitation in Panay and, where data are available, PUSH areas. The purpose is to demonstrate the compatibility of the PUSH Project with these factors.

In studying the socio-cultural feasibility of any health project, one of the most important considerations is that of the existing health-related practices and beliefs. There are some important questions that must be considered in planning the introduction of health workers into rural areas. (1) Who are the traditional health practitioners and what services do they render? (2) Why do many barrio people continue to use their services even if modern health facilities are available to them? (3) What are some of the traditional beliefs and health practices that discourage people from using modern methods? (4) Can traditional practitioners be converted to be supporters of the BHWs instead of potential competitors? (5) Is the lack of health service utilization just a function of its non-availability; is it economic or cultural? (6) What are present health personnel's attitudes about traditional practitioners? (7) What are the techniques needed to achieve PUSH Project objectives in the barrios with minimal sociological and cultural disruption? In the absence of such comprehensive studies, some insights can be gained through case studies of groups on Panay and other places. Barrio Tuburan, Pototan, was studied extensively by Dr. F. Landa Jocano, noted Filipino anthropologist.<sup>1/</sup> Tuburan is described as a typical lowland Filipino community not too far from Iloilo City and therefore relatively progressive. They have rather definite traditional beliefs about pregnancy, delivery, and post-natal care which deviate from modern methods. For instance, a pregnant woman avoids eating eggs because it is believed that her blood will dry up (mahubsan) during delivery. There is a long list of taboos involving what the pregnant woman wears, where she goes and what she participates in.

Likewise, there are practices in childbirth done by the partira (hilot) which are of interest to health workers. One such practice is that of applying burnt carboard ash or burnt ginger to the umbilical stump as soon as it has been cut. Post-natal care is administered by the partira (midwife) until the mother and child are declared strong enough and out of danger. Ginger is often pinned on the baby's dress before taking it outside to discourage the aswang and other evil spirits.

The Regional Training Center for Health has a compilation of information about the health beliefs and practices in the four provinces in Panay. It is interesting to note how similar many of the beliefs and practices are in the four provinces and also how closely they resemble observations made by Jocano. For illustrative purposes, let us

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<sup>1/</sup> F. Landa Jocano, Tuburan, Quezon City; UP-NSDB Integrated Research Program, 1976.

examine the procedure followed during childbirth in the rural areas: When the woman begins to go into labor, the husband usually calls for the local hilot (midwife) and the two of them become essentially responsible for the woman while she delivers. The hilot engages in massaging the woman's abdomen to insure that the baby is delivered in the correct position and usually the massage is done with substance like egg white or oil. When the child is delivered, the hilot again massages the mother or applies certain kind of leaves to the abdomen or genitaea to aid in the rapid expulsion of the placenta and to insure contraction of the uterus to reduce hemorrhage. The umbilical cord is cut with a bamboo knife, and cut quite far from the navel. Ash of some kind, varying from location to location, is applied to the wound. The placenta is buried or wrapped, following carefully prescribed rules, to protect the life and health of the new baby. The new infant is usually given a preparation of boiled leaves to induce vomiting or bowel movement designed to purge the digestive system of undesirable contents ingested while in the uterus. The mother in turn is forbidden to bathe for a certain period of time (sometimes up to one month) and immediately after delivery or within several weeks is given the "tu-ub" treatment which consists of sitting directly over smoke or hotpacks intended to prevent a relapse (bughat). Thereafter, certain rules are followed regarding the dressing of the new infant, diet for the mother to stimulate lactation and so on. Many of the traditions related to infant care are motivated by the desire to ward off evil spirits and the aswang who finds young infants very attractive prey.

Anyone attempting to work in the area of nutrition education must be sensitive to the "cultural value" of certain foods and eating practices. In many cases, the difference would simply be in the method of approach. For instance, Ester Cabotaje, in her research on food and eating practices,<sup>1/</sup> found that using "low-cost" as a rationale for promoting certain kinds of foods served merely to confirm the "low-status" of that particular food item. An alternate selling point, such as emphasizing its blood strengthening value, might effect a more rapid acceptance. The BHW can quite easily adapt to this approach.

Some superstitions have implications on health matters. For instance, folk belief regarding the sacredness of natural springs, might impede the construction or improvement of the water supply system. In Antique, according to municipal and provincial officials who served as impromptu informants,<sup>2/</sup> the bare people believe that natural springs are habitations of spirits. To use these springs for human

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<sup>1/</sup> Ester Manuel Cabotaje, Food and Philippine Culture, Centro Escolar University, 1976.

purposes, it is necessary to ask the permission of the spirits and to request them to guard the springs against ill use and/or to move to another place. The request takes the form of a ritual, with pagan and Christian strains, and officiated by the barrio babaylan. No rural folk, according to the informants, would touch or use the spring unless an accepted ritual is performed. The BHW would know what these superstitions are and how to deal with them without alienating the barrio folk.

Some of these practices, such as applying ash to the umbilical wound, could be dangerous medically since they promote infection, while other practices are of no particular consequence such as pinning ginger to the dress or performing a ritual before using water from a spring. Many modern health workers believe that only obviously dangerous or harmful traditional customs ought to be changed, helpful ones encouraged and everything else left untampered.<sup>1/</sup> The reason for this is that modern health programs are more apt to be integrated into existing cultural and social patterns if they cause minimal social disruption and fit well into the environment.

Being indigenous to the barangays, the BHWs will not find it difficult to make decisions as to which of the traditional practices or beliefs are best left as they are, which need to be changed to prevent death or disease, and how best to persuade the people to adopt the best from both systems. Reasonable decisions by the BHWs will depend in part on the attitudes of the trainers themselves. Many highly-trained personnel and other professionals have great disdain for all traditional medical practices and beliefs because these seem to be "Superstitious", "primitive", and "unscientific". The BHWs will be in the odd position of being stuck between two worlds. Many of them will no doubt be fairly strong believers (admittedly or not) in traditional methods, but will receive another kind of awareness after the training program. It is not unreasonable to assume that the BHWs of PUSH will encounter serious obstacles if they are not sensitive to this tension between two worlds. If they insist on a revolution in thinking of barrio people, based on what they themselves have learned in training, success will be limited. On the other hand, if the BHWs can assimilate their new knowledge and methods into existing cultural patterns, the chances of success will be increased. Fortunately, the BHWs, being residents of the barrios in which they will work, will already be familiar with local customs and beliefs. It is imperative that the training program help the BHW to integrate the two worlds successfully. Whether or not the BHWs can enter their communities with a respect for both systems and manage to most realistically and most beneficently utilize methods from both will be one of the greatest challenges of the training program.

1/ David Morley, Pediatric Priorities in the Developing World, London: Butterworth & Co. Ltd., 1973.

As to the existence of the local healers, it is well for PUSH Project planners and trainers to take note of Jocano's observations:

There are a number of reasons why working with local healers instead of competing with them is good health-innovation strategy. First, there is a strong liaison between folk medicine and the local culture, and the folk healers function as the link to both. Second, by recruiting the healers into service, training them as auxiliary health workers, the health innovators will eventually be enabled to take over their liaison function and become the link between the local culture and modern scientific medicine. And third, seen in the context of the cultural orientation in Bay, the healers will be part of community life for a long time to come.

These facts have been generally ignored in the past in dealing with health care delivery to rural areas. In theory, the PUSH project of fielding BHWs could provide the perfect opportunity for testing this approach to health care innovations.

As has been seen above, the people of Panay display a sizeable collection of traditional beliefs and preconceptions concerning health and practices which can affect the health status of the individual. These traditional health beliefs represent part of the social milieu within which the project must function. Such beliefs are already established and have a "built-in social soundness". Because of this fact, the traditional health beliefs must be compensated for by the project and not just dismissed as curious superstition. The BHW will face these beliefs everyday. It is recommended, therefore, that the BHW, at the very least, work within this belief system whenever possible.

b. Traditional Health Practitioners

A natural extension of the traditional health belief system is a body of health practitioners who are specialized within that system. As was seen above, traditional health practitioners do exist in the project area and continue to occupy significant roles for certain health functions. BHWs must work with this group of health practitioners who have hundreds of years of social acceptance to lend them legitimacy.

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1/ F. Landa Jocano, Folk Medicine in a Philippine Municipality, National Museum Publication, 1973.

In some instances, traditional health practitioners may even be preferred by the rural populace. In order to reach a larger population, BHWs will have to work with these individuals who already have a clientele and not against them. Some have even proposed that traditional health practitioners be recruited as BHWs.

c. Local Leadership Systems

In order to be effective at the local level, the BHW must work with the established leaders within the barangay. In many instances, that will mean working with barangay captains. Their support is very important for the success of any individual BHW. However, the leadership systems of the barangay are not always homogenous. Project implementors, then, should be prepared to adapt their efforts to unique organizational characteristics in barangays which vary. The Social Analysis appendix also describes that it is important for BHWs to avoid conflict with barangay residents by following themselves the decision-making and leadership roles which the people have come to expect.

d. Local Organizational Units

The most consistent and effective organizational unit at the local level is the extended family, particularly in rural areas. One highly regarded value exhibited by members of an extended family is the promotion of family welfare and health. Because of this pattern, the BHW should devote a large share of his or her efforts upon the family unit, rather than upon the individual.

f. The BHW and the Barrio People

Effective interaction between the BHW and the local people will depend on who the BHW is, how he was selected and how effectively the BHW exercises leadership. DLGCD people seem to believe that barrio captains themselves might make, in some cases, good BHWs, particularly if the captains are women. They stress the importance of selecting someone in the community who already has the respect and trust of the people: a more affluent old immigrant in the barrio, a woman with higher education than the rest, one who owns a bit of land, etc. This contention from DLGCD supervisors is supported by studies such as Tiglao's on health practices in a rural community.<sup>1/</sup> Leaders and those to whom progress is accorded are usually members of the community who have a higher education, are somewhat economically stable and who have somehow demonstrated their civic-mindedness.

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1/ Teodora Tiglao, Health Practices in Rural Community, PACD-UP Project, 1964, p. 142.

Another critical point in the relationship between the BHW and the people will be the self-concept of the BHW in his role. If the BHW is obviously feeling superior and not demonstrating proper humility, he will be quickly censured by the people. The BHW will have the best relationship if he always respect the ideas and ways of the people around him and does not treat anyone as inferior. For the 'change-agent' to be liked and accepted by the people is a very important ingredient in Philippine culture.

One of the points that must be considered in discussing the relationship between the BHW and the community is community expectations. Unfortunately, many programs for the rural areas, both government and private, have promoted the "dole-out" mentality among the people. Many people therefore expect that assistance from the outside will come in the form of free food commodities or other forms of material give-aways. Community cooperation has been sought with these dole-outs as leverage, and very little has been done to encourage the sense of independence and pride in accomplishment. Great care must be exercised to avoid making the BHW another dole-out agent. The implementation strategy requiring barangay counterpart guards against this danger. Much will depend on the BHW's own attitude and perception of himself; if he always talks about how advancements can be made through community effort and assumes leadership in demonstrating how this is possible, then chances are better that the people will respond in this manner.

The BHW should always share all information with the people. The purpose and goals of any particular community endeavor should be discussed thoroughly with the people and, whenever possible, it should be the people themselves who arrive at decisions about how to accomplish certain projects, what kinds of projects to undertake and so on. This process will help to insure that the people's wishes and needs predominate and will leave no doubts about the motivation and intentions of the BHW.

#### Spread Effect - The Diffusion of Innovation

News of the benefits and progress of PUSH can probably be diffused in a number of ways. Leadership authority patterns from the national level to the barangay level will serve to spread PUSH ideas both vertically and horizontally. Mobility of the population will also serve to diffuse ideas, i.e., migrations of students, workers, and visitors, etc., for professional or social reasons. Dissemination should include barangay officials, popular leaders, and the mass media.

Some spread effect of information can also be expected from the informal networks of social gatherings. These informal networks should be most

important for the average intended beneficiary. It should be remembered, however, that the spread of information works both for in the dissemination of favorable and unfavorable impressions of the project.

Since PUSH is an improvement over previous projects on similar concerns in Panay, it has greater chances of spreading and producing an impact on the population. To facilitate the spread effect, project successes should be publicized and recognized, constructive competition encouraged between barrios and individuals, and the people kept continually and maximally informed on developments.

### Social Consequence and Benefit Incidence

#### a. Social Consequence

Eventually, all households and all occupational groups are planned to be participants and will benefit from the component sub-projects: water supply, waste disposal, immunization and disease control, first aid, dental and medical care referrals, food production, family planning and nutrition.

It is reasonable to expect that those who can afford will be able to install pumps in their homes ahead of the rest. Nevertheless, the poor can get supply from a rich neighbor, and shallow wells need not be phased out yet if close to the houses of the poor. The affluent will meanwhile also share their water with poor relatives and those with whom they have alliances. The same thing may be said of toilet construction--those who can afford it will be the first who will build them, and thereby set the model in the community, although it is just likely that with the influence of the BHW, some of the poor will also want to build.

All individuals of all ages, sexes, and social classes will have the opportunity to benefit from the project. All women and older children will benefit from all the services: as customary water-carriers, they will no longer carry water far from their homes. Cooking, laundry work, and watering the backyard garden will take less time and energy. Pregnant mothers will benefit particularly through pre-natal check-up, nutrition education, and immunization. Infants and pre-schoolers, in particular, will benefit greatly from the project through immunization, food production, prolonged breast-feeding, safe water supply, proper waste disposal, effective system of referrals.

All adults as members of the barangay will gain from the experience of identifying their concerns and problems, proposing projects in relation to these concerns and implementing and evaluating these projects.

The barangay government will gain significantly from the successful

management of PUSH by the BHW. Different groups (PTA, KB, etc.) will become involved in water supply and cooperatives management training, others in helping organize schedules or motivating others to get things done. Exposure to good planning, organization and management will help them become better managers in their own fields.

Exposed to the fact that organized cooperation is one cause of the success of some projects for the public good, the people may begin to see the value of cooperation. More important, because they experience the benefits accruing from their own efforts, they become even more self-reliant.

The PUSH Project itself may turn out to be a development program by the women and for women with additional benefits to the entire community. BHWs could for the large part be women since the emphasis of most of the work is directly toward other women and small children. For instance, nutrition education (supplementary feeding and breast-feeding), immunizations for infants and pre-schoolers, reduction of malnutrition in pre-schoolers, home gardens, care in pregnancy and delivery are the women's concerns. Men might be handicapped in terms of credibility in such matters.

The most immediate target groups for the BHWs are the women and small children, who are generally available and at home. Improved nutrition, environmental sanitation, clean water supply, and reduced infection will have the greatest impact on the pregnant women and children and will affect all women who are taking care of infants or children. If piped water systems can be achieved, the women will be benefited by less work load since it is usually the women who are responsible for fetching water. Women who are freed from the physical depletion syndrome caused by repeated and ill-spaced pregnancy will be in better health to participate in more self-fulfilling activities. Illness of any family member also gives the most burden to the women, a burden that would be lightened by improved health conditions.

b. Benefit Incidence

(1) Access to Resources and Opportunities

It is well accepted that malnutrition, family size, infectious diseases, parasitism, and poverty are synergistically related to one another. One condition builds on another, is reinforced by another and so on. For example, under effective barangay leadership with BHW coordination, adequate water supply would result in improved sanitation and greater vegetable production. Improved sanitation would mean lower incidence of communicable diseases and parasitism. This would lower morta-

lity rates and also improve the state of community health.

It is possible that the more affluent will be among the first to participate in the project because of higher levels of education leading to a recognition of health needs and because their history of risk-taking may make them more receptive to new ideas. Having the more affluent families taking the lead in rural development is not uncommon. In fact, these families can serve as models for emulation and become sources for encouragement to others. Perhaps, most important if the more affluent families take advantage of the project's benefit first, such an action should not diminish the opportunities for the less affluent.

## (2) Employment

Construction of the barangay water system and toilets would provide a few technical jobs initially. With more households improving their water supply and constructing toilets, additional jobs for carpenters and laborers will be available. Also, the affluent will hire workers; the poor may benefit from this employment. Concurrently, there will be increasing demands for construction materials and bathroom fixtures. Maintenance and improvement of the water systems and toilet facilities would ensure continuing income for already those engaged in the work on a full-time and part-time basis. Other employment opportunities will be provided by industries requiring adequate water-aquaculture, rattanraft, shellcraft, hollow-block making, confectionery.

With time gained from lower incidence of illness and from cured TB patients, all due to better nutrition, better sanitation, immunization, medical care, additional person-hours will be available for the learning of income-generating skills. Human resources for income-generating activities will likewise considerably increase. The income level of the community may then rise.

## 2. ENVIRONMENTAL ASSESSMENT

There should be a net beneficial effect on the environment, once the labors of the BHW are realized. Interventions to improve the water supply, to provide for hygienic disposal of human and other waste, health education for village residents are examples of the benefits to accrue to the environment.

Provision has been made for the inspection and approval of all construction plans by the Provincial Engineering Office to assure that construction projects will be structurally sound and follow prescribed standards for safety

and hygienic design. Impact on the environment is minimal, in any case, considering the limited size and scope of these small water and sanitary toilet facilities. There are no major infrastructure changes funded by this project, such as highways, dams, hydroelectric stations, irrigation systems, etc. Therefore, the Initial Environmental Examination (IEE) should be declared "Negative Determination" with no environmental assessment required.

ANNEX C describes the Initial Environmental Examination as presented in the PRP.

III. ECONOMIC, TECHNICAL AND  
ADMINISTRATIVE FEASIBILITY

## I. ECONOMIC ANALYSIS

### Summary and Conclusions

The cost benefit analysis reported below indicates that, aside from the humanitarian benefits of improved health and nutrition status among the poorest 20% of Panay Island barangays, this project can also be expected to produce significantly positive economic benefits for the target population and, through them, for society as a whole. Incremental project costs are related to quantifiable benefits over 20 years resulting from reduced medical costs, nutritional losses and workday absenteeism, labor productivity gains and increased returns to education attributable to improved health and nutrition status. The estimated benefit/cost ratio is 2.21. The Net Present Value of the Project at a 15% rate of discount is \$7.8 million (P58.8 M). The Internal Rate of Return (IRR) is 33%.

A sensitivity analysis assumed all costs increased by 20% and all benefits decreased by 20%, but the IRR remained high at 23% and the benefit/cost ratio was 1.48, with the Net Present Value dropping by about half to \$3.7 million (P27.7 M).

The project is also considered cost-effective in that it provides the desired services and outputs at less cost than effective alternative approaches.

While direct employment effects are small, a gradual improvement in labor productivity due to improved health and nutrition status among workers should benefit employers, the self-employed, workers paid on a piece-work basis, and ultimately the whole economy.

The real income of target barangay families will rise directly due to reduced medical costs and nutritional and workday losses and also, for many, due to increased labor productivity attributable to better health and nutrition status. In addition, the society as a whole can expect a small increase in future returns to current investment in education attributable to better health and nutrition status of schoolchildren.

### Cost-Benefit Analysis

It is normally difficult to quantify the benefits of health-related and other social service projects with any degree of accuracy, and for this reason, a cost-benefit analysis is seldom attempted for such projects. Significant though the benefits may be to the beneficiaries and even to the society as a whole, the inability to measure them in dollars has often relegated social service projects to a vague "humanitarian" category and put them at a disadvantage in the competition for budgetary and foreign donor support, in a world where an increase in "GNP per capita" is all too often taken as the ultimate measure of development progress.

Recent research has offered some clues, a few of which are cited below, as to how certain health and nutrition project benefits might be at least roughly quantified for a targeted beneficiary group. Starting from the conditions of poor sanitation and serious malnourishment that exist in much of rural Philippines, some of these benefits appear to be rather significant in real economic terms as well as in humanitarian terms.

The analysis reported here is not meant to be a definitive cost-benefit analysis that might withstand the close scrutiny of professional economists in every detail. It is instead an initial attempt by this Mission, utilizing the limited time and knowledge available to it for this effort, to show that the health and nutrition interventions envisioned by this project proposal are expected to result in positive economic benefits of a fairly significant total magnitude relative to its cost, in addition to the more obvious and widely expected humanitarian benefits. The Mission would welcome professional comment and constructive criticism of this analysis, as it will be attempting similar efforts again in the future; and it would like to encourage continued research into the matters discussed here.

The more conventional discussion of cost-effectiveness considerations appears below, immediately following this section.

a. Costs

Total incremental project costs were included, consisting of the entire AID grant and AID loan, estimated PL 480 commodity costs, expected beneficiary contributions to well-drilling, well improvements and toilet construction, and that portion of the GOP and local government contribution supporting participant training, BHW salaries and well-drilling. Imputed GOP administration and supervision costs, representing about 14% of total project costs, were excluded as not incremental costs to the economy. Project costs include the 15% contingency factor, but not cost escalation, thus abstracting from monetary inflation. Foreign exchange costs were converted to pesos at a shadow exchange rate of P9.0/\$, as discussed below, except for PL 480 commodities which are converted at P7.5/\$.

BHW retraining costs are continued for 3 years after initial training. Other costs recurring annually after 1982 are BHW salaries and repair and maintenance costs of hand-operated pumps, estimated as 5% of initial cost annually.

A more detailed discussion of costs is found in the Financial Plan Section of this PP.

b. Estimation of Benefits

While it is not possible to quantify all the benefits accruing to the PUSH Project, a sufficient amount can be estimated to justify the project on purely economic grounds. These benefits are drawn primarily from improved health and nutrition status which the project is expected to bring to fore. Quantifiable benefits which can be identified include those resulting from a reduction in the incidence of parasitic infestation, intestinal mal-absorption, enteric diseases and tuberculosis and the observed effects of nutrition and health on productivity and learning.

As discussed in previous section, the goal of the PUSH Project is to improve the health status of at least 600 depressed barangays in Panay Island. These improvements are reflected in terms of reduction in the incidence of tuberculosis, tetanus, and gastro-intestinal infections; a 25% reduction in the infant mortality rate; the reduction of the crude birth rate from 31% to 24 per thousand; and significant reduction in second and third degree malnutrition among pre-schoolers.

Reduction in Incidence of Intestinal Parasitism

Available health information indicates conditions in Panay are conducive to a high incidence of parasitic infestation. For instance, only 35% of the depressed barangay population in Panay have access to adequate and safe water. Similarly, only 35% of households have toilet facilities of which only 15% meet minimum standards for health and sanitation. The Food and Nutrition Survey undertaken in Panay in 1975 consequently reports an average parasitic infestation rate of 72.4% of the population.

Benefits associated with a reduction in the incidence of parasitic infestation can be quantified. It has been estimated that the human weight loss due to hookworm infestation is equivalent to one pound of rice per man per month, or 5.44 kilograms per man per year.<sup>1/</sup>

Given the population of the project influence area and the infestation rate reported by the 1975 food and nutrition surveys, an equivalent of 1,433 MT of rice valued at P4 million is computed as lost annually due to parasitic infestation alone. At constant 1977 prices this loss adds up to a total of P94.8 million (\$12.6M) over a 20-year period.

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1/ Herbert Pollock, Disease as a Factor in World Food Problem, Research Paper, p. 378 (Revised), Institute for Disease Analysis, April 1968, discussed in Dr. Lee Howard, Key Problems Impeding Modernization of Developing Countries, the Health Issues, Office of Health, TAB, AID/W, December 1970, pp. 28-9.

With project health activities, a significant improvement in environmental conditions is expected. The construction of 40,000 water-sealed toilets, completion of 1,200 shallow-driven and 280 productive drilled deep wells, and the improvement of 5,400 dug wells are anticipated to reduce considerably the infestation rate and nutrient losses associated with parasitism.

Under assumptions of a regressive 10% reduction in incidence per year, the loss averted due to the project is estimated to total P56 million or a discounted present value of P12.3 million (\$1.6M) over the 20-year period analyzed. (See Table B28, Annex B)

#### Reduction in Incidence of Intestinal Mal-Absorption

Research studies have indicated a significant food energy wastage occurring due to failure of food absorption by the intestine. "In contrast to energy loss from infection following absorption of food into the body, the problem here is food waste from causes which preclude or inhibit absorption of ingested nutrients from the intestinal tract... for a variety of reasons, one of which is a barrier which develops in the intestinal wall following years of exposure to unsanitary environment."<sup>1/</sup> The same study suggests that calorie and protein loss due to mal-absorption to be at least 10 to 15% of food intake.

Benefits accruing from the reduction of the incidence of mal-absorption in terms of food loss averted are quantifiable. Preliminary results of the 1975 Family Income and Expenditures Survey conducted by the NCSO report food expenditures per family at P2,823.6 in those years for the rural areas of Panay. This is inflated to 1977 prices at P3,203.00. In the absence of data on the incidence of intestinal mal-absorption, the rate of parasitic infestation is applied since both result from similar causes. With these parameters and the adoption of a loss factor equivalent to 10% of the value of food expenditures, the resultant food loss is estimated to amount to P14.9 million in 1978 and P364 million (\$48.5M or P120.3 million if discounted at 15%) for the 20-year analysis period.

With a more sanitary environment, it is expected that the incidence of intestinal mal-absorption will correspondingly decline. Under a similar assumption of a regressive 10% decline in incidence annually as a result of the delivery of health services under the project, particularly the provision of safe water and sanitary toilet facilities, losses averted are estimated to total P214.5 M (\$28.6M) over the 20 years analyzed, for a total present value of P47.1 M (\$6.3M) discounted at 15%. (See Table B29, Annex B)

<sup>1/</sup> Dr. Lee Howard, op. cit., p. 29

### Reduction in the Incidence of Enteric Diseases and Tuberculosis

Research in El Tor in Negros Occidental has shown that in pilot barangays, the provision of sanitary toilet facilities and improved water supply has resulted in a 75% decrease in the incidence of El Tor. A similar decrease is assumed to occur for other enteric diseases which, like El Tor, arise primarily from poor environmental conditions. A reduction in the incidence of tuberculosis is also expected with improved nutrition and the availability of services for early detection and treatment.

Health statistics released by the Disease Intelligence Center of the Department of Health reveal high incidence rates for both tuberculosis and enteric diseases in Panay. The incidence of enteric diseases in 1975 was reported at 318 per 100,000 population while that for tuberculosis was 204 per 100,000 population. Information from the same source, moreover, cites tuberculosis and enteric diseases as two major causes of mortality in the region.

Benefits resulting from the reduction of the incidence of tuberculosis and enteric diseases are measured in terms of hospital and medicine costs averted as well as workdays lost due to morbidity now averted. Other benefits for which an estimation was not undertaken due to data constraints include losses averted due to reduction in infant and child mortality and caloric losses due to fever averted.

On the basis of the given incidence rates, hospital and medicine costs of P50 and P280 per case of enteric disease and tuberculosis, respectively, and assumptions of 7 and 140 working days lost due to enteric diseases and tuberculosis, respectively, losses averted by the project over a 20-year period are estimated to reach a total of P12.7 M (\$1.7M), for a total discounted present value of P2.8 M (\$0.4M). (See Tables B30 and B31, Annex B)

### Increase in Productivity due to Improved Nutrition and Health

Research undertaken by the University of the Philippines, School of Economics<sup>1/</sup> and additional IBRD studies in other countries<sup>2/</sup> indicate that work output for a healthy worker might be as much as 15 to 20%

<sup>1/</sup> Barry M. Popkin, Luz E. Dullin & Susana J. de Jesus, "The Effect of Anemia on Road Construction Worker's Productivity", School of Economics, University of the Philippines, February 1976.

<sup>2/</sup> S.S. Basta & A. Churchill, "Iron Deficiency, Anemia & the Productivity of Adult Males in Indonesia", Staff Working Paper No. 175, IBRD, Washington, D. C. 1974; Darwan Karhadi & Samir Basta, "Nutrition and Health of Indonesian Construction Workers: Endurance and Anemia", Staff Working Paper No. 152, IBRD, Washington, D. C. 1973

higher than for similar workers suffering from nutritional deficiencies due to insufficient food intake or to a high wormload or a combination of both. For the PUSH Project Economic Analysis, an attempt is made to quantify the benefits of improved health and nutrition in terms of increased worker productivity.

Estimates of labor productivity in agriculture were derived using estimates of regional gross value added in Panay by the National Accounts Staff of NEDA and the appropriate value-added ratios to factor out the labor component of value-added. Labor productivity in agriculture was estimated at P1,943 in 1974 at current prices. Under assumption of constant labor productivity, this is computed at P2,283/worker annually at 1977 prices, and this value is used as a proxy for all workers in the target 600 barangays.

On this basis, the value of labor in the project area was estimated at P210 million in 1978 and growing annually thereafter at a 3% rate, corresponding to the population growth rate of 2% plus an annual productivity increase of 1% per worker.

The composite increase in productivity effected by improved nutrition and health was conservatively assumed at 10%. The approach taken in measuring productivity increases discriminated further between nutrition and health effects. Improved health was assumed to increase productivity by a possible 4% and improved nutrition by a possible 6%. Additionally, an 11-year lag was assumed for nutrition effects since the nutrition activities of the project are targeted to pre-schoolers. Project-induced productivity benefits were phased in gradually at a regressive 10% per year, as above.

Under these assumptions, 20-year benefits deriving from increased productivity were estimated at P207 million (\$27.0M), equal to a present value of P36.6 million (\$4.9M if discounted at 15%). (See Table B32, Annex B)

#### Increase in Returns to Education due to Improved Health & Nutrition

A study conducted by the UPSE<sup>2/</sup> indicated a very positive relationship between nutrition and learning and suggested a link between learning increases and increases in income levels. For the purposes of this analysis, we adopted an estimated average of 10% increase in returns to education resulting from improved health and nutrition.

<sup>1/</sup> The average annual agricultural production growth rate nationwide from 1954 to 1976 was 4.1%, so 3% is a conservative estimate.

<sup>2/</sup> Barry Popkin and M. Lim, "Nutrition and Learning: A Study of the Effects of Malnutrition Among Rural and Urban Filipino Children", University of the Philippines, School of Economics, August 1975.

Earlier estimates of social-economic rate of return to education in the Philippines range between 4% to 7% varying with levels of educational attainment.<sup>1/</sup> The PUSH Project Economic Analysis assumes a rate of 5% which corresponds to the average rate of return weighted on the basis of labor force by educational attainment.

Estimates of educational investment includes only direct costs--personal and government support for education--and excludes opportunity costs associated with higher education. Notwithstanding this downward bias on returns to education, returns to educational investment made during the 20 years analyzed were computed at P632 million, including a "salvage" value of educational investment at the 20th, corresponding to the discounted streams of returns beyond the project period for educational investments made during the project life span. Assuming a 10% increase in these socio-economic returns attributable to the project, benefits are estimated at P63.2 million (\$8.4M) or P7.44 million (\$1.0M) at a 15% discount rate. (See Table B33, Annex B)

### c. Shadow Prices

Shadow prices have been used to reflect more accurately the true value of costs to the Philippine economy. The following shadow prices were adopted.

- 1) Price of Rice - The current price of rice is considered lower than its true economic value due to the existence of price controls, price support and production subsidies on one hand, and an over valuation of the peso vis-a-vis other currencies, on the other. The Philippines has been historically a net importer of rice. It thus seems appropriate to use the long-run world market price to show its real value to the Philippine economy. The long-run average CIF price of imported rice is likely to be around \$316/MT. On the other hand, if current efforts to increase the domestic production of rice are successful, it is possible for the Philippines to become a net exporter of rice during the 20-year period of analysis and earn about \$284/MT FOB. For this analysis, the average of the two prices is used, or \$300/MT. With the appropriate shadow exchange rate of P9.0/\$ (see discussion below), the resulting shadow price for milled rice in peso terms is P2.70/kg. (\$0.30/kg.).

1/ See Special Paper No. 17 "Manpower Investment and Cost-Benefit Analysis" in ILO, Sharing in Development. A Program of Employment, Equity, and Growth for the Philippines, NEDA, 1974.

- 2) A shadow exchange rate is appropriate since the current exchange rate is maintained only with the use of import controls (via tariffs) and a high level of foreign exchange borrowing. NEDA suggests the use of a shadow foreign exchange rate 20% higher than the current official rate, or about ₱9.00/US\$. This shadow exchange rate is used for conversion into pesos of the foreign exchange component of project costs and to convert the world market value of rice into pesos.
- 3) A shadow wage rate of ₱6.00 per day is likewise adopted.
- 4) The discount rate applied to derive the present values of costs and benefits is 15%. This rate is normally used to represent the real opportunity costs of capital in the Philippines (the shadow price of capital).

d. Results of Cost-Benefit and Sensitivity Analysis

The results of the cost-benefit and sensitivity analysis are shown in Tables B-34 and B-35, Annex B.

At a 15% discount rate, the present value of total incremental costs amounts to ₱48.5 million while benefits reach ₱107.3 million. This yields a benefit/cost ratio of 2.21 and a net present value of ₱58.8 million (\$7.8 million) after 20 years. The economic benefits approach costs at the internal rate of return (discount rate) of 32.7%.

A sensitivity analysis was conducted to determine the sensitivity of the cost-benefit analysis to possible errors in the specification of costs and benefits. All costs were increased by 20% and benefits reduced by a similar 20%. The resultant benefit/cost ratio is computed at 1.48 at a discount rate of 15% and the resulting internal rate of return is 22.5%. The net present value falls to ₱27.7 million (\$3.7 million). Assuming benefits constant, costs can still be increased by 121% to arrive at a benefit/cost ratio of 1.0 at 15%. Conversely, holding costs constant, benefits can be reduced by 55% to arrive at a benefit/cost ratio of 1.0 at a 15% discount rate.

Cost Effectiveness Analysis

The cost-benefit analysis assures us that the project, at its estimated cost level, will produce sufficient economic benefits to the society to be worth undertaking. It is also believed to be cost-effective, achieving the desired objectives at less cost than effective alternative approaches.

The BHW is expected to divide his time among preventive health, nutrition population and environmental sanitation activities. One alternative would be

for each of these four activities (represented by different government agencies) to field one full-time worker for every four barangays, thereby providing roughly the same manpower per barangay for roughly the same cost. This is believed to be a less effective approach, however, since these workers would find it more difficult to achieve the same rapport with and response from rural barangay residents outside their own barangay.

Another alternative would be to recruit and train volunteer workers in each barangay to perform proposed BHW functions. While this is clearly less costly to the government than hiring full-time paid BHWs, experience has shown this approach to be less effective in terms of goal achievement, since volunteer workers must look elsewhere for their livelihood and can seldom devote the desired amount of time to their planned functions. In addition, the dropout rate of volunteers is high, thereby increasing recruitment and training costs for replacements.

A third alternative would be for each activity to recruit, train and support a paid worker in each barangay. While this approach would probably increase purpose and goal achievement rates significantly, it would be, at the same minimum salary scales, four times as expensive in terms of ongoing personnel costs. Such an expense is clearly not presently financially possible for either the GOP or local governments.

These considerations have convinced the Mission and GOP planners that this project as proposed offers the most cost-effective approach to the provision of the desired social services to rural barangay residents.

The household water facility construction component focuses on the improvement of existing water sources and the construction, where needed, of additional low-cost wells. The estimated capital costs of ₱19,100 (\$2,587) per barangay, or an average of ₱190 (\$25) per family, is the lowest possible cost for the provision of satisfactory drinking water, since it relies on family members to fetch the water from each facility shared by a number of families, and does not include the cost of a distribution system. By contrast, a typical water system to be constructed by the USAID Barangay Water Project, recently approved, will cost around ₱354,000 (\$47,200) and will serve about 320 families at ₱1,100 (\$148) per family.

The toilets to be funded under this project have likewise been designed to meet acceptable sanitation standards at minimum cost, ₱177 (\$23.6) per unit, and 60% of that cost will be in the form of local materials and labor provided by the beneficiaries themselves. A cheaper alternative would be the construction of communal toilets to be shared by a number of neighboring families, but experience in the Philippines indicates that such facilities are not regularly used by all family members and are socially difficult to keep clean and maintained. The Mission believes the individual household water-

sealed pit privies proposed in this project represent the most cost-effective approach to the sanitation problem.

### Effects on Employment

Aside from the hiring of 600 BHWs and a few additional workers for the well-drilling operation, this project's direct impact on employment will not be significant. Indirectly, however, there will be a small reduction in work absenteeism due to decreased morbidity and an eventual increase in work productivity due to improved health and nutrition status, as discussed in the cost/benefit analysis above.

While reduced work absenteeism will not amount to a significant percentage of total employment, never reaching more than 0.2%, it will be an important factor for those individual workers who, except for the project, would have suffered from tuberculosis and lost 6 months or so of work.

A more important indirect effect on employment will be the increase in productivity per worker expected from improved health and nutrition status, also discussed above. Based on the results of the recent research cited, it appears an eventual increase in labor productivity of 10% due to improved health and nutrition status is a conservative estimate. In self-employed situations, like farmers and farm-family labor, this increase will accrue directly to the workers. In the case of hired labor, it may sometimes accrue to the employer unless payment is made on a piece-work basis, as at rice harvest time, but eventually the whole economy and society will benefit from a healthier, more productive labor force.

### Effects on Income

Most of the economic benefits analyzed in the cost/benefit section above represent improvements in real income that will be enjoyed by the beneficiaries of this project. The positive economic effects of this project are expected to begin gradually during the life of the AID-supported project and gain momentum throughout the next 20 years, as the BHW-with-line-agency-support system continues to provide effective preventive health, nutrition and family planning services to the target barangays.

The project will result in a reduction of caloric and nutritional losses due to parasitism and intestinal mal-absorption of nutrients and a reduction in curative medical costs and workday absenteeism due to enteric diseases and tuberculosis. The cash value of such reduction in losses and losses represents an increase in real income for project beneficiaries. Rough calculations, using the same assumptions specified in the cost/benefit analysis, indicate such savings could amount to an average of ₱125 per family in 1983 and rise to ₱236 by 1992, ten years after the project, representing 1.9 and 3.7%,

respectively, of the average total annual expenditure for a Panay rural family in 1975. <sup>1/</sup>

In addition, the target barangay families will benefit to some degree from their own improved productivity as workers, especially on their own farms, which according to the studies cited above, might eventually be as high as 15 to 20% of current productivity levels.

Future families will benefit from the higher returns to education estimated as attributable to healthier and better nourished students, as these higher returns will translate into higher incomes during the working lifespan of today's schoolchildren commencing after their schooling is over.

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<sup>1/</sup> Preliminary results of the 1975 family income and expenditure survey conducted by the National Census and Statistics Office indicate average rural family expenditures in Panay totalled P5,691 in 1975 prices, P6,456 in 1977 prices as used here.

## 2. TECHNICAL ANALYSIS

The majority of the disease conditions existing in the depressed barangays in Panay which are being addressed by this project do not require a sophisticated level of technology to prevent or control.

The utilization of lower-level health manpower to provide village-level health care services is an attempt to adjust health technology to a level appropriate to the nature of a region's health problems and the amount of its resources. The world's experience with the use of village health workers has shown that these types of health workers are capable of meeting at least 40% of the health needs of rural underdeveloped communities. While there is little doubt about the BHW's effectiveness, some apprehensions have been raised about his acceptability, especially in a country like the Philippines whose traditional orientation had been towards a physician-provided health care service delivery system. However, the experience of the Katiwala Project in Davao, the Region IX Barefoot Doctors Project in Mindanao, the Auxiliary Health Workers of the Philippine Rural Reconstruction Movement and the International Institute of Rural Reconstruction, and several other similar projects in the Philippines have allayed these apprehensions and have demonstrated that rural villagers do patronize the services of non-professional health care providers.

The BHW of PUSH at work in the field will not use advanced medical technology, but simply the established routine of any paramedical health worker. The BHW has been conceived to serve as the linking element between health technology which is viewed as modern and the barangay which is generally considered as a traditional organization.

The houses in the depressed barangays in Panay are widely dispersed, a typical characteristic of underdevelopment, which has provided serious constraints in the organized provision of essential services like water and electricity, health services and the like. Given the conditions of the barangays targeted for Project PUSH, big water systems like the ones conceived in the Barangay Water Program would not be technically, financially or economically feasible. The project will therefore be constructing or improving small water facilities for clusters of houses, to conform with the existing settlement patterns.

One of the major concerns of this project is the repair or rehabilitation of existing wells so as to produce water in a sanitary manner. From data presently available, it is estimated that approximately 5,400 open dug wells will require improvement in the 600 targeted barangays over the five-year life of the project, at an average cost of \$112.00 (P840.00) per unit. (See Annex A-2 and Fig. 1)

In the event that additional water facilities need to be provided, the provincial sanitary engineer will determine, by a feasibility study, the type of well to be constructed and technical specifications and cost estimates of water projects costing more than P5,000 must be approved and endorsed by the Provincial Engineer.

It has been estimated by the Regional Sanitary Engineer's Office that 1,200 shallow wells will require new construction. These are usually driven wells of up to 70 feet, depending upon the soil structure and water table. Each of these wells will serve an average of 5 - 7 families, depending upon the location of households and amount of water available. The cost estimate is \$186.00 (P1,400.00) for each driven well. (See Annex A-3 and Fig. 2 for diagram and cost breakdown.)

In areas where the water table is beyond sixty feet, and in some instances, as much as 250 feet, a drilled well with a jet-o-matic pump will be installed. The BPW engineers have estimated that approximately 280 producing wells can be constructed. BPW itself expects to drill 160 deep wells in the targeted barangays of this project. This is only 20% of the total 800 wells they plan to drill in the next five years. This project will fund another 400 deep wells in selected barangays. This is a total of 560 drilled wells. From past experience in the Panay Region, it is estimated that at least 50% will not be a producing well or will produce an unacceptable quality of water, therefore, it is estimated that approximately only 280 satisfactory deep wells will be produced over the five years life of project. This type of well will require mechanical equipment to construct and is much more costly than the shallow dug well. Because of the expense, the drilled well will not be constructed unless absolutely necessary as the only source of acceptable water and after the Provincial Engineer has approved the technical specification and cost estimates. The BPW has adequate equipment to drill the deep wells funded by this project, and have agreed to drill such wells.

The cost estimate for a 230-ft. deep well is \$3,223 (P24,174). (See Annex A-5 for cost breakdown and Fig. 3 for diagram.)

The total estimated cost of construction or repairing approximately 6880 water facilities in this project is \$2,634 (P19,763) million, spread over the five-year life of the project, and should be sufficient in meeting project purposes.

The types of excreta disposal facilities that will be introduced are those that the barangay population are already familiar with and their construction will follow long established and accepted principles.

The most common and most practical type of waste disposal system is the pit privy. This system allows for human waste to be deposited in a pit, by using a water-seal toilet bowl, flushed with water. This method provides for effective disposal, cheap construction and minimizes the possibility of fecally-transmitted diseases.

The construction of the pit privies will be undertaken by the beneficiaries themselves with technical direction from the BHW. The project will subsidize the water-seal toilet bowl and accessories costing around \$8.13 (P61.00) per unit and the beneficiary will provide the housing and the pit. Total cost estimate of a pit privy is \$22.26 (P167.00) per unit. (See Annex A-6 and Fig. 4.)

Adequate technical capability exists with the Provincial Development Staff, Provincial Engineer, Department of Public Works and Department of Health for planning, designing and supervising and installation of these facilities. The maintenance needs of these facilities, furthermore, are minimal and the BHW can easily be trained to perform such functions.

### 3. ADMINISTRATIVE ARRANGEMENTS

#### A. Recipient

The National Economic & Development Authority will represent the Government of the Philippines as the borrower/grantee. The Regional Development Council of Region VI and the Department of Health will be the major implementing agencies. The operational relationships and areas of responsibilities among NEDA, RDC-VI and DOH will be defined in a Memorandum of Agreement that will be signed by the three agencies.

The RDC will assume responsibility for managing the project in Panay. Administrative direction and support will be channeled through the regional office system of the DOH and the provincial and municipal governments.

The RDC is a body that was created as a result of the National Reorganization Plan which aimed to regionalize the operations of the national government. The council is composed of the provincial governors, city mayors and the regional directors of the national agencies operating in the region. The Regional Office of NEDA provides administrative and technical staff support to the RDC, which has been entrusted with the following functions:

- a) Conduct a comprehensive and detailed survey of resources and potentialities of the region and prepare annual and long-range regional development plans within the guidelines set by the National Economic & Development Authority;
- b) Translate national economic goals into more specific regional objectives which shall be reflected in action plans and programs for the region;
- c) Develop a research program involving continuing studies of the social, economic and cultural development of the region;
- d) Prepare and submit an annual regional economic report to the National Economic & Development Authority;
- e) Extend planning and other related forms of technical assistance to the local governments and local planning boards;
- f) Coordinate all planning activities of the different line agencies

of the national government existing in the region boards;

g) Make necessary changes, amendments and revisions in the regional plans to improve and update them; and

h) Perform other functions as may be provided by law.

Up to the present time, the Regional Development Councils in the Philippines have been functioning as policy-making bodies although the President of the Philippines, in several public pronouncements, has indicated the strengthening of the regional government machinery to hasten the attainment of the country's economic development goals.

PUSH will be one of the earliest projects to be managed by an RDC, and this is being viewed by certain quarters as an experiment in regional development project administration. The added advantage, of course, is the facility from the RDC's vantage point of mobilizing the other sectors in the region to address critical health issues which cannot be tackled by the health sector alone.

The Regional Development Council in Panay is without question one of the strongest in the country. Largely because of the island's participation in the AID-assisted Provincial Development Assistance Program and the Regional Director's undergoing a ten-week Career Executive Service Development Program conducted by the Development Academy of the Philippines, the region has developed a tremendous amount of regional development planning expertise.

The Regional Development Council in Panay has a membership of 40. This large group cannot be expected to efficiently manage the operations of the PUSH Project. For this reason, a committee within the Council will be formed, to be known as the PUSH Project Management Team (PMT) which will directly oversee the implementation of the project in the region. This team will be headed by the NEDA Regional Executive Director and will be responsible to the RDC chairman. The Project Management Team will have a membership of 14 which will consist of, except for a DOH representative, RDC members representing line agencies whose functions are related to the concerns of PUSH.

The PUSH Project Management Team will consist of the following:

Regional Health Director  
Regional Director, Department of Public Works



Provincial Government Representatives (4)  
A Representative of the Secretary of Health  
A Representative of the Regional Nutrition Office  
POPCOM Regional Office Representative  
Private Medical Sector Representative  
DLGCD Regional Office Representative  
DSSD Regional Office Representative  
Department of Agriculture Regional Office  
Representative  
Chief, PUSH Project Support Staff

The PUSH Project Management Team will have a five-man full-time Project Support Staff whose technical capabilities will include health planning and administration, sanitary engineering, BHW training, systems analysis and research and evaluation. This team will be more directly involved in the day-to-day management functions of planning, programming and monitoring, and assuring the accomplishment of program targets within reasonable time limits and costs.

The four provinces in Panay will enter into a sub-agreement with the RDC, NEDA, DOH and DLGCD wherein the roles and responsibilities and terms and conditions of the provinces' participation in the project will be defined.

### Responsibilities of Project Proponents and Implementing Units

#### National Level

##### A. National Economic & Development Authority

1. Approve the Project Paper and negotiate the loan/grant agreement with USAID.
2. Provide the RDC and provincial governments of Panay with advance funding for the training of BHWs, operational expenditures of the Project Support Staff and the construction of environmental sanitation facilities.
3. Assure the establishment of required fiscal procedures with the Department of Finance and the Commission on Audit.

##### B. Department of Health

1. Approve the PUSH Project Paper and recommend its approval to NEDA.

2. Nominate a DOH representative to the Project Management Team.
3. Direct the Regional Health Office to provide necessary support to the project as called for in the project design and to serve on the Project Management Team.
4. Provide technical assistance as necessary.

C. Department of Finance

Direct the establishment of a special Regional Trust Fund for PUSH, and a special Provincial Trust Fund in each of the four participating Panay Provinces.

D. Commission on Audit

Direct its regional and provincial auditors to periodically audit the funds of the Regional and Provincial Trust Funds, following standard GOP auditing procedures.

E. Department of Local Government & Community Development

Direct its regional and provincial offices to perform their roles and functions as called for in the implementation plan of this project.

F. USAID

1. Preparation of Project Agreement and provision of funding support.
2. Make a representative available for consultancy with the Project Management Team.
3. Approve the list of project municipalities and barangays together with the RDC.
4. Assist in commodity procurement and executive technical services contracts with grant funds as required by project agreement.
5. Participant training support.
6. Audit and evaluation.

7. Coordination of PL-480 Title II commodities for the project area through existing cooperating agencies.

Regional Level

A. Regional Development Council/Project Management Team/  
Project Support Staff

1. Organize the Project Management Team.
2. Organize the Project Support Staff.
3. Together with the USAID Project Officer, approve the list of project municipalities and barangays.
4. Assume responsibility for overall planning, coordination and implementation of PUSH Project.
5. Assist in the establishment of organizational linkages among the different participating agencies.
6. Develop and install a fiscal management system for project funds and serve as funding channel to implementing groups.
7. Formulate operational plans and manuals of procedures for project implementation.
8. Develop and install a project monitoring system and see to it that project targets are accomplished within reasonable time periods.
9. Prepare periodic reports on project accomplishments.
10. Perform interim and end-of-project evaluations with AID participation.

B. Regional Health Office

1. Provide a representative to the Project Management Team.
2. Assume primary responsibility in the organization of the PUSH Regional Training Center and provide technical assistance in the organization and operation of the Provincial Training Centers.
3. Direct the provincial health offices in Panay to provide necessary support to the projects called for in the project design.

4. Provide technical inputs in the review of Provincial Annual Implementation Plans.
5. Submit periodic reports to the Project Management Team regarding project-related accomplishment of PHOs and RHUs.

C. DLGCD Regional Office

1. Provide technical assistance to the RDC in reviewing the list of projects in the Annual Implementation Plan submitted by the provinces.
2. Mobilize its Provincial and Municipal Development Officers to carry out their assigned roles and functions as spelled out in the implementation plan.
3. Submit periodic reports to the Project Management Team regarding project-related accomplishments of PDOs and MDOs.

D. Department of Public Works, Regional Office

1. Provide a representative to the Project Management Team.
2. Direct its Provincial Offices to carry out their roles and functions as spelled out in the implementation plan.
3. Submit periodic reports to the Project Management Team regarding project-related accomplishments of its provincial offices.

Provincial Level

A. Provincial Governor's Office/Provincial Development Staff

1. Coordinate project implementation activities in the province.
2. Receive and allocate project funds.
3. Approve, appoint and assure timely payment of BHWs.
4. Procure commodities required for the implementation of barangay health projects and insure the delivery of same to the barangay.
5. Prepare the Provincial Annual Implementation Plan for Health in coordination with appropriate line agencies for submission to the RDC.
6. Prepare and submit to the RDC quarterly performance reports.

**B. Provincial Health Office**

1. Organize and supervise operations of the Provincial Training Center under the technical supervision of the Regional Training Center.
2. Through its Provincial Training Center, train the BHWs, monitor retraining needs and conduct retraining courses.
3. Provide necessary technical inputs to the PDS in the preparation of the Annual Implementation Plan for Health.
4. Provide material and technical support to Rural Health Units where BHWs are deployed.
5. Prepare and submit periodic reports to the Regional Health Office regarding project-related accomplishment of RHUs.

**C. Provincial Development Office**

1. Provide assistance to the PDS in the preparation of the Annual Implementation Plan for Health.
2. Conduct an inspection of completed projects in the provinces.
3. Issue Final Inspection Certificate of completed projects to the Office of the Provincial Governor.

**D. Department of Public Works, Provincial Office**

1. Provide technical assistance to municipalities and barangays in project identification and development, conduct of technical feasibility studies and in the preparation of project plans, specifications and cost estimates.
2. Review and endorse technical specifications of big projects included in the AIP.
3. Provide assistance in the procurement and delivery of commodities needed in the implementation of barangay projects.
4. Provide technical personnel and equipment and supervise the construction of barangay water facilities during implementation.
5. Coordinate current water and waste disposal projects with the Annual Implementation Plan for Health, through the Water Resources Development Staff which will be organized under PDAP.

Municipal Level

A. Office of the Mayor/MDS

1. Coordinate Implementation of Project PUSH at the municipal level.
2. Together with the Municipal Development Officer and RHU, hold barangay assemblies in targeted barangays to explain the PUSH Project concept and BHW recruitment and selection process.
3. Together with RHU and other appropriate line agencies, prepare the Municipal Annual Implementation Plan for Health for submission to the province and inclusion in the Provincial Annual Implementation Plan.
4. Administer the payment of salaries of BHWs, and the Special Revolving Fund.

B. Rural Health Units

1. Assist in the BHW recruitment process.
2. Develop and implement a deployment plan for BHWs.
3. Provide technical and administrative supervision over the BHWs.
4. Provide technical assistance to BHWs in the identification and development of barangay projects.
5. Develop and implement a system for the continuous upgrading of the technical skills of BHWs.
6. Provide the BHWs with the necessary logistical support required to perform his/her role and function in the barangay health care system.
7. Assist in the development of the barangay into a social organization that will be receptive to and supportive of the functions of the BHW.

C. Municipal Development Officer

1. Assist in the holding of barangay assemblies to explain the project concept and the BHW recruitment and selection process.

2. Provide assistance in barangay projects identification and development, and in the preparation of the Municipal Annual Implementation Plan for Health.
3. Conduct final inspection of completed small projects and issue Final Inspection Certificates to the municipal government.
4. Provide assistance in barangay organization development.

### Barangay Level

#### A. Barangay Council

1. Spearhead the BHW recruitment and selection process.
2. Assist in the dissemination of project-related information to the barangay population.
3. Stimulate the barangay population to provide the necessary moral and/or material support needed by the BHWs to perform their expected functions.
4. Coordinate with BHWs in the identification, development and implementation of barangay health projects.

#### B. Barangay Health Worker

Under the technical and administrative supervision of the RHU, the BHW will undertake task - specific activities in the barangay promoting:

- a. Water Supply Systems
- b. Waste Disposal System
- c. Nutrition
- d. Family Planning
- e. Basic Health Services
- f. Other health-related projects identified by the BHW or barangay residents.

A BHW Handbook will be prepared to guide the BHW in the performance of his/her duties and responsibilities.

### Proposed Fiscal Administration System for PUSH

A systems and procedures manual for the fiscal administration of PUSH funds will be developed by the Project Support Staff which will constitute a condition precedent to the first disbursement of the loan. In general terms, however, and as agreed with the project proponents, the PUSH fiscal administration system will follow fiscal administration principles that have been established in Panay by the Provincial Development Assistance Program (PDAP), and about which the local government executives in Panay are already familiar.

A Memorandum of Agreement will be signed between the National Economic and Development Authority, the Department of Finance, the Commission on Audit, the RDC VI and the Department of Health to formalize the fiscal administration systems and procedures to be followed in the implementation of the PUSH Project. The basis of this agreement will be the Manual of Procedures which will have been developed by the PUSH Project Support Staff.

Under the agreement, the Department of Finance will direct the establishment of a special PUSH Regional Trust Fund, a Provincial Trust Fund in each of the four participating Panay provinces, and Special Revolving Funds in the participating municipalities. The Regional Trust Fund will serve as the regional depository of funds for the implementation of the PUSH Project in Panay and will be under the administration of the Provincial Treasurer of Iloilo. Funds in the Regional Trust Fund can only be withdrawn exclusively for PUSH Project expenditures with the following as the recommended signatories: The RDC Chairman, the Director of the PUSH Project Management Team, the RDC Treasurer and the Regional Health Director. The Regional Trust Fund will derive its major inputs from funds releases coming from the National Economic and Development Authority.

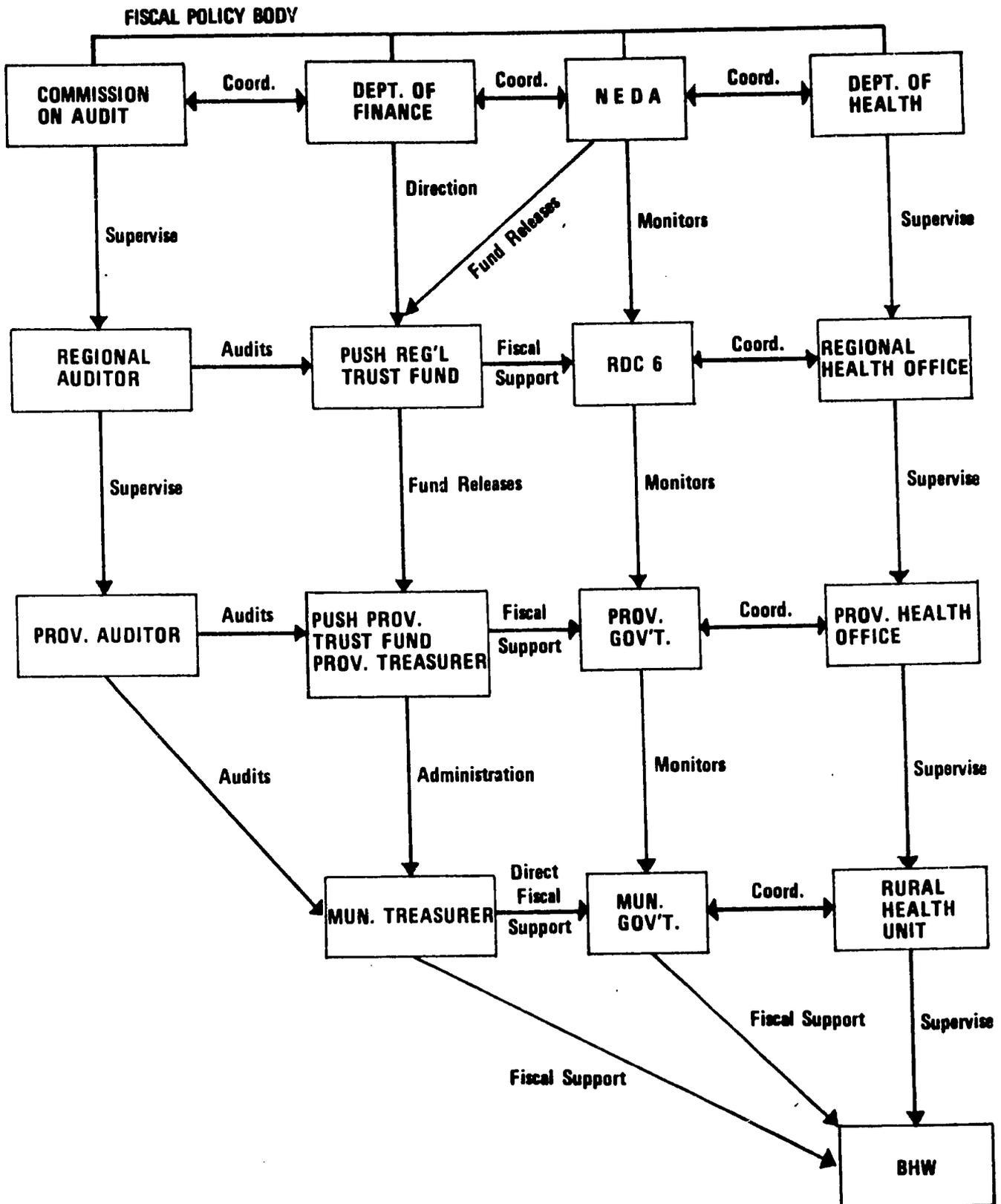
The Provincial Trust Fund will be administered by the Provincial Treasurer. Funds from this special trust fund can only be used for the purchase of PUSH Project construction commodities, BHW salaries and other project support activities, with the following as recommended signatories: the Provincial Governor, the Provincial Treasurer and the Provincial Health Officer.

A Special Revolving Fund will be set up in each participating municipality, the amount of which will be equivalent to P5,000 per year per BHW in the municipality. The Special Revolving Fund will be administered by the Municipal Treasurer and will be utilized solely

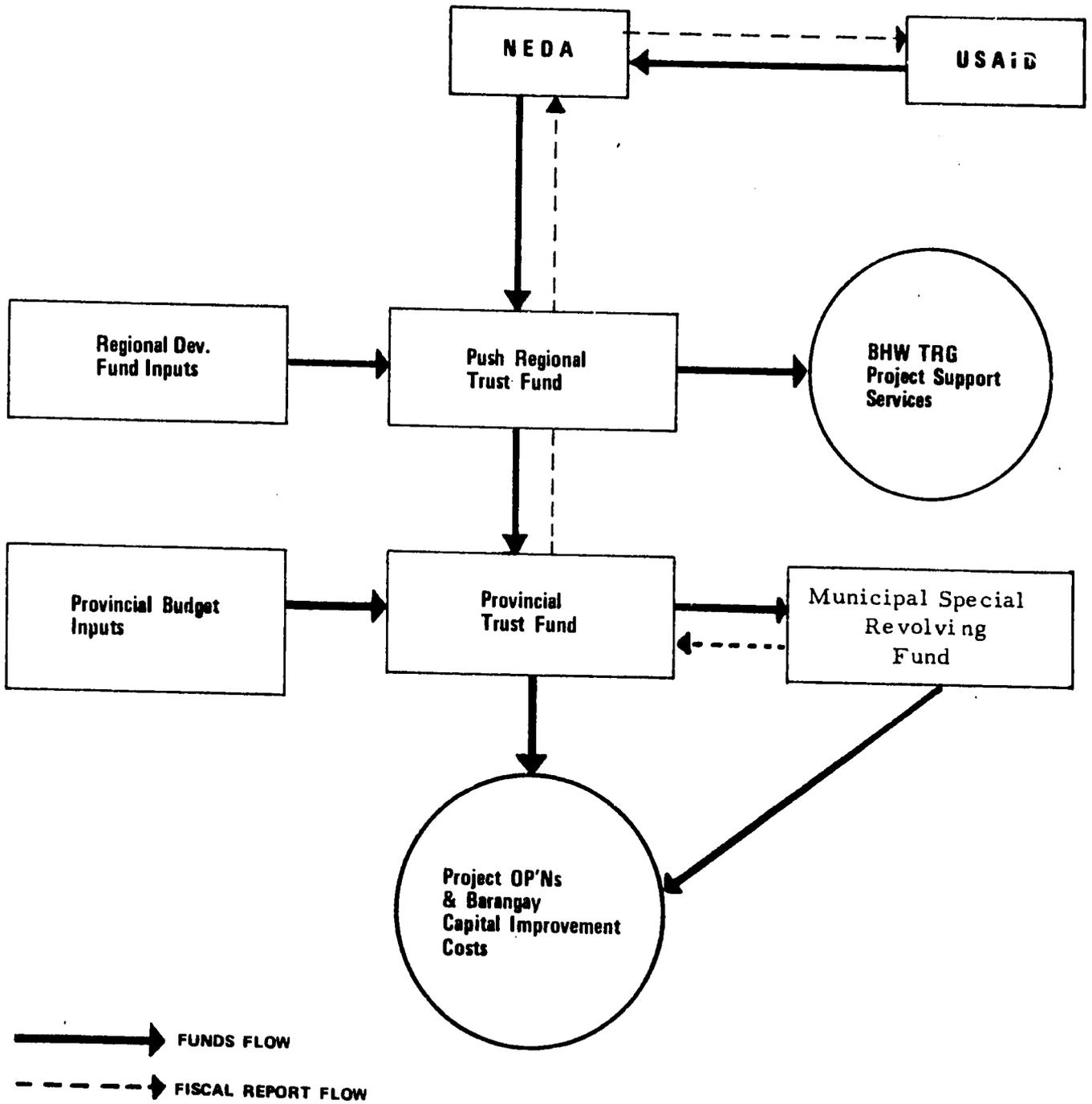
for small barangay projects costing P200.00 or less that require immediate response from the municipal government. Timeliness in responding to barangay requests for small health and sanitation inputs is vital to maintain the credibility of the BHW. The offices of the municipal mayor, the Rural Health Unit and the BHW/barangay will jointly authorize disbursements from the Special Revolving Fund.

Standard GOP accounting, auditing and cost-standardization procedures will be followed. The Regional Auditor will audit the Regional Trust Fund while the Provincial Auditor will audit the Provincial Trust Fund and the funds held by the municipal treasurers, who will administer the municipal Special Revolving Fund and the payment of BHW salaries.

**PUSH PROJECT FISCAL MANAGEMENT: SYSTEM OF OPERATION**



**PROPOSED FUNDING AND REPORTING FLOW : PUSH PROJECT**



Proposed Allotment System

Of the \$5.4 million loan under this project, \$4.944 million is planned for reimbursement to the GOP for local currency costs of implementing the PUSH Project. USAID will request a Direct Reimbursement Authorization (DRA) for \$4.944 for this purpose.

When the project has been approved for implementation, the RDC will submit to the National Economic & Development Authority a work program with the corresponding budgetary requirement for the implementation of the PUSH Project during the year. The budget request will include projected expenditures for BHW training, BHW salaries, Project Management Team Operations and cost estimates of the sanitation projects that the participating barangays in Panay can implement during the year, and the Special Revolving Fund requirements of participating municipalities. (During the succeeding years, the RDC will submit the budgetary request to NEDA two months prior to the start of the next fiscal year.)

Upon review and acceptance of the budget, the NEDA will release to the Regional Trust Fund one-half of the annual budget to enable the RDC to start project implementation activities. The Regional Trust Fund will release to each Provincial Trust Fund one-half of the estimated PUSH provincial budget for the year, and the Provincial Trust Fund will in turn release the corresponding Revolving Trust Fund amounts to each of the project municipalities.

Upon expenditure of the funds by the province, the province will request for the second half of the annual budget. The request for additional funds will be accompanied by expenditure statements of the funds previously released and will be backed by supporting documents like official receipts for commodities purchased, project completion certificates signed by the Provincial Development Officers, and certifications by the Municipal Mayors, Municipal Treasurers and Municipal Health Officers for BHW salaries paid. The RDC will submit to the NEDA the expenditure statements and supporting documents of the Project Management Team in order to obtain the second half of the PUSH regional budget.

Upon request for additional funds and supporting documentation of expenditures, NEDA will process a reimbursement request to USAID for funds previously released and expended. The request will be supported by the documentation submitted by the RDC.

The details of the budget preparation, submission and funds replenishment process will be contained in a manual that the PUSH Project Support Staff will develop and which will constitute one of the condition precedents to the loan.

## PUSH Logistic System

### Construction Commodities

There is no plan to stockpile construction commodities at the provincial capital. Instead, arrangements will be made wherein bulk purchasing will be done at the beginning and middle of each month. The province will therefore have two weeks to effect the delivery of the purchased commodities to the barangays. The project will provide heavy duty vehicles to the Provincial Engineering Offices in order to facilitate the movement of construction commodities to the barangays. In areas that are inaccessible to motor vehicles and where commodities can only be delivered by the Engineering Office to the Poblacion (the town center), the BHW will mobilize people in his barangay to move the commodities from the Poblacion to the construction site.

### Medical Supplies

Medical supplies that will be needed by the BHW will be channeled through the existing system of the Department of Health in the region.

### BHW Salaries

Salaries of BHWs will be administered by the Municipal Treasurers. The BHW will get his pay every 15th and 30th day of each month.

The Project Support Staff will constantly monitor and evaluate the project's logistic flow system and certain modifications may be instituted in the course of project implementation to insure that adequate logistic support reaches the barangay in a timely manner.

## B. AID

AID/W inputs will be required throughout the life of this project in terms of procurement or contracting action on Project Implementation Orders and in responding to Mission requests for short-term consultants.

Field implementation, management and monitoring of AID inputs for the project will be the responsibility of the Chief of the Health Division who will serve as USAID Project Officer responsible to the Assistant Director for Human Resources Development (AD/HRD).

USAID will have access to all pertinent project reports and other documents issued by the implementing agency, the Project Management Team of the RDC. USAID will also monitor all activities, including quality control measures, that relate to reimbursement of local currency costs, including field inspections as required.

**VI. FINANCIAL ANALYSIS AND PLAN**

**TABLE 3, Costing of Project Outputs by Input Source**  
**PUSH Project (\$1000)**

<u>Project Outputs</u>	<u>Magnitude of Outputs</u>	<u>I N P U T S:</u>			<u>Project Total</u>
		<u>AID Loan &amp; Grant</u>	<u>GOP &amp; Local Gov't.</u>	<u>Bene-ficiaries</u>	
1. Environmental Sanitation					
Drilled Deep Wells	560	889	916		1805
Driven Shallow Wells	1200	208		16	224
Improved Dug Wells	5400	529		76	605
Water-sealed Toilets	40000	325		565	890
2. Barangay Health Workers trained, equipped & deployed	600	1135	69		1205
3. Barangay Drugstores stocked	600	60			60
4. Rural Health Units supplied vaccines and TB drugs	100	150			150
5. Provincial Health Labs upgraded	4	10			10
6. Malnourished Children provided nutrition services and commodities	10000	( 509) <sup>1/</sup>			( 509)
7. Barangays provided family planning supply points and services	600 <sup>2/</sup>				
8. Project Support, Management, Administration & Supervision	5 yrs.	668 <sup>3/</sup>	1090		1758
Sub-Total		3975	2075	657	6707
Contingency		597	311	98	1006
Cost Escalation		1144	586	232	1962
<b>TOTAL</b>		5716 <sup>4/</sup>	2972	987	9675
Percentage of Total		59%	31%	10%	100%
(PL-480 Title II Commodities)		( 509)			( 509)

<sup>1/</sup> PL-480 Title II Food Commodities. Other costs included in Outputs 2 and 8.  
<sup>2/</sup> Cost included in Outputs 2 and 8, supplies provided by POPCOM.  
<sup>3/</sup> Includes \$223,000 grant money for consultants and project management training.  
<sup>4/</sup> Includes \$316,000 grant money, \$5.4 million loan.

**TABLE 4 . Financial Plan by Funding Source**  
**PUSH Project (\$1000)**

Project Component	AID Grant			AID Loan			GOP & Local Govt LC	Beneficiaries			Life of Project				PL-480 Title II
	FX	LC	Total	FX	LC	Total		LC	Labor	Total	FX	LC	Labor	Total	
<b>1. Environmental Sanitation</b>				1952	1952		016	395	262	657		3263	262	3524	
Drilled Deep Wells				( 889)	( 889)		( 210)					(1805)		(1805)	
Driven Shallow Wells				( 208)	( 208)				( 15)	( 16)		( 208)	( 16)	( 224)	
Improved Dug Wells				( 529)	( 529)				( 76)	( 76)		( 529)	( 76)	( 605)	
Water-sealed Toilets				( 325)	( 325)			(395)	(170)	(565)		( 720)	(170)	( 890)	
<b>2. Barangay Health Worker</b>				991	991		69					1061		1061	
Training				( 392)	( 392)							( 392)		( 392)	
Salaries				( 600)	( 600)		( 69)					( 669)		( 669)	
<b>3. Equipment and Supplies</b>				345	133	478					345	133		478	
<b>4. Project Support Staff</b>				331	331							331		331	
<b>5. Consultants</b>	66	102	168								66	102		168	
<b>6. Participant &amp; Project Management Training</b>	40	15	55				20				40	35		75	
<b>7. GOP Administration &amp; Supervision</b>							1001					1001		1001	
<b>8. Rent and Utilities</b>							69					69		69	
Sub-Total	106	117	223	345	3407	3752	2075	395	262	657	451	5995	262	6707	
Contingency	16	18	34	52	511	563	311	59	39	98	68	899	39	1006	
Cost Escalation	20	39	59	59	1026	1085	586	139	93	232	79	1790	93	1962	
<b>TOTAL</b>	142	174	316	456	4944	5400	2972	593	394	987	598	6684	394	9675	

(PL-480 Commodities)

( 509)

NOTE: Figures may not add to totals due to rounding. See tables in Annex B for more detail.

- 62 -

some participant training abroad and local training for Project Management Staff. The AID loan will be applied to the foreign exchange costs of imported supplies, equipment and vehicles and to about 70% of the project's incremental local currency costs, including about 55% of planned environmental sanitation expenditures, 94% of BHW training and deployment costs, and all incremental Project Support Staff requirements.

The provincial governments will start paying part of the BHW salaries during the 4th and 5th year of the project. The Bureau of Public Works will fund about half of the cost of the deep wells drilled in targeted barangays, a contribution worth \$916,000 (which includes the imputed rental value of BPW equipment used to drill the wells otherwise funded by the AID loan). Aside from a small share of participant training expenses, the rest of the host country government contribution, about half of its total contribution, is represented by the carefully calculated imputed value of the administration and supervision requirements expected from several participating line agencies of the central government and the local governments involved, and the imputed value of government office space and utilities to be assigned to the Project Support Staff and its training centers. (See relevant tables in Annex B) The Mission believes this imputation is justified since the GOP and local governments intend to manage and supervise this project primarily with existing staff personnel, instead of creating and funding a separate and new Project Management Staff of the size an institutional development project of this magnitude would require.

Labor and local material cost contributions by the beneficiaries themselves are expected to equal \$657,000 in value, or 10% of total project cost. They will derive from self-help components of environmental sanitation project components, of which they represent 19% of estimated costs.

The total project cost, as estimated with a contingency factor and the cost escalation factors described below, is \$9.7 million. Of this grand total the proposed \$5.4 million AID loan and \$316,000 AID grant will provide 59%, the host country government will provide the equivalent of \$3.0 million, or 31%, and the beneficiaries themselves \$1.0 million, or 10%.

If the beneficiary contribution is not counted, the host country government share of project costs equals 34%, fully satisfying the requirements of Section 110(A) of the Foreign Assistance Act that the host country contribution cover at least 25%.

### Annual Cost Estimates

The annual flow of funds required as project inputs has been estimated in Table 2 (Part I, Project Description). Further details supporting this table are at Annex B, and particular attention is called to the annual budgets of AID grant, AID loan and host country contributions.

The annual project budget estimates are based on the magnitude of outputs targeted annually as presented in Table I of Section 1.2, above. Of the \$6.7 million basic estimate of project costs, 18% will be required the first year, 14% the second, 18% the third, 22% the fourth, and 28% the fifth, with salary costs and construction activities increasing as more BHWs finish training and are deployed (with the exception of deep well drilling, which will be related more to BPW drilling and supervisory capacity). Both AID loan and grant moneys are scheduled to be disbursed over a five-year period.

A contingency fund of 15% and cost escalation factors of 15% per year for imported equipment, 6% annually for other dollar costs and 7% compounded annually for local currency costs have been applied and added to the annual totals. All calculations were initially made in pesos and converted to dollars at an exchange rate of ₱7.5/\$1.

### Fixed Amount Reimbursement Mechanism

Of the \$5.4 million AID loan support, \$4.944 million is planned for reimbursement to the GOP for local currency costs of implementing the PUSH Project. The balance of \$.456 million will be utilized to finance the foreign exchange requirements of the project. The following are the general operating procedures:

1. The Regional Development Council (RDC) VI will submit to the National Economic & Development Authority (NEDA) a work program with the corresponding budgetary requirement for implementation during the year. During the succeeding years, the RDC VI will submit the budgetary request to NEDA two months prior to the start of the next operating year.
2. NEDA will review the work program and budget. Upon approval and acceptance of the budget, the NEDA will release to the Regional Trust Fund (RTF) one-half of the annual budget. The RTF will be administered by the Regional Treasurer.
3. The Regional Trust Fund will in turn release to each Provincial Trust Fund (PTF) one-half of the estimated PUSH provincial budget for the year. The PTF will be administered by the Provincial Treasurer.

4. Upon expenditure of funds by the province, the province will request for the second half of the annual budget. The request should be accompanied by expenditure statements of funds previously released and will be supported by pertinent documents duly signed and certified accordingly by designated provincial and municipal officers.
5. The RDC VI will submit to the NEDA the expenditure statements and supporting documents of the participating provinces, including the expenditure statements and supporting documents of the project management team in order to obtain the second half of the PUSH regional budget.
6. The NEDA will process a reimbursement request to the U.S. AID Mission for funds previously released and expended. The request will be supported by the documentation submitted by the RDC VI.
7. USAID will request a Direct Reimbursement Authorization (DRA) in the amount of \$4.944 million. Upon receipt of the DRA, USAID Mission will process the initial as well as succeeding requests for reimbursement based on the authorization received from AID/Washington.
8. Upon receipt of the reimbursement check from the U.S. Regional Disbursing Office (USRDO), the USAID Mission will immediately transmit the check to NEDA.

The details of the budget preparation, submission and funds replenishment process will be contained in the implementation manual to be delivered by the PUSH Project Support Staff.

#### Equipment Procurement

Commodities to be procured under this project are loan funded. The field and office equipment for the proposed project is sufficient for an expanded and continued PUSH Project. The details of the commodities to be procured are provided in Table B-2 - USAID Loan Contribution.

The Project Support Staff (PSS) shall be the designated procurement agent. Procurement shall be made in accordance with AID Handbook II, Chapter 3. The following category of commodities will be procured.

1. Vehicles - These items will be strictly of U.S. origin.
2. Pharmaceuticals - All procurement will be identified and submitted separately to AID/W for approval. Pharmaceuticals, whether in finished dosage or bulk, to be financed under this project will be in conformity with AID's lists of pharmaceuticals eligible for financing. Only commonly used household drugs are to be procured locally.

3. **Other Commodities** - Provincial laboratory, training, project support and rural health unit equipment are to be procured in the U.S. BHW kits and furniture are to be procured locally.

#### Interest Rate and Terms of Repayment

The cooperating country shall repay the loan to AID in United States dollars within twenty (20) years from date of first disbursement of the loan, including a grace period of not to exceed ten years. The cooperating country shall pay AID in U.S. dollars interest from date of first disbursement of the loan at the rate of (a) two percent per annum during the first ten years, and (b) three percent per annum thereafter, on the outstanding disbursed balance of the loan and on any due and unpaid interest accrued thereon.

The loan disbursement schedule is provided in Table B-2 - USAID Loan Contribution.

#### 2. Budget Analysis of Implementing Agencies

The annual incremental flow of funds for this project will rise from about \$1.0 million the first year to \$1.6 million the fifth year. The Regional NEDA Office will pass the appropriate share to the four provincial treasurer offices involved, and the latter will be responsible for providing timely disbursement and maintaining adequate control and accountability of the funds utilized. These four provinces together routinely receive and disburse around \$4.0 million in revenue annually (the FY 76 figure), following GOP fiscal procedures and subject to national regulation and audit. The Mission believes adequate procedures and sufficient capability for handling the magnitude of this project's flow of funds have been demonstrated and do exist.

For a detailed history of revenue and expenditure by province, see relevant tables in Annex B.

#### 3. Financial Viability and Replicability

The Regional Development Council (RDC) of Region VI, which includes the four governors of Panay, has formally adopted the proposals in this PP "as an official program of RDC, Region VI" and committed itself "to support said project in accordance with the provisions of the approved Project Paper". (See Annex G) The Mission understands the two main elements of that support discussed by the RDC were: (1) the required staff support to administer and supervise the project during its five-year lifespan, and (2) budgetary support for the continuation of the 600 BHWs after AID salary funds are depleted.

Analysis of the recent fiscal history of the four Panay provinces and anticipated increases in revenue receipts indicates that, while current budgets are fairly tight in all but Iloilo Province,<sup>1/</sup> expected increases in local revenues should provide sufficient financial capacity to support the executive will expressed in the RDC resolution. Iloilo itself, which will employ 44% of the BHWs, has been generating sufficiently large fiscal surpluses each year for the last four years to cover its share of BHW salaries, but it also expects a significant increase in revenues over the next five years resulting from the implementation of the GOP Real Property Tax Mapping and Assessment Project, currently underway in all Provincial Development Assistance Program (PDAP) provinces.

All four Panay provinces are members of the PDAP, and all are participating in the Real Property Tax Mapping and Assessment Project. A rough estimate of the percentage increase in real property tax collections resulting by 1983 from that project indicates it will itself be sufficient in each province to more than cover the cost of the BHW salaries. (See Table B-18, Annex B) In addition, the GOP and provincial governments are actively seeking other ways to increase local revenues for operational and development expenditure, as has been recommended by international donor (such as World Bank) and other economic advisors.

While recognizing that provincial budgets are tight in three of the four provinces, the expression of local government priorities contained in Annex G, combined with well-planned and ongoing efforts to increase local revenues for local development projects, provides sufficient evidence, the Mission believes, of post-project financial viability.

With respect to the replicability question, this project will direct a significant amount of local government and line agency administrative and supervisory resources toward the poorest 20% of rural barangays, in a concerted attempt to improve their quality of life through improved health and nutrition status and reduced population growth. It is designed to provide better social services to barangays that, because of their own poverty, cannot afford to bear the cost of such services. It will, in effect, result in a small, but carefully focused, transfer of resources from the tax-paying members of society to some of its poorest members; and it will result in a new effort by the host country government to achieve a somewhat more equitable distribution of real income (which includes the provision of social services). The total GOP and local government contribution to this project, abstracting from inflation, amounts to only about P51 (\$6.87) per beneficiary.

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<sup>1/</sup> Refer to Tables B-19 and B-20.

The AID contribution, again abstracting from inflation, amounts to only \$13.15 (P99.00) per beneficiary. Since most of the AID input will be in the form of a long-term, "soft" loan to the GOP, the actual cost of this input is shared by AID (its grant element) and the GOP, who must repay it over the next 30 years. The total resource cost is P150 (\$20.00) per beneficiary spread over 5 years.

The Mission believes these magnitudes to be small enough to be replicable elsewhere in the country. This project represents a laudible concern for the society's poorest rural residents and a well-focused attempt to improve their condition.

#### 4. Financial Effect on Project Participants

This project demands from the beneficiaries only the minimal cost of toilet materials other than toilet bowl and hardware. Based on our estimate, beneficiary supplied toilet materials will cost \$9.00 or P68.00 per household, representing a meager appropriation of 1% to 2% of the annual beneficiary household budgets in the Panay provinces. This beneficiary counterpart is a bargain and we expect the projected participants to fully avail of this offer.

Direct labor is to be provided for capital projects (toilet and water facilities) but, it does not involve any financial consideration on the part of the beneficiary. What has been conceived is that services will be performed personally by the direct beneficiaries or others under the "bayanihan" spirit, which is common among rural population.

V. IMPLEMENTATION PLAN

## IMPLEMENTATION PLAN

The signing of the Loan/Grant Agreement between the GOP and USAID will signal the start of implementation activities for Project PUSH. The National Economic & Development Authority (NEDA), the Department of Health (DOH) and the Regional Development Council (RDC) of Region VI will enter into a Memorandum of Agreement fixing their respective responsibilities in the implementation of the PUSH Project.

NEDA will make available to the RDC and the participating provinces in Panay forward funds with which to start the operations of the Project Support Staff, the training of BHWs and the construction of the barangay sanitation facilities. The operational details on the funds disbursement system at the national, regional, provincial, municipal and barangay levels will be developed by the RDC and NEDA and will constitute a Condition Precedent to the first disbursement of the loan.

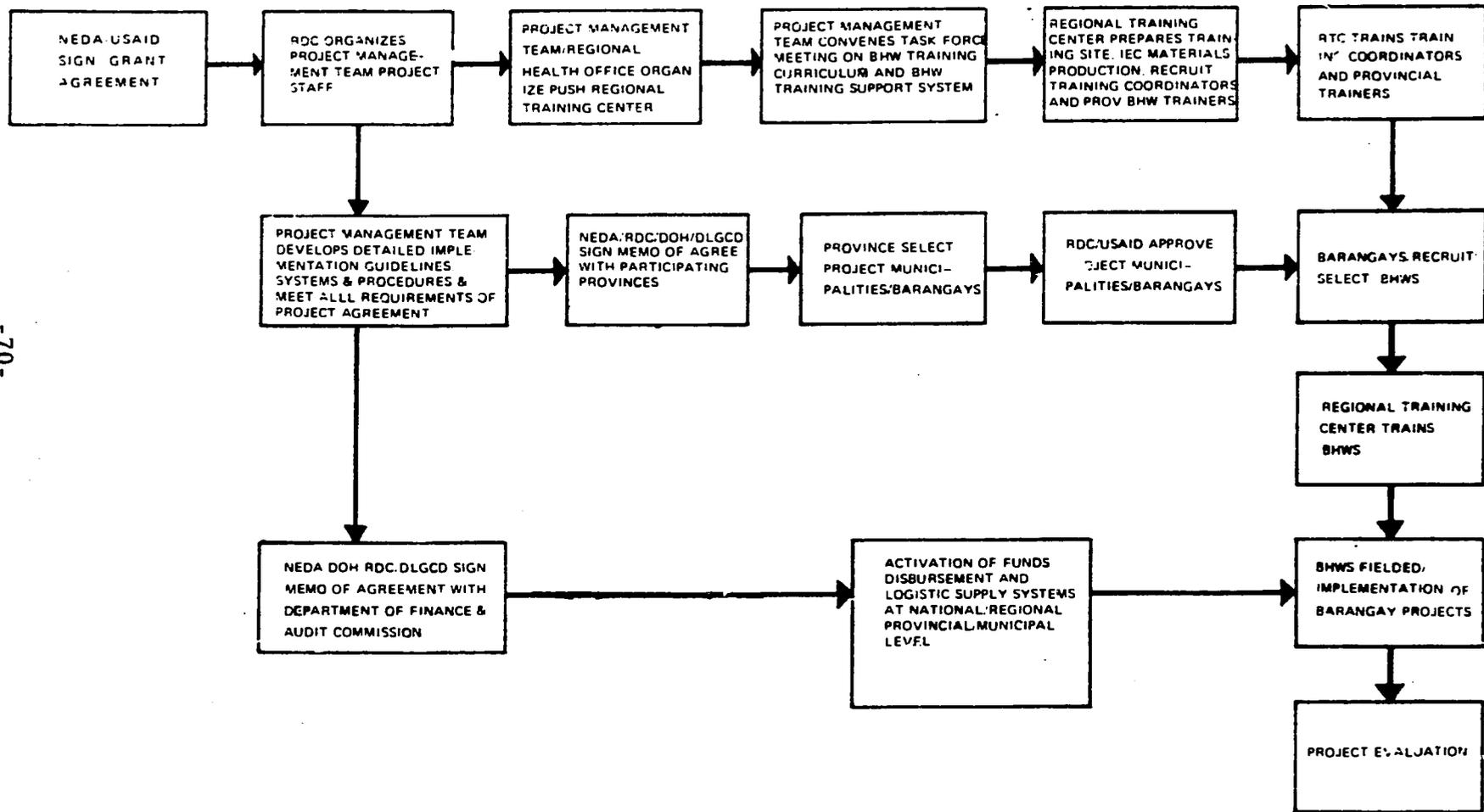
The NEDA, DOH, RDC and DLGCD will enter into a Memorandum of Agreement with each of the participating provinces in Panay, which will stipulate the responsibilities of the provincial and municipal governments in the implementation of the PUSH Project, particularly the manner by which the provinces will disburse the funds that will be advanced to them. These Memorandum of Agreements will likewise be a requirement to the first disbursement of the loan.

At the regional level, the RDC will formally organize the Project Management Team (PMT) and operationalize the office of the Project Support Staff (PSS) which will provide the technical and administrative staff support to the PMT. The Project Management Team and the Project Support Staff will hold office at the newly constructed regional office building of NEDA.

One of the early tasks of the Project Support Staff is to prepare for the convening of a Training Task Force which will develop the BHW training curriculum and formulate the training support system. The Project Support Staff will then proceed to formulate the detailed guidelines and systems and procedures for project implementation and meet the different requirements for the first disbursement of the loan. A project reporting and monitoring system will likewise be developed and installed.

The Training Task Force will be composed of local experts who have had extensive experience in auxiliary health workers training and utilization. Based on identified BHW roles and functions, the team will identify the necessary skills that the BHW should have and formulate the program of instruction required for the development

PUSH PROJECT IMPLEMENTATION PLAN MAJOR ACTIVITY FLOW



of such skills. The various forms of support for the effective training and deployment of the BHWs will likewise be identified by the Task Force, and general guidelines for the development of the BHW Handbook and Information-Education-Communication materials for BHW training and community use will be formulated.

The staff of the Regional Health Training Center will serve as secretariat to the Task Force. In the process, it is expected that a certain degree of transfer of curriculum planning and development technology will be effected from the experts to the RHTC staff.

With the signing of the Memorandum of Agreement between NEDA, DLGCD, RDC, DOH and the participating Panay provinces, and utilizing the guidelines prepared by the Project Management Team, the Provincial Development Staff of each province will select the municipalities and barangays where Project PUSH will be implemented. The list of project municipalities and barangays will require the approval of the Regional Development Council and the USAID Project Officer.

The Project Management Team, working in conjunction with the Regional Health Office will organize the PUSH Regional Training Center which essentially will consist of the existing staff of the Regional Health Training Center. The organizational activity will center on the identification and provision of equipment of a training site, recruitment of provincial training coordinators and identification of BHW trainers.

The project intends to open only one training site during the first year of the project and gradually expand to three as more BHWs will be trained and training methodology has undergone considerable improvement. However, each province will have its own training coordinator and a set of BHW trainers.

The BHW trainers and Provincial Training Coordinators will undergo a six-day training which will be held at the Regional Training Center. The 30-35 prospective participants will compose the regular training faculty of the PUSH BHW training program. The provincial trainers should ideally be represented by the following personnel from each province: Assistant Provincial Health Officer, Provincial Sanitary Engineer, Provincial Nurse Supervisor, Chief Sanitary Inspector, fully trained midwife, Provincial Development Staff member and the Provincial Health Educator. During this training, the participants will familiarize themselves with the BHW training curriculum and methodology, including the use of the different audio-visual aids that will be used for the training of BHWs. This will serve to

standardize the quality of the BHW training sessions.

### BHW Recruitment and Selection

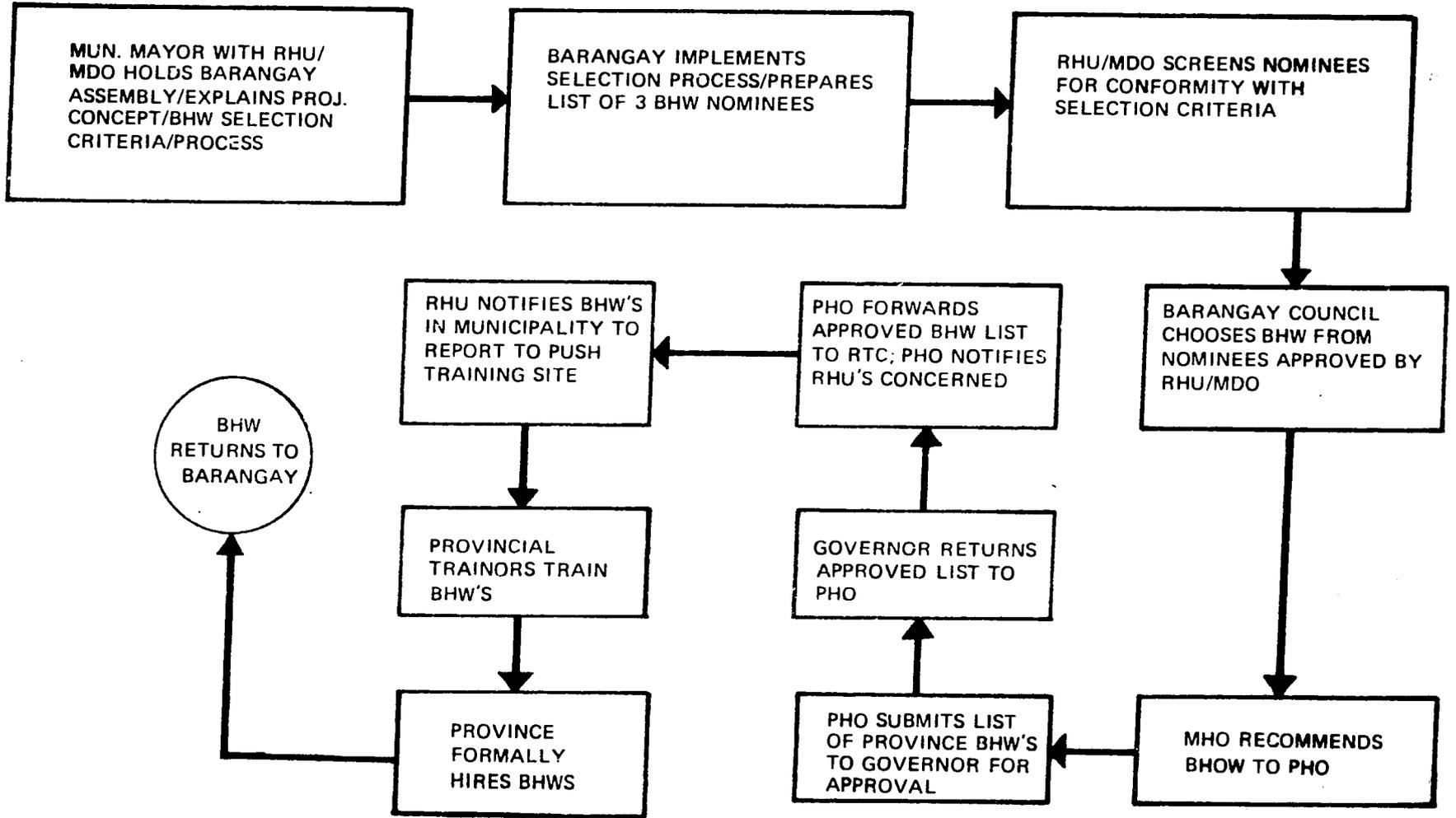
The recruitment and selection of BHWs is considered critical in the implementation of the PUSH Project. The project is so designed that the bulk of implementation activities occur in the barangay under the initiative and leadership of the BHW. This underscores the need for a rigid recruitment and selection process in order to get the right person for the job.

The recruitment of BHWs will commence after the RDC and USAID have approved the list of municipalities and barangays where the project will be implemented. The Municipal Mayor, together with the Municipal Development Officer (MDO) and members of the RHU<sup>1</sup> will hold assemblies in each project barangay. At these assemblies, the mayor will explain the PUSH Project concept to the people, particularly defining the role of the BHW in the barangay-based but RHO-linked health care delivery system. The selection criteria as well as the rationale behind the criteria will be thoroughly discussed with the people. The barangay will then be asked to submit, within two weeks from the holding of the assembly, a list of 3 nominees for the position. The mayor will agree with the barangay people the manner by which the barangay will produce the list of 3 nominees. The process should be designed in such a way that all eligible individuals in the barangay can be considered for the position. Guidelines to this effect will be formulated by the Project Management Team and will be included in the project guidelines, systems and procedures for implementation which the PMT will develop at the start of the project.

The criteria for BHW selection will include:

1. A resident of the barangay during the past 5 years.
2. At least 18 years of age.
3. Shall have at least 6 years of formal education and/or equivalent work experience along social services-related activities.
4. Proven honesty, integrity and morality, and physical fitness.
5. Willingness to work with other people and for the barangay.
6. Should be imaginative and creative and manifest organizing and leadership traits, and acceptable to the barangay.

**BHW RECRUITMENT/SELECTION ACTIVITY FLOW**



Not later than two weeks after the holding of the barangay assembly, the Municipal Development Officer and members of the RHU will return to the barangay to screen the BHW nominees. The team will interview the nominees, check on the validity of the recruitment process, and administer simple and informal psychological tests to identify the ideal traits that the project is looking for in a BHW. Should there be more than one nominee that will pass the screening process, the Barangay Council will perform the selection of the BHW for the barangay.

The Municipal Health Officer, with endorsement of the Municipal Mayor, will transmit the list of selected BHWs with the pertinent information of each to the Provincial Health Officer for further review. The PHO will consolidate the list of selected BHWs in the province and will submit the list to the Provincial Governor recommending their inclusion in the province's BHW Training Program. The Governor will review the list of selected BHWs and will return the list to the PHO indicating the former's approval of the PHO's recommendation. The approved list will then be transmitted to the PUSH Regional Training Center and the PHO will instruct the RHUs concerned to notify the selected BHWs in the municipality to report to the Training Site for training.

### BHW Training

The training of the first batch of BHWs will start approximately six months after the signing of the Loan/Grant Agreement. The exact details and course materials for the PUSH Project training program will be developed by the Training Task Force. The Task Force will meet after the Loan/Grant Agreement is signed; however, several points concerning the training have already been agreed upon by the USAID-Philippine PUSH Project Team.

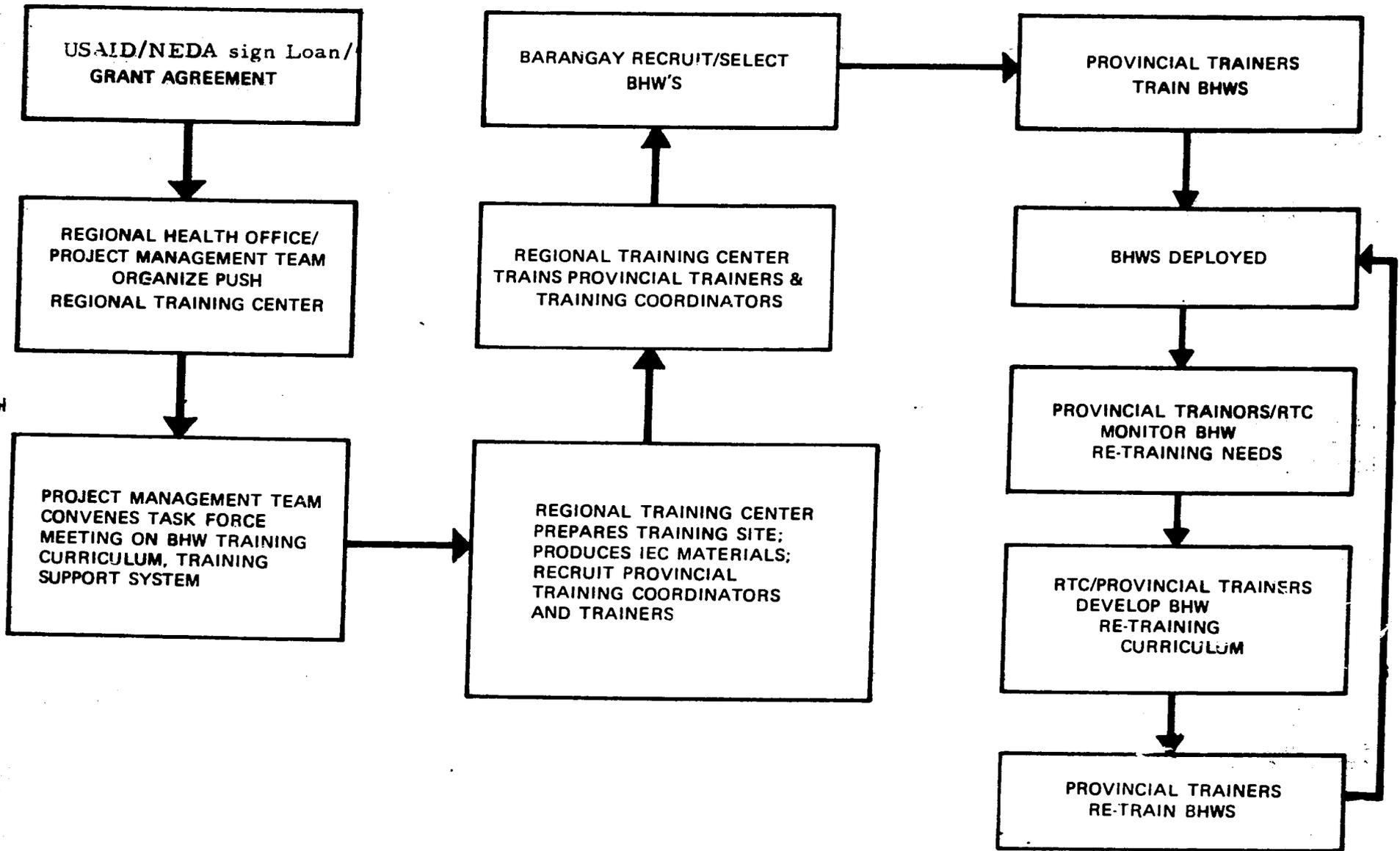
#### 1. Size of Training Groups

Because of the unusual nature of a BHW's work, the groups of trainees will be kept small (15-25 persons) so that all members of the class can get personal attention from the trainers. Since the educational level of the BHWs will be varied - from literacy to high school graduates and beyond in some rare cases, the small classes will allow for more teacher-student contact.

#### 2. Training Center

During the first year of the project, a training center will be established in Iloilo province, and trainees will be brought to the

**BHW TRAINING ACTIVITY FLOW**



center from all of the four provinces. The training center will have a major emphasis on practical skill training, and all of the sanitation and water supply components of the program will be physically present at the facility.

### 3. Deployment

During the first year of the project, 50 BHWs will be deployed. The workers will be placed in clusters - one BHW to each of several neighboring barangays - so that supervision, control and evaluation will be facilitated. Once administrative arrangements, logistical support, and skill training have been developed and perfected, the number of BHWs being trained will increase. During the second year, there will be 100 BHWs deployed and the succeeding three years will have classes of 150 BHWs each year.

### 4. Trainers

The project planners have also emphasized that the training of the BHWs be handled by professional trainers who will not conduct the training process within a traditional lecture format. Much of the skills training will be done using programmed instruction techniques to supplement practical experience. None of the skill training will be particularly complex, and the emphasis for trainers will be on teaching methods rather than sophisticated understanding of course material.

### 5. Integrated Program Content

All of the skills taught at the training center will be integrated with the life of the training center. Sanitation facilities, clean water, nutritious meals, and clean health practices will be woven into the course content so that BHWs practice in non-classroom hours what they learn during teaching sessions.

### 6. Phased Training

The phasing of the training is another important element of the BHW training program. Expectations of BHW achievement will be kept realistic during all of the training experience and carried through into the deployment stage. BHWs will be given specific skills that they can perform immediately upon their return to their barangays, and then, they can build the confidence of the barangay upon their initial successes.

## 7. Training Materials

Each of the four provinces included in the Panay Project have their own language, and the course materials will be printed in a language understandable to barangay residents. In many cases, barangay residents will not understand any written language, and instructional materials for use back in the barangay will be developed to have a strong visual effect.

### Administration of the Training Program

The control of the training effort for the PUSH Project will be in the hands of the program training staff working under the supervision of the DOH's regional training staff. The Region VI staff will be deeply involved in the PUSH Project training curriculum development and, although the methods developed for the BHW training may differ from the efforts of the regional training center, the training center for the BHWs will draw upon the regional personnel for assistance in technical areas.

If one were to consider the magnitude of the BHW's scope of functions and responsibilities, a six-week training program would hardly seem enough to provide him with the necessary skills and expertise for the job. Thus, the project is designed to allow for a two-week refresher and further training every six months after the BHWs complete the six-week basic training course. The learning process of the BHW will therefore be incremental. The BHW will start out with very limited capabilities and therefore fewer responsibilities, and gradually increase them until he or she can perform all the expected BHW functions. The lateral expansion of BHW responsibilities is hoped to compensate for the very dim prospects of upward mobility in the organizational hierarchy.

It would be difficult to program the retraining of the BHWs at this stage of the planning process. There is no adequate experiential information as to the appropriate location of the retraining course: at the Provincial Training Centers or at the Rural Health Units. This matter will be threshed out during the Training Task Force meeting.

The Regional Training Center will develop and operationalize a system for monitoring the training of BHWs and their performance in the field in order to develop newer and more effective training strategies and relate the retraining courses to the needs of BHWs in the field.

PHASING OF BHW TRAINING

	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>	<u>TOTAL</u>
1978	-	-	25	25	50
1979	24	26	24	26	100
1980	36	39	36	39	150
1981	36	39	36	39	150
1982	36	39	36	39	150
				<b>TOTAL</b>	<hr/> 600

BHWs who finish the six-week basic training satisfactorily will be awarded training completion certificates and will sign a one-year renewable contract with the provincial government to work as BHWs. The province will delegate to the Provincial Health Office, through the latter's Rural Health Unit system, the administrative and technical supervision over the BHWs.

The BHW will then return to his barangay after making protocol visits to the Provincial Governor, the Municipal Mayor and the Rural Health Unit with whom the BHW will discuss the immediate work program.

#### Role of the Barangay Government

The supervision of the BHWs' activities in the barangay has been the subject of extensive discussion and deliberation during the planning of this project. There was a unanimous recognition of the importance of the supervision element for the success of project implementation. While the burden of administrative and technical supervision over the BHWs rests with the Rural Health Unit, the BHWs will also be part of the barangay government structure, responsive to the Barangay Captain. The Barangay Captain has to sign the BHWs certification of service rendered before he can collect his salary. Moreover, no BHW-initiated project in the barangay will be approved for implementation without getting prior approval from the Barangay Council. In this manner, whatever projects or activities the BHWs will undertake will be identified with the barangay government.

#### Implementation of Barangay Environmental Sanitation Projects

The Project Support Staff will prepare a Manual of Administrative Procedures that will be followed in the implementation of the sanitation projects being planned. Basic administrative principles that have been established by the Provincial Development Assistance Program (PDAP) and which are currently being practiced by the Panay provinces will be followed. While the PDAP administrative guidelines have been formulated for massive infrastructure projects like rural roads, bridges and flood control structures, PUSH will seek to find application of these principles in a social project.

The following general guidelines have been agreed upon:

1. The Barangay Health Worker, in coordination with the Barangay Council and in consultation with the barangay residents, will identify the projects that the barangay will implement during the succeeding year. The Sanitary Inspector will provide technical assistance in the identification of these projects, and if the need arises, the assistance of the Provincial Sanitary Engineer, the Provincial Engineer's Office or the Provincial Office of the Department of Public Works may be sought. The package of identified projects, together with cost estimates, will constitute the Barangay Capital Improvement Plan (CIP) for Health. The BHW will submit this to the Municipal Development Staff for review and approval.

(During the first year of the project, the BHW, as part of his training, will identify, develop and seek approval of two projects which he can implement immediately after his training. While implementing these projects, the BHW will also be preparing next year's CIP for Health.)

2. After reviewing them, the Municipal Development Staff will consolidate all the barangay CIPs in the municipality and this will constitute the Municipal Capital Improvement Plan for Health. This will be submitted to the Provincial Development Staff for review and approval.
3. The Provincial Development Staff, after review and approval, will consolidate all the Municipal CIPs into the Provincial Capital Improvement Plan for Health. This will, in turn, be submitted to the RDC for review and approval.
4. The RDC will submit a budgetary request to NEDA supported by a work program based on the approved Provincial Capital Improvement Plans for Health.
5. NEDA will notify the RDC of its approval of the budget and will cause the release of one-half of the annual budget to the Regional Trust Fund.
6. The RDC will return the approved CIP to each province and advise the province of the amount that has been reserved for it for the implementation of PUSH.
7. The province will return the approved Municipal CIPs to the municipalities and advise them of the amounts reserved for them to implement PUSH in their municipalities.
8. The Municipal Development Staff returns the approved Barangay CIP to the BHW and advises him of the amount that has been reserved for the implementation of sanitation projects in the barangay during the year.
9. The BHW, upon receipt of the approved Barangay CIP, will start to develop individual proposals to implement the projects in the CIP. The proposal will include a work program and detailed technical specifications and cost estimates. The Sanitary Inspector, Provincial Sanitary Engineer or the Provincial Engineer's Office may be called upon to provide technical assistance in the development of project proposals. Specially in the case of projects relating to the improvement or construction of new water facilities, the proposal should contain an acceptable plan of how the facility that will be improved or constructed will be maintained. The plan will indicate the manner by which the users have organized themselves in assigning responsibilities for the maintenance of the facility, and in the collection and handling of maintenance fees. The project proposal will be submitted to the MDS for review and approval.

10. The MDS will review the project plan, technical specifications and cost estimates. It is being planned that projects costing less than ₱5,000 will be reviewed and endorsed by the Provincial Sanitary Engineer. Projects costing more than ₱5,000 will be reviewed and endorsed by the Provincial Engineers Office.
11. After the required reviews and endorsements have been obtained, the proposal will be submitted to the Provincial Development Staff for approval.
12. The BHW, once notified of the approval of the proposal, will requisition the construction commodities. The BHW will receive and assume responsibility over the construction commodities delivered to the barangay. Labor will be arranged and construction activities will begin.
13. When the project has been completed, the BHW will notify the Municipal Development Staff which will send the Municipal Development Officer to the barangay to inspect the project.
14. The MDO will issue a Project Completion Certificate to the Municipal Government when the inspected project has been found to meet the prescribed technical specifications.

#### Revolving Fund for Small Projects

Considering the length of time it will take to get the Capital Improvement Plan and individual project proposals approved, measures will be adopted to enable municipal governments to respond in a timely fashion to barangay requests for small health and sanitation projects. Timeliness in responding to these requests is deemed vital if the BHWs are to maintain their barangay credibility.

The Special Revolving Fund will be used only for projects costing ₱200 or less, and a ceiling of ₱5,000 per year per BHW will be set. Projects to be funded under this fund will be initiated by a justification from the BHW/barangay and the cost estimates and technical specifications will be endorsed by the RHU Sanitary Inspector.

The Municipal Development Officer will inspect the project upon completion. If found to be satisfactory, a Project Completion Certificate will be issued to the Municipal Government. This certificate, together with official receipts for commodities purchased and other supporting documents will be required for the liquidation of the Fund and in applying for the following year's allotment.

**Repair and Maintenance of Water Facilities**

The repair and maintenance of water facilities constructed under the PUSH Project will be the responsibility of the barangay. Every proposal for the construction or improvement of a water facility submitted to the province will not be approved for implementation if it does not contain a provision for the repair or maintenance of the facility after it has been constructed.

It is anticipated that the types of water facilities being considered for the project will not require heavy outlays for repair and maintenance. The BPW will determine the amount to be appropriated by the barangay for the repair and maintenance of each water facility.

The barangay has the following options to explore regarding the source of funds for the repair and maintenance of water facilities:

- a. Monthly contributions in the form of services charges from the users of the water facility;
- b. Appropriations from the barangay's share of the Real Estate Tax; and
- c. Proceeds from the Botika sa Barangay.

VI. EVALUATION ARRANGEMENTS

IMPLEMENTATION SCHEDULE\*

<u>A C T I V I T Y</u>	<u>Target Completion Date</u>
1. Loan/Grant Agreement signed	January 15, 1978
2. Organizational and administrative structure in place at regional, provincial & municipal level	March 30, 1978
3. BHW training curriculum and training support developed	April 30, 1978
4. Project municipalities/barangays identified and approved	May 30, 1978
5. Training coordinators and provincial trainers recruited and trained	May 30, 1978
6. BHW recruitment starts	June 1, 1978
7. BHW training site fully equipped	June 15, 1978
8. CPs to first Disbursement of Loan met	June 30, 1978
9. First BHW basic training session conducted	August 15, 1978
10. Start of actual barangay environmental sanitation sub-projects	August 16, 1978
11. Second BHW basic training session conducted	November 30, 1978
12. First annual evaluation	February 28, 1979
13. Third BHW basic training session conducted	March 30, 1979
14. Fourth BHW basic training session conducted	June 30, 1979
15. Fifth BHW basic training session conducted	September 30, 1979
16. Sixth BHW basic training session conducted	December 30, 1979
17. Second annual evaluation	January 30, 1980
18. Seventh BHW basic training session conducted	March 30, 1980
19. Eight BHW basic training session conducted	June 30, 1980
20. Ninth BHW basic training session conducted	September 30, 1980
21. Tenth BHW basic training session conducted	December 30, 1980
22. Third annual evaluation	January 30, 1981
23. 11th BHW basic training session conducted	March 30, 1981
24. 12th BHW basic training session conducted	June 30, 1981
25. Phase-out of first batch of 25 BHWs	August 15, 1981
26. 13th BHW basic training session conducted	September 30, 1981
27. Phase-out of second batch of 25 BHWs	November 30, 1981
28. 14th BHW basic training session conducted	December 30, 1981
29. Fourth annual evaluation	January 30, 1982
30. 15th BHW basic training session conducted	March 30, 1982
31. Phase-out of third batch of 24 BHWs	March 30, 1982
32. 16th BHW basic training session conducted	June 30, 1982

\* - This schedule is adjustable, depending on completion of activity 1.

A C T I V I T Y

Target  
Completion Date

- |   |                    |
|---|--------------------|
| 33. Phase-out of fourth batch of 26 BHWs      | June 30, 1982      |
| 34. 17th BHW basic training session conducted | September 30, 1982 |
| 35. Phase-out of fifth batch of 24 BHWs       | September 30, 1982 |
| 36. 18th BHW basic training session conducted | December 30, 1982  |
| 37. Terminal evaluation                       | March 30, 1983     |

## EVALUATION ARRANGEMENTS

A terminal evaluation after the 5-year implementation of the project will assess effectiveness and efficiency in attaining the project's stated goals. Using the logical framework matrix as the principal basis, the terminal evaluation will likewise identify the different factors directly responsible for goal achievement or non-achievement.

Aside from the terminal evaluation, four yearly evaluations will be undertaken in order to measure the extent of progress against planned targets and identify operational constraints. The results of the annual evaluations will be used primarily to guide program management to institute the necessary changes in the program design or to reformulate operational strategies in order to hasten the attainment of project goals.

As discussed in the Administrative Arrangements Section, the PUSH Project Support Staff will include a BHW Training Specialist, a Sanitary Engineer, a Public Health Administrator, a Systems Analyst and a Research & Evaluation Officer. The Research & Evaluation Officer will coordinate all evaluation activities of the project and will supervise the collection of needed evaluation data. A project monitoring system will be designed and installed that will provide project management with accurate and timely data with which to evaluate day-to-day operations of the project. The continuous evaluation of project activities, made possible by analyzing periodic reports coming through the project monitoring system, is internal to the project and constitutes a function of management. The annual and terminal evaluations, on the other hand, will be performed by an independent agency.

Considering its importance to the project, a special evaluation plan will be undertaken for the BHW training component, which will be the responsibility of the PUSH Regional Training Center. Every BHW Training session conducted will be evaluated to measure the effectiveness of the training to transfer prescribed knowledge and skills to the trainees. Successful trainees who have been deployed will be followed up through a monitoring mechanism to measure the extent of application of knowledge and skills that have been learned. Results of this special evaluation will be utilized to continually upgrade training techniques.

A Project Evaluation Team will be organized whose principal functions will be to approve evaluation parameters and survey designs, and to jointly review evaluation findings. The team will be headed by a USAID Evaluation Officer and will be composed of the following:

Director, PUSH Project Management Team  
Director, Regional Health Office VI  
Director, DLGCD Regional Office VI  
USAID Project Officer

A total of five evaluation surveys, to be undertaken by an independent agency, is planned for this project. The contracting of these surveys will require USAID approval.

During the course of monitoring project implementation, the USAID Project Officer may bring in a foreign or local consultant to perform a special evaluation or audit on the project or portions of it, whenever he sees the need.

**ANNEX A**

**SUPPLEMENTARY TECHNICAL DETAILS**

## SUPPLEMENTARY TECHNICAL DETAILS

### 1. Improvement of Existing Dug Wells

Dug wells are usually hand dug and for that reason, they are shallow, have larger opening at top of well, large in diameter and not properly sealed. This allows for easy contamination from surface water, open air, and dirty utensils. However, this well can be so constructed or improved in a sanitary manner to prevent outside contamination. This project will focus most heavily on this type of well.

Those existing dug wells may be lined with bricks, stones or concrete. The primary purpose of lining is to prevent contaminated water from entering the well. The sealing of the well lining will prevent the drawing-in of surface water at or near the top of the well. The well should be provided with a water tight cover at the top of the casing and a concrete apron built around it for drainage. The pump unit must be provided with a suitable base to prevent vibration during pumping, together with a sanitary well seal.

The space between the casing and the undisturbed embankment should be backfilled with clean material and cement should also be placed to a depth of ten feet below the ground surface to prevent surface water from entering along the well lining.

Most dug wells do not penetrate much below the water table because of the difficulties in manual excavation and the positioning of cribs and linings. The depth of excavation can be increased by the use of pumps to lower the water table during construction. Dug wells of this type are suitable for shallow aquifers and usually yield a considerable quantity of water with the least drawdown by means of a hand pump, and will last for a considerable time, as long as the aquifer will not dry out. The pump unit and the drop pipe can easily be replaced as often as necessary. The pump unit (jetmatic hand force pump) as shown (Fig. 1), is preferred because it does not need constant priming, which is a source of contamination. It can also pump to an elevated tank when desired and is locally available.

The cost of materials and labor for improving a dug well, shown on Page 2 of this Annex, is approximately \$112.00 (P840.00) assuming that the depth of the well is about six (6-9) meters (20-30 feet) and using cement, gravel, etc., as shown in the following description of materials. (See Fig. 1 this Annex)

The cost breakdown of open dug well improvement is as follows:

<u>AID Counterpart</u>		P 735.00
<u>Materials</u>		
1.5 cu.m. Gravel	P 53.00	
1.0 cu.m. Sand	30.00	
.5 cu.m. Boulders 5" maximum dia.	15.00	
12 bags Cement	228.00	
2 pcs. Bar 3/8" $\varnothing$	18.00	
1 kilo Tiewire #16	6.00	
1 pc. Jetmatic Pump (Dragon or Sanyo)	280.00	
1 pc. GI Pipe 1-1/4" $\varnothing$ x 20'	<u>105.00</u>	
<u>Beneficiary Counterpart (Labor)</u>		<u>105.00</u>
	<b>TOTAL</b>	<b>P 840.00</b>

2. Shallow Driven Well - up to 60 feet

A rapid and efficient method of sinking well pipe is that of jetting or washing - in. This method requires a source of water and a pressure pump (a double - acting reciprocating hand pump will do). Water is forced under pressure down the use pipe, which issues from a special washing points. The pipe is then driven down as material is loosened by the jetting. Several inches length from the end of the pipe is slotted or perforated.

The riser pipe of the jetted well is used as the suction pipe for the pump. Concrete, not less than six inches thick must be poured between the pipe and the undisturbed material to a depth of at least ten feet below the ground surface. The base of the pump must be sufficiently anchored and a concrete slab provided to divert surface water away from the well.

Wells of this type can be driven up to a depth of 100 feet. In such a case, the water table must be at least 20 feet below the ground surface or the underground water must be partly artesian, so that the pump can draw the water to the surface.

The small diameter of the well limits the yield considerably, depending on the frequency of pumping. This type of well, though the least expensive in method of installation, will last as long as the pipe lasts. When the pipe develops holes by corrosion, contaminated surface waters will be drawn into the well, making it unsafe.

The cost of materials and labor for the shallow driven well amounts to about \$186.00 (P1,400.00) if the well is sunk 60 feet below the ground surface. (See Fig. 2, this annex.)

Shallow Driven Well - up to 60 feet

<u>AID Counterpart</u>		P 700.00
<u>Materials</u>		
. 4 cu. m. Gravel	P 14.00	
. 2 cu.m. Sand	6.00	
. 3 cu.m. Boulder	9.00	
4.0 bags Cement	76.00	
1 pc. Jetmatic Pump (Dragon or Sanyo)	280.00	
3 pcs. GI Pipe 1-1/4" Ø	<u>315.00</u>	
Labor - Pipe drilling P30.00/ft.		<u>600.00</u>
AID TOTAL		<u>P1,300.00</u>
<u>Beneficiary Counterpart (Labor)</u>		<u>100.00</u>
TOTAL		<u>P1,400.00</u>

3. Drilled Wells

In areas where an adequate supply of water cannot be supplied through dug or driven wells, often times a deeper well will produce the needed supply. In such instances, this project has included funds (based on sanitary engineer's study) to construct drilled wells when required. These will vary in depth, in most instances, from 60'-250', and can be drilled deeper, if necessary.

Construction of a drilled well is ordinarily accomplished by one of two techniques, percussion or rotary hydraulic drilling. The selection of the method depends on the geology of the site; the depth; desired diameter; and the capacity of the well and on the investment and time available for construction.

Percussion (cable tool) Method

Drilling by the cable-tool or percussion method is accomplished by raising and dropping a heavy drill bit and stem. The impact of the bit crushes and dislodges pieces of the formation. The reciprocating motion of the drill tools mixes the drill cuttings with water into a

slurry at the bottom of the hole. This is periodically brought to the surface with a bailer, a 10 to 20 foot long pipe equipped with a valve at the lower end.

Caving is prevented as drilling progresses by driving or sinking into the ground a casing slightly larger in diameter than the bit. When wells are drilled in hard rock, casing is usually necessary only through the overburden of unconsolidated material. A casing may be necessary in hard rock formations to prevent caving of beds of softer material.

Under ordinary conditions, it is difficult to detect water bearing beds in cable-tool holes, since the slurry in the hole does not tend to seal off the water bearing formation. A sudden rise or fall in the water level in the hole during bailing indicates that a permeable bed has been entered. Crevices or soft streaks in hard formations are often water-bearing. Sand, gravel, limestone, and sandstone are generally permeable and produce the largest water yields.

#### Rotary Hydraulic Drilling Method

The rotary hydraulic drilling method may be used in most formations. The essential parts of the drilling assembly include a derrick and hoist, a revolving table through which the drill pipe passes, a series of drill pipe sections, a cutting bit at the lower end of the drill pipe, a pump for circulation of drilling fluid, and a power source to drive the drill.

In the drilling operation, the bit breaks up the material as it rotates and advances. The drilling fluid (called mud) pumped down the drill pipe picks up the drill cuttings and carries them up the annular space between the rotating pipe and the wall of the hole. The mixture of mud and cuttings is discharged to a settling pit where the cuttings drop to the bottom and mud is recirculated to the drill pipe.

When the hole is completed, the drill pipe is withdrawn and the casing placed. The drilling mud is usually left in place and pumped out after the casing and screen are positioned. The annular space between the hole wall and the casing is generally filled with cement grout in non-water-bearing sections but may be enlarged and filled with gravel at the level of water-bearing strata.

When little is known concerning the geology of the area, the search for water-bearing formations must be done carefully and deliberately so that all possible formations are located and tested. Water-bearing formations may be difficult to recognize by the rotary method or may be plugged by the pressure of the mud.

The drilled wells will probably be dug by percussion drilling rigs which are more locally available throughout the Philippines. There are a few mounted rotary drilling rigs available. The type of drilling will depend upon the equipment available and the recommendation of the Provincial Engineer. (See Fig. 2, this Annex)

The cost breakdown of installing drilled well of 230' average depth is as follows:

	<u>Pesos</u>
<u>1. Deep Drilled Well - 230 foot average depth</u>	
A. 23 pcs. drive pipe @P125 (4" - 4-1/2" diameter x 10')	<u>P 2,875</u>
B. 1 pc. drive show (4"x 4-1/2") @ P650.00	650
C. 1 set deep well pump with accessories	<u>2,800</u>
1 plunger	
1 yoke assembly	
1 polish rod	
1 GI tee 1-1/2"	
1 main shaft with bronze bushing	
1 stuffing box	
1 main bearing	
1 GI nipple 1-1/2 x 18"	
1 GI spout 1-1/2"	
1 fish plate	
8 sucker rods 5/8" x 10' with coupling (assumes water level at 40')	
D. Local materials	
12 bags cement @ P18/bag	728
6 reinforcing steel bars 3/8" dia x 20' @P14	<u>216</u>
4m <sup>3</sup> sand @ P30	84
8m <sup>3</sup> gravel @ P35	120
1 Yakal 2 x 5 x 8"	280
	28
E. Labor (75 working days)	
1 senior well driller @ P18/day	7,425
1 well driller II @ P15/day	<u>1,350</u>
3 well drillers I @ P12/day	1,125
3 laborers @ P10/day	2,700
	2,250
F. Oil/Fuel	
G. Transport of Equipment	690
H. Lab Test of Water	<u>300</u>
I. Imputed Equipment rental @ P100/day x 75	55
J. 5% Engineering Fee	<u>7,500</u>
	<u>1,151</u>
<b>TOTAL</b>	<b>P 24,174</b>

SOURCE: Bureau of Public Works, Iloilo

4. Pit Latrine

The pit privy or latrine planned for this project is very common in the Philippines. It is inexpensive, easy to construct and provides for waste disposal in a sanitary manner. In constructing this type of latrine, a 30" diameter hole, six to eight feet deep is dug for the pit. Most soils have sufficient stability to support a toilet slab and bowl. Very loose or sandy soil will probably require some type of lining, usually bamboo or old barrels for support. Any simple superstructure can be fitted over the pit and bowl for privacy. When the pit becomes full, a new hole can be dug, the slab and bowl moved to a new pit and secured in place. The old pit is then covered with at least two feet of dirt.

The latrine can be cleaned with only 1/2 gallon of water. When this is done, there is no odor or flies, and it will stay clean. The villagers must be urged to provide for a sufficient supply of water to be stored at the latrine in a large container (e.g., 4 gallons tin can or crock). A quart container should also be provided. Instructions by the BHW should be given in the proper method of flushing the latrine. If this is done improperly, a large quantity of water will be wasted. Two quarts of water are sufficient to clear the latrine if the water is thrown with a fair amount of force from the front end of the bowl.

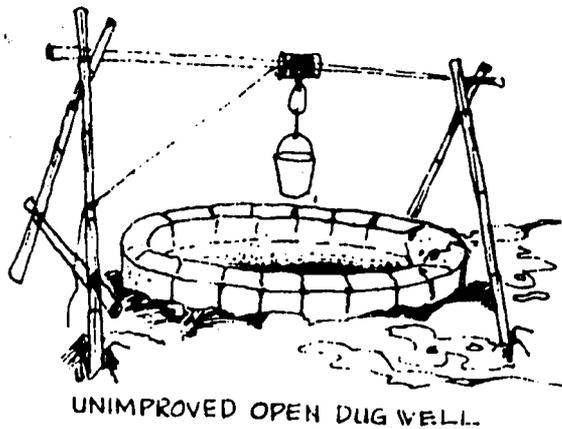
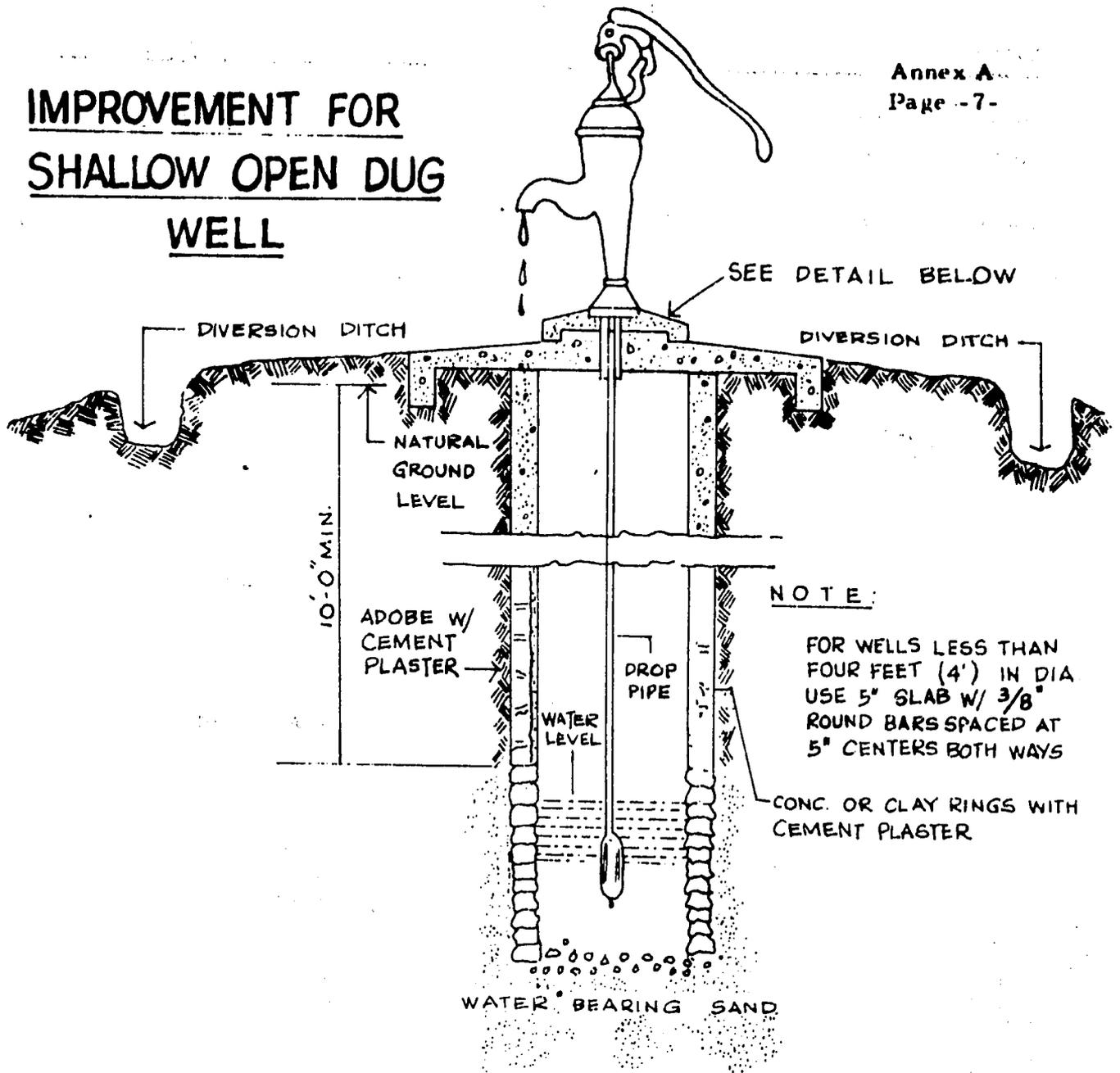
In this project, the villagers must provide the pit that is constructed in an approved sanitary manner so as not to contaminate water sources. A structure will be built to cover the toilet and pit. When the villager meets this requirement, they will be furnished an approved bowl and necessary accessories for securing the bowl to the slab. This slab can be constructed of various materials depending upon the choice of the villager. However, it must meet the approval of the BHW or Sanitary Inspector. See. Fig.4 of this Annex for model design.

Cost estimate of the pit latrine, i.e., cost of bowl, hardware, administration, etc., as described is as follows:

Materials

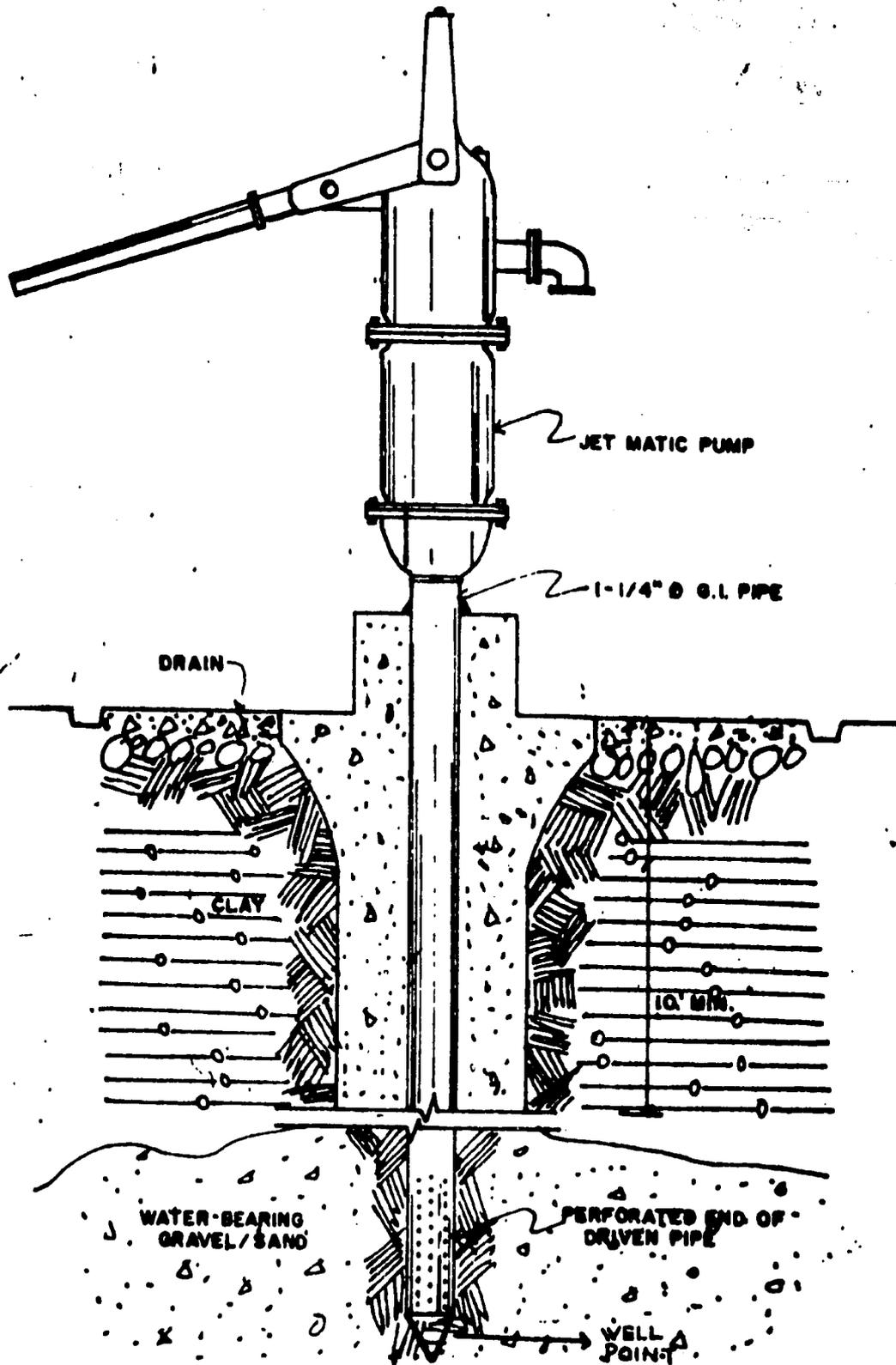
a. Water-seal toilet bowl	P 35.00	
Accessories	<u>26.00</u>	P 61.00
b. Beneficiary Counterpart		
Drum	30.00	
Bamboo	14.00	
Nipa	<u>30.00</u>	
	74.00	
c. Labor		106.00
		<u>P 167.00</u>

# IMPROVEMENT FOR SHALLOW OPEN DUG WELL



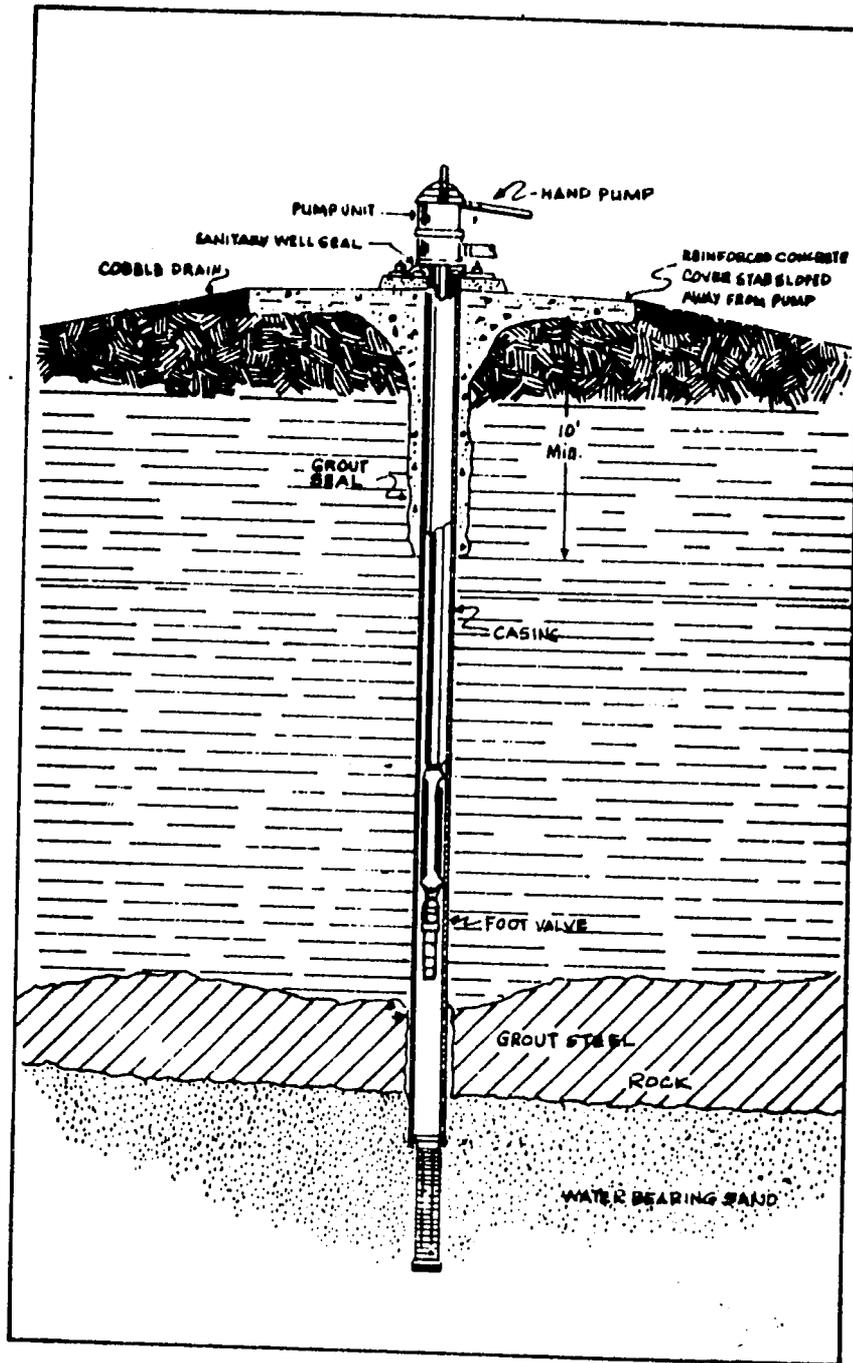
## DETAIL OF CONCRETE TOP FOR DUG WELL

Fig. 1



Shallow Driven Well - up to 60'

FIG. 2



Drilled Deep Well - 60' - 230' or more  
Fig. 3



**ANNEX B**

**SUPPLEMENTARY FINANCIAL DETAILS**

**ANNEX B**  
**Financial and Economic Tables**

**Financial Cost Estimates Tables**

Table	B1	- USAID Grant Contribution
	B2	- USAID Loan Contribution
	B3	- GOP and Local Government Contribution
	B4	- USAID Loan Contribution (Pesos)
	B5	- Environmental Sanitation Construction Costs
	B6	- Barangay Health Worker Training and Salary
	B7	- Equipment and Supplies (AID Loan Contribution)
	B8	- Equipment List Training and Support Staff
	B9	- Project Support Staff Costs
	B10	- GOP and Local Government Contribution
	B11	- Imputed Administration and Supervision Costs Estimated NEDA Contribution
	B12	- Imputed Administration and Supervision Costs Estimated Department of Health Contribution
	B13	- Imputed Administration and Supervision Costs Estimated BPW, DLGCD and POPCOM Contribution
	B14	- Imputed Administration and Supervision Costs Estimated Provincial Government Contribution
	B15	- Imputed Administration and Supervision Costs Estimated Municipal and Barangay Government Contribution
	B16	- Imputed Rent and Utilities Cost, GOP Contribution

**Provincial Budget Analysis Tables**

Table	B17	- Projected Provincial Expenditures on BHW Salaries 1981 - 1985
	B18	- Projected Increase in Real Property Tax (RPT) Collections and Comparison with BHW Salaries
	B19	- Average Real Growth Rates and Real Property Tax
	B20	- Sources of Revenue by Fund, Aklan Province
	B21	- Sources of Revenue by Fund, Antique Province
	B22	- Sources of Revenue by Fund, Capiz Province
	B23	- Sources of Revenue by Fund, Iloilo Province
	B24	- Expenditure Pattern, Province of Aklan
	B25	- Expenditure Pattern, Province of Antique
	B26	- Expenditure Pattern, Province of Capiz
	B27	- Expenditure Pattern, Province of Iloilo

Economic Tables

Table B28	-	Estimated Benefits due to Reduction in Intestinal Parasitism
B29	-	Estimated Benefits due to Reduction in Incidence of Intestinal Mal-absorption
B30	-	Estimated Benefits due to Reduction in Incidence of Enteric Diseases
B31	-	Estimated Benefits due to Reduction in Incidence of Tuberculosis
B32	-	Estimated Increase in Productivity Resulting from Improved Nutrition and Health
B33	-	Estimated Increase in Returns to Education
B34	-	Economic Cost-Benefit Analysis
B35	-	Sensitivity Cost-Benefit Analysis

TABLE B-1  
USAID Grant Contribution  
 PUSH Project  
 (\$1000)

<u>COMPONENT</u>	<u>Year 1</u>		<u>2</u>		<u>3</u>		<u>4</u>		<u>5</u>		<u>Life of Project</u>		<u>TOTAL</u>
	<u>FX</u>	<u>LC</u>	<u>FX</u>	<u>LC</u>	<u>FX</u>	<u>LC</u>	<u>FX</u>	<u>LC</u>	<u>FX</u>	<u>LC</u>	<u>FX</u>	<u>LC</u>	
U.S. Consultants <sup>1/</sup>	18		12		12		12		12		66		66
Local Consultants <sup>2/</sup>				16		16		16		54		102	102
Participant Training <sup>3/</sup> (Foreign)	12		20		8						40		40
Project Management Training (Local) <sup>4/</sup>		15										15	15
Sub-Total	30	15	32	16	20	16	12	16	12	54	106	117	223
15% Contingency <sup>5/</sup>	5	2	5	2	3	2	2	2	2	8	16	18	34
Cost Escalation <sup>6/</sup>	2	1		3	4	4	4	6	5	25	20	39	59
<b>GRANT TOTAL<sup>5/</sup></b>	<b>37</b>	<b>18</b>	<b>42</b>	<b>21</b>	<b>27</b>	<b>22</b>	<b>18</b>	<b>24</b>	<b>19</b>	<b>87</b>	<b>142</b>	<b>174</b>	<b>316</b>

1. U.S. Consultants - The project will require 11 man-months of consultancy services (at \$6,000 per man-month) on the following areas:

Evaluation	-	5	man-months
Health Planning/Adm.	-	2	"
BHW Training	-	2	"
Environmental Health	-	2	"

2. Local Consultants, Evaluation Research - A total of four evaluation surveys is envisioned during the five-year implementation of the PUSH Project. The total cost of the three yearly evaluation surveys is estimated at \$48,000. The terminal evaluation is estimated to cost \$54,000.
3. Participant Training - Ten participant trainees will be sent abroad at an average duration of six weeks per trainee, costing an estimated \$4,000 per trainee which will cover per diem and tuition fees. The GOP will assume air fare and in-country transportation expenses estimated at \$2,000 per trainee. Two trainees will be sent abroad to attend short courses in each of the following areas: Integrated Health Service Planning and Management, BHW Training, Environmental Health, and Evaluation of BHW Programs. In addition, two participants will be sent on observation trips to study the latest trends in the utilization and training of primary health care workers.
4. Project Management Training (Local) - A management consulting firm will be contracted to provide project management training to people at the regional, provincial and municipal levels who will have a direct responsibility in the implementation of the project. This live-in training will have about 35 participants and a duration of 14 days. Training cost is estimated at \$30 per person per day.
5. Lines may not add across to totals due to rounding.
6. Compounded 6% annually for foreign exchange (FX) costs, 7% for local currency (LC) costs.

TABLE B-2

USAID Loan Contribution  
PUSH Project  
(\$1000)<sup>1/</sup>

<u>COMPONENT</u>	<u>Year 1</u>		<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>Life of Project</u>		<u>TOTAL</u>
	<u>FX</u>	<u>LC</u>	<u>LC</u>	<u>LC</u>	<u>LC</u>	<u>LC</u>	<u>FX</u>	<u>LC</u>	
<u>Environmental Sanitation</u>		205	275	374	452	645		1952	1952
Drilled Deep Wells		178	178	178	178	178		889	889
Driven Shallow Wells		9	27	44	52	76		208	208
Improved Dug Wells		10	40	85	118	275		529	529
Toilets		8	30	67	104	116		325	325
<u>Barangay Health Worker</u>		58	116	203	284	330		991	991
Training		44	62	82	98	106		392	392
Salaries		14	54	121	186	224		600	600
<u>Equipment Supplies</u>	345	133					345	133	478
BHW Supply Kits		66						66	66
Barangay Drugs		60						60	60
RHU Supplies	150						150		150
Provincial Health Labs.	10						10		10
Vehicles	140						140		140
Training and Support	45	7					45	7	52
<u>Project Support Staff</u>		66	66	66	66	66		331	331
Sub-Total	345	462	458	644	802	1042	345	3407	3752
15% Contingency	52	69	69	96	120	156	52	511	563
Cost Escalation <sup>2/</sup>	59	37	76	167	287	459	59	1026	1085
<b>TOTAL</b>	456	568	603	907	1209	1657	456	4944	5400

<sup>1/</sup> Converted from peso estimates in Table B-4 at P7.5/\$1.

<sup>2/</sup> Compounded 7% annually for local currency (LC) costs, 15% for imported equipment (FX).

**TABLE B-3 , GOP and Local Government Contribution  
PUSH Project  
(\$1000, all local currency costs)**

<u>COMPONENT</u>	<u>Year 1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>TOTAL</u>
BHW Salaries				14	54	69
Participant Training	6	10	4			20
Deep Wells Total	183	183	183	183	183	916
Administration and Supervision	132	175	225	231	238	1001
Rent and Utilities	14	14	14	14	14	69
Sub-Total	335	382	427	443	489	2075
15% Contingency	50	57	64	66	73	311
7% Cost Escalation	27	64	110	158	227	586
<b>TOTAL</b>	<b>412</b>	<b>502</b>	<b>601</b>	<b>667</b>	<b>789</b>	<b>2972</b>

NOTE: Figures may not add to totals due to rounding.

**TABLE B-4**  
**USAID LOAN CONTRIBUTION, PUSH PROJECT**  
(1000 pesos)

<u>Component</u>	Year:					<u>Life of Project</u>			
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>FX</u>	<u>LC</u>	<u>TOTAL</u>	
	<u>FX</u>	<u>LC</u>	<u>LC</u>	<u>LC</u>	<u>LC</u>				
<u>Environmental Sanitation</u>		<u>1337</u>	<u>2065</u>	<u>2807</u>	<u>3389</u>	<u>4841</u>		<u>14639</u>	<u>14639</u>
Drilled Deep Wells		1134	1334	1334	1334	1334		6670	6670
Driven Shallow Wells		68	200	330	390	572		1560	1560
Improved Dug Wells		76	303	637	888	2065		3969	3969
Toilets		59	228	506	777	870		2440	2440
<u>Barangay Health Workers</u>		<u>433</u>	<u>873</u>	<u>1523</u>	<u>2129</u>	<u>2477</u>		<u>7435</u>	<u>7435</u>
Training		327	465	615	735	795		2937	2937
Salaries		106	408	908	1394	1682		4498	4498
<u>Equipment and Supplies</u> <sup>1/</sup>	<u>2584</u>	<u>998</u>						<u>2584</u>	<u>3582</u>
BHW Supply Kits		495						495	495
Barangay Drugs		450						450	450
RHU Supplies	1125						1125		1125
Provincial Health Labs	75						75		75
Vehicles	1046						1046		1046
Training & Support	338	53					338	53	391
<u>Project Support Staff</u>		<u>494</u>	<u>497</u>	<u>497</u>	<u>497</u>	<u>498</u>		<u>2483</u>	<u>2483</u>
<b>SUB-TOTAL</b>	<b>2584</b>	<b>3262</b>	<b>3435</b>	<b>4827</b>	<b>6015</b>	<b>7816</b>	<b>2584</b>	<b>25355</b>	<b>27939</b>
15% Contingency	388	489	515	724	902	1172	388	3802	4190
Cost Escalation <sup>2/</sup>	<u>446</u>	<u>228</u>	<u>572</u>	<u>1249</u>	<u>2150</u>	<u>3444</u>	<u>446</u>	<u>7643</u>	<u>8089</u>
<b>TOTAL</b>	<b>3418</b>	<b>3979</b>	<b>4522</b>	<b>6800</b>	<b>9067</b>	<b>12432</b>	<b>3418</b>	<b>36800</b>	<b>40218</b>

1/ Converted to pesos from dollar estimate at ₱7.5/\$.

2/ Compounded 7% annually for local currency (LC) costs, 15% for imported equipment (FX).

**TABLE B-5 Environmental Sanitation Construction Costs  
PUSH PROJECT**

<u>COMPONENT</u>	<u>Unit Cost (P)</u>	<u>Number of Units</u>	<u>Total Cost (P 1000)</u>	<u>Source of Funding</u>		<u>Beneficiary</u>
				<u>AID</u>	<u>GOP</u>	
<u>Toilets</u> <sup>1/</sup>	167	40,000	6680	2440		4240
Bowl and hardware	61		2440	2440		
Drum, bamboo, nipa	74		2960			2960
Labor	32		1280			1280
<u>Drilled Deep Wells</u> <sup>2/</sup>	24174	560	13537	6670	6868	
Materials	7053		3950	2821	1129	
Labor	7425		4158	2970	1188	
Imputed Equipment Rental	7500		4200		4200	
Engineering Fee	1151		644	461	184	
Other	1045		585	418	167	
<u>Driven Shallow Wells</u> <sup>2/</sup>	1400	1,200	1680	1560		120
Materials	700		840	840		
Drilling Labor	600		720	720		
Other Labor	100		120			120
<u>Dug Well Improvement</u> <sup>2/</sup>	840	5,400	4536	3969		567
Materials	735		3969	3969		
Labor	105		567			567
<b>TOTAL</b>			26433	14639	6868	4927

1/ Assumptions on Toilet Facilities Installation

1. The Regional Sanitary Engineer estimates that only 15% of the households in the depressed barangays in Panay have excreta disposal facilities that meet minimum sanitation standards. Assuming an average of 100 households per barangay, 85 households would either have no toilet facilities or facilities that need considerable improvement.
2. The project is targeting the construction of 40,000 toilet facilities over five years, or an average of 1.1 toilets per barangay per month. The construction will be undertaken by the beneficiaries themselves, with technical direction from the BHWs and Sanitary Inspectors. This target equals 65% of all households in the 600 barangays, so that by the end of the project, some 80% of the households should have satisfactory toilets.
3. The unit cost of each toilet facility is ₱167, of which 34% (\$8.00) will be subsidized by the project. The estimated cost breakdown is:

I. <u>AID Counterpart Loan</u>		
Water-seal Toilet Bowl	₱35	
Hardware	26	₱ 61
II. <u>Beneficiary Counterpart</u>		
Drum	₱30	
Bamboo	14	
Nipa	30	
Material Cost	<u>₱74</u>	
Labor	32	106
TOTAL		<u>₱ 167</u>

2/ Assumptions on Household Water Facilities <sup>1/</sup>

- a. There are 61,200 household beneficiaries in the 600 barangays targeted for PUSH.

1/ See Part I of this Project Paper, in the discussion on Project Outputs.

- b. Sixty-five per cent (40, 000) of these households need improved or new water supply facilities.
- c. Twenty-seven thousand households are presently using 5400 open dug wells as primary sources of water supply which need considerable improvement.
- d. Thirteen thousand households need new water supplies broken down as follows:
  - 6, 000 households from shallow driven wells (up to 60 ft. deep) with jetmatic pumps which can adequately service 5 households per unit, or a total requirement of 1, 200 units.
  - 7, 000 from drilled deep wells averaging 230 feet deep, with each unit capable of providing adequate water to an average of 25 households, or a total requirement of 280 functional wells.
- e. As borne by the experience of BPW deep well drillers in Panay, 30% of wells drilled will be dry, and another 20% will yield water unfit for human consumption. Therefore, in order to have 280 functional deep well, 560 wells will have to be drilled.
- f. Of the total 560 deep wells to be drilled, the Department of Public Works will fund the drilling of 160 wells.
- g. The drilling and construction of the wells to be funded under this project will be undertaken by the provincial offices of the Dept. of Public Works.
- h. The 230 feet average depth of the drilled wells being costed was calculated from the following table:

<u>Province</u>	<u>Average Depth of wells that have been drilled</u>	<u>Number of Barangays To Be Served by PUSH</u>
Aklan	100 ft	96 (16%)
Antique	200 ft	120 (20%)
Capiz	200 ft	120 (20%)
Iloilo	250 ft	264 (44%)

- i. The Cost breakdown of installing deep and shallow wells and of improving open dug wells is as follows:

	<u>Pesos</u>
<b>1. Deep Drilled well - 230 feet average depth</b>	
A. 23 pcs. drive pipe @ P125 (4" - 4-1/2" diameter x 10')	2,875
B. 1 pc. drive shoe (4" x 4-1/2") @ P650	<u>650</u>
C. 1 set deep well pump with accessories	<u>2,800</u>
1 plunger	
1 yoke assembly	
1 polish rod	
1 GI tee 1-1/2"	
1 main shaft with bronze bushing	
1 stuffing box	
1 main bearing	
1 GI nipple 1-1/2 x 18"	
1 GI spout 1-1/2"	
1 fish plate	
8 sucker rods 5/8" x 10' with coupling (assumes water level at 40')	
D. Local materials	728
12 bags cement @ P18/bag	<u>216</u>
6 reinforcing steel bars 3/8" dia. x 20' @ P14	84
4m <sup>3</sup> sand @ P30	120
8m <sup>3</sup> gravel @ P35	280
1 Yakal 2 x 5 x 8"	28
E. Labor (75 working days)	7,425
1 senior well driller @ P18/day	<u>1,350</u>
1 well driller II @ P15/day	1,125
3 well drillers I @ P12/day	2,700
3 laborers @ P10/day	2,250
F. Oil/Fuel	690
G. Transport of Equipment	<u>300</u>
H. Lab Test of Water	<u>55</u>
I. Imputed Equipment rental @ P100/day x 75	<u>7,500</u>
J. 5% Engineering Fee	<u>1,151</u>
<b>TOTAL</b>	<b>P24,174</b>

SOURCE: Bureau of Public Works, Iloilo

2. Shallow Driven Well - up to 60 feet

AID Counterpart

Materials

.4 cu.m. Gravel	₱ 14.00
.2 cu.m. Sand	6.00
.3 cu.m. Boulder	9.00
4.0 bags Cement	76.00
1 pc. Jetmatic Pump (Dragon or Sanyo)	280.00
3 pcs. GI Pipe 1-1/4" Ø	<u>315.00</u>

₱ 700

Labor - Pipe drilling ₱30/ft.

600

AID TOTAL

₱1,300

Beneficiary Counterpart (Labor)

100

TOTAL

₱1,400

3. The cost breakdown of open dug well improvement is as follows:

AID Counterpart

1.5 cu.m. Gravel	₱ 53.00
1.0 cu.m. Sand	30.00
.5 cu.m. Boulders 5" maximum dia.	15.00
12 bags Cement	228.00
2 pcs. Bar 3/8" Ø	18.00
1 kilo Tiewire #16	6.00
1 pc. Jetmatic Pump (Dragon or Sanyo)	280.00
1 pc. GI Pipe 1-1/4" Ø x 20'	<u>105.00</u>

₱ 735

Beneficiary Counterpart (Labor)

105

TOTAL

₱ 840

j. Schedule of Well Installation

1. Drilled Deep Wells (average depth; 230 feet)

A total of 560 units has been programmed for drilling during the 5-year life of the project, or an average of 28 per province per year.

2. Shallow Driven Well with Jetmatic Pump (60 - 70 feet)

An average of 2 units for every barangay (and for every BHW deployed) will be installed. Over the 5-year duration of the project, 1200 units will be constructed.

3. Improvement of Open Dug Wells

The project is programming the improvement of 5,400 existing open dug wells. This corresponds to nine wells per barangay to be improved over five years.

**TABLE B-6: BARANGAY HEALTH WORKER (BHW) TRAINING AND SALARY COSTS, USAID LOAN CONTRIBUTION PUSH PROJECT (1000 pesos)**

<u>Component</u>	Year:					<u>TOTAL</u>
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	
BHW Initial Training <sup>1/</sup>	68	136	196	196	196	792
BHW Retraining <sup>2/</sup>		60	150	270	330	810
Trainers Training <sup>3/</sup>	8					8
Training Task Force <sup>4/</sup>	20	15	15	14	14	78
Regional Training Center <sup>5/</sup>	112	117	117	117	117	580
Provincial Training Centers <sup>6/</sup>	<u>119</u>	<u>137</u>	<u>137</u>	<u>138</u>	<u>138</u>	<u>669</u>
TRAINING SUB-TOTAL	327	465	615	735	795	2937
BHW Salaries <sup>7/</sup>	<u>106</u>	<u>408</u>	<u>908</u>	<u>1394</u>	<u>1682</u>	<u>4498</u>
<b>BHW TOTAL</b>	<b>433</b>	<b>873</b>	<b>1523</b>	<b>2129</b>	<b>2477</b>	<b>7435</b>

Footnotes for Table B-6 BHW TRAINING AND SALARY COSTS

TOTALS (Pesos)

<u>1/</u> BHW initial training allowance P40/day. This includes room and board costs and classroom space, P40 x 30 days x 600 trainees -----	P 720,000
Provincial trainer's honorarium at P250/mo x 8 x 36 mos. -	72,000
<u>2/</u> BHW retraining allowance at P40/day for 10 days every 6 mos. after initial training for 3 years (no more than 5 retraining sessions each). P40 x 10 days x 2,025 trainees-----	810,000
<u>3/</u> Trainer's Training (one time)	
8 Prov'l. Trainers per diem at P45/day for 7 days-----	2,520
Reg. Trainers - 8 local and 2 consultants	
Local Trainers - 8 at P50/day x 7 days-----	2,800
Consultants - 2 at P150/day x 7 days-----	<u>2,100</u>
Sub-Total	7,420
<u>4/</u> Special Task Force on Training (6 regular members; 3 consultants)	
Phase I - Preparation of Training Manuals (2 weeks live-in)	
1. Allowance - honorarium P100/day x 10 days x 6-----	6,000
2. Consultants	
Transportation - P400 (Manila x 3 -----	1,200
Honorarium - 150/day	
Board and Lodging - <u>50/day</u> P200/day x 10 days x 3--	6,200
Phase II - Bi-Annual Workshop	
1. Allowance - P100/day x 5 days x 9 workshops x 6-----	27,000
2. Consultants	
Transportation - P400 (Manila x 3 x 9	10,800
Honorarium - 150/day	
Board & Lodging - <u>50/day</u> P200/day x 5 days x 9 workshops x 3 -----	<u>27,000</u>
Sub-Total	78,000
<u>5/</u> Regional Training Center	
A. Personal Services	
A. 1. Salaries	
One Regional Training Coordinator at P1,500/mo--	
One Assistant Training Coordinator at P800/mo---	
One Clerk-Typist at P300/mo-----	
One Driver-Mechanic at P350/mo-----	
TOTAL P2,950 x 60 months-----	177,000

**TOTALS (Pesos)**

<b>A.2 Employees Benefits</b>		
Medicare	₱3.75/month x 4 x 60 mo. -----	900
GSIS	9.5% of salary x ₱177,000 -----	16,815
ECC	1% of salary x ₱177,000 -----	1,770
<b>B. Travel/Transportation</b>		
Per diem: maximum of 10 days travel per month for coordinator and assistant coordinator at ₱35/day		
	2 x ₱35 x 10 days and 60 months -----	42,000
	Driver maximum ₱200/mo. x 60 mo.-----	12,000
	Gasoline at 10 liters/day x ₱1.80 x 22 days x 60 months (includes maintenance) -----	23,760
	Repairs starting 2nd year at ₱500/mo. x 48 mo. ---	24,000
C.	Supplies and materials at ₱400/month x 60 mo. ---	24,000
D.	Communication at ₱300/month x 60 mo. -----	18,000
<b>E. Printing and Publication</b>		
E.1.	Student materials package at ₱100 per package to be distributed during training of the BHWs x 600	60,000
E.2.	Revision/upgrading and other materials at ₱3,000/mo. x 60 -----	180,000
	Sub-Total	<u>580,245</u>

**6/ Provincial Training Center****A. Personal Services****A.1. Salaries**

Two Provincial Training Coordinators at ₱1,000/mo/ea.

Two Assistant Provincial Training Coordinators  
(Iloilo only) at ₱600/month/each

Four Clerks at ₱300/month/each

Three Driver-Mechanics at ₱350/month/each

Total ₱5450 x 60 months ----- 327,000

**A.2. Benefits**

Medicare ₱3.75/month x 11 x 60 mo. ----- 2,475

GSIS 9.5% of salary x ₱327,000 ----- 31,065

ECC 1% of salary x ₱327,000 ----- 3,270

TOTALS (Pesos)

<b>B. Travel and Transportation</b>		
Per diem: maximum of 10 days travel per month per training coordinator and assistant at ₱35/day,		
4 x ₱35 x 10 days x 60 mo. -----		84,000
Driver's maximum ₱200/mo x 3 x 60 mo. -----		36,000
Gasoline at 10 liters/day x ₱1.80 x 22 days x 60 mo. x 3 (includes maintenance) -----		71,280
Repairs starting 2nd year at ₱500/mo. per vehicle ₱500 x 3 x 48 mo. -----		72,000
C. Supplies and materials at ₱500/mo. x 60 mo. -----		30,000
D. Communication at ₱100/mo. x 60 mo. x 2 -----		12,000
Sub-Total -----		669,090
Training Total -----		<u>₱2,936,755</u>

7/ Barangay Health Worker's Salary:

Basic Monthly Pay -----	240.00
Emergency Allowance -----	75.00
Medicare -----	3.75
Employees Compensation Insurance 1% -----	2.40
GSIS Insurance (3%) -----	7.20
Total -----	<u>₱328.35/mo.</u>

Year	Cumulative Deployment Schedule	Man-Months Paid			Amount Paid (₱1000)		
		By AID Loan	By Province	Total	AID	Provinces	Total
1	50	322		322	106		106
2	150	1244		1244	408		408
3	300	2766		2766	908		908
4	450	4244	322	4566	1394	106	1500
5	<u>600</u>	<u>5122</u>	<u>1244</u>	<u>6366</u>	<u>1682</u>	<u>408</u>	<u>2090</u>
<b>TOTAL</b>	600	13698	1566	15264	4498	514	5012

**TABLE B-7**  
**Equipment and Supplies**  
**AID Loan Contribution**  
**PUSH PROJECT**

	<u>TOTAL</u>
<b>1. <u>BHW Supply Kit</u></b>	
Barangay education/activities support kit. Cost is \$110 per BHW deployed. Distribution: Year 1-50; Year 2-100; Year 3-150; Year 4-150 and Year 5-150.	\$ 66,000
<b>2. <u>Barangay Drug Capitalization</u></b>	
Capitalization for each participating barangay. Cost is \$100 per barangay for 600 barangays.	60,000
<b>3. <u>RHU Supplies</u></b>	
TB identification and treatment capability for 100 Rural Health Units. Cost is \$1,500 per RHU.	150,000
<b>4. <u>Provincial Health Laboratories (4)</u></b>	
Water and project-related testing to be upgraded. Cost is \$2,500 per provincial laboratory	10,000
<b>5. <u>Vehicles</u></b>	
a. Five pick-up trucks at \$16,500 each. Specification is for a heavy duty vehicle with 4-wheel drive. Use is for commodity site delivery. Distribution: one per province with Iloilo getting 2 because of its bigger area of coverage.	82,500
b. Six jeeps at \$9,500 each. Use is for training centers which will be required to initiate barangays and follow-up trained workers on site. Distribution: one each for Aklan, Antique, Capiz; Two for Iloilo and one for the use of the Project Support Staff.	57,000
<b>6. <u>Furniture/Equipment</u></b>	
A total amount of \$52,154 will be expended on furniture and equipment to outfit the training centers and Project Support Staff. A list of the items required is presented in Table B-8 below.	
<b>TOTAL</b>	<u>52,154</u> <b>\$ 477,654</b>

**TABLE B-8**  
**Equipment List**  
**Training and Support Staff**  
**(At 1977 Prices)**  
**(US\$)**

	<u>QTY.</u>	<u>UNIT</u>	<u>TOTAL</u>
<b>I. <u>PROJECT SUPPORT STAFF</u></b>			
<b>a. <u>U.S. Procurement</u></b>			
Electric typewriter	2	\$ 1,019	\$ 2,038
Air-conditioner	2	597	1,194
Mimeographing Machine	1	2,222	2,222
Copier	1	3,400	3,400
Camera	1	224	224
Desk Calculator	1	444	444
Pocket Calculator	2	81	162
Sub-Total			<u>\$ 9,684</u>
<b>b. <u>Local Procurement</u></b>			
Junior-Executive Desk	5	\$ 83	\$ 415
Junior-Executive Chair	5	58	290
Secretarial Table	1	51	51
Secretarial Chair	1	18	18
Visitors Chair	10	16	160
Typing Table	1	40	40
Conference Table (for 20)	1	853	853
Conference Chair	20	16	320
Filing Cabinets	5	96	480
Sub-Total			<u>\$ 2,627</u>
Project Support Staff-TOTAL			<u>\$ 12,311</u>
<b>II. <u>REGIONAL HEALTH TRAINING CENTER</u></b>			
<b>a. <u>U.S. Procurement</u></b>			
Overhead Projector with Screen	1	\$ 865	\$ 865
Shade Projector	1	513	513
Tape Recorder	1	233	233
Typewriter (long carriage)	1	714	714
Typewriter (short carriage)	1	566	566
Calculator (Desk type)	1	444	444
Mimeographing Machine	1	2,221	2,221
Sound System	1	667	667
Mobile, Audio Visual Unit (complete w/ video tape recorder)	1	16,067	16,067
Sub-Total			<u>\$ 22,429</u>

	<u>QTY.</u>	<u>UNIT</u>	<u>TOTAL</u>
<b>b. Local Procurement</b>			
Blackboard	1	\$ 7	\$ 7
Puncher	1	13	13
Stapler	1	11	11
			<u>31</u>
Sub-Total			\$ 31
Reg'l. Health Trng. Center - TOTAL			\$ 22,460

**III. PROVINCIAL TRAINING SITES (2)**

<b>a. U.S. Procurement</b>			
Overhead Projector with Screen	2	\$ 865	\$ 1,730
Slide Projectors	2	513	1,026
Tape Recorders	2	233	466
Typewriter (long carriage)	2	714	1,428
Typewriter (short carriage)	2	566	1,132
Calculator (Desk type)	2	444	888
Mimeographing Machines	2	2,221	4,442
Sound System	2	667	1,334
Paper Cutter	4	139	556
			<u>556</u>
Sub-Total			\$ 13,002

<b>b. Local Procurement</b>			
Desk (Junior Executive)	5	\$ 83	\$ 415
Desk-ordinary (for Clerks)	4	40	160
Chairs	5	16	80
Typing Table	4	40	160
Classroom Table	16	80	1,280
Classroom Chair	100	16	1,600
Blackboard	2	7	14
Puncher	4	13	52
Stapler	4	11	44
Filing Cabinet	6	96	576
			<u>576</u>
Sub-Total			\$ 4,381
Provincial Trng. Centers - TOTAL			\$ 17,383

**GRAND TOTAL**

\$ 52,154

TABLE: B-9

Project Support Staff Costs  
 USAID Loan Contribution  
 PUSH PROJECT (P1000)

<u>COMPONENT</u>	Year					<u>TOTAL</u>
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	
<u>Personal Services</u>	159	159	159	160	161	798
Salaries <u>1/</u>	106	106	106	106	107	531
Employee Benefits <u>2/</u>	11	11	11	12	12	57
Consultants <u>3/</u>	24	24	24	24	24	120
Honorarium <u>4/</u>	12	12	12	12	12	60
Representation Allowance <u>5/</u>	6	6	6	6	6	30
<u>Travel and Transportation</u>	101	103	103	103	103	513
Outside Panay <u>6/</u>	70	71	71	71	71	354
Within Panay <u>7/</u>	31	32	32	32	32	159
<u>Conferences and Workshops <u>8/</u></u>	166	166	166	166	166	830
<u>Other</u>	68	69	69	68	68	342
Communication <u>9/</u>	2	3	3	2	2	12
Supplies and Materials <u>10/</u>	16	16	16	16	16	80
Printing and Publication <u>11/</u>	50	50	50	50	50	250
<b>TOTAL</b>	<b>494</b>	<b>497</b>	<b>497</b>	<b>497</b>	<b>498</b>	<b>2483</b>

		<u>TOTALS</u>
<u>1/</u>	<u>Salaries</u> One Project Director at P2,000/month Four Staff Specialists at P1,500/month/each One Clerk-Typist at P500/month One Driver-Utility Man at P350/month Total P7,050/month for 60 months	P 531,000
<u>2/</u>	<u>Employee Benefits</u> Medicare P3.75/month/each x 7 x 60 months GSIS 9.5% of salary x P531,000 ECC 1% of salary x P531,000	1,575 50,445 5,310
<u>3/</u>	Four Consultants at P500/month/each x 60 months	120,000
<u>4/</u>	Project Management Team honorarium at P50 each per meeting (maximum of twice a month). Total of ten persons. P50 x 10 x 2 x 60 months	60,000
<u>5/</u>	Representation for staff director at P500/month x 60 months	30,000
<u>6/</u>	<u>Travel Outside Panay</u> Twice a month travel to Manila for at most three staff members at a maximum duration stay of five days at a time. Plane fare and per diem P1,965/month/each x 3 x 60 months	353,700
<u>7/</u>	<u>Travel Within Panay</u> Twice a month on a three days at a time duration stay for each staff member Gasoline -- P750/month Repairs -- 500/month, total P1,250 x 60 months	75,000
	Other travel within Panay Four Provincial Development Officers per diem maximum of ten days per month at P35/day. 4 x P35 x 10 days x 60 months	84,000
<u>8/</u>	<u>Conferences and Workshops</u> At P41,500 per quarter x 20 quarters	830,000
<u>9/</u>	<u>Communication</u> At P200/month x 60 months	12,000

10/ Supplies and Materials

Fifteen percent of salaries.  $\text{P}531,000 \times .15$

79,650

11/ Printing and Publication

At  $\text{P}50,000$  per year x 5 years.

250,000

**TOTAL**

**P2,482,680**

**TABLE B-10**    **GOP and Local Government Contribution**  
**PUSH PROJECT (1000 pesos, all local currency costs)**

<u>COMPONENT</u>	Year					<u>TOTAL</u>
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	
BHW Salaries <sup>1/</sup>				106	408	514
Participant Training <sup>2/</sup>	45	75	30			150
Wells Funded by BPW	773	773	774	774	774	3868
Use of Well-drilling Equipment for AID-funded wells	600	600	600	600	600	3000
Administration & Supervision:	989	1310	1691	1737	1784	7511
NEDA	52	52	51	51	51	257
DOH	447	447	447	447	448	2236
BPW	33	34	34	34	34	169
DLGCD	45	45	46	46	46	228
POPCOM	21	22	22	22	22	109
Provincial	87	87	134	134	135	577
Municipal	289	578	867	868	868	3470
Barangay	15	45	90	135	180	465
Rent and Utilities	103	104	104	104	104	519
Sub-Total	2510	2862	3199	3321	3670	15562
15% Contingency	377	429	480	498	551	2334
7% Cost Escalation	202	477	828	1187	1699	4393
<b>TOTAL</b>	<b>3089</b>	<b>3768</b>	<b>4507</b>	<b>5006</b>	<b>5920</b>	<b>22289</b>

<sup>1/</sup> See note 7, Table B-6

<sup>2/</sup> See note 3, Table B-1

**TABLE: B-11**

**Imputed Administration and Supervision Costs**  
**Estimated NEDA Contribution**  
**PUSH PROJECT (Pesos)**

<u>POSITIONS</u>	(1) <u>Monthly Salary &amp; Benefits</u>	(2) <u>Number of Positions Required</u>	(3) <u>Number of Months Required</u>	(4) <u>% of Time devoted to PUSH</u>	(5) <u>TOTAL (1x2x3x4)</u>
Regional Executive Director )					
Staff Economist E )					
Social Services Specialist )	7420	1 ea.	60	30	133,560
Staff Engineer )					
Administrative Specialist )					
Accountant II	813	1	60	30	14,640
Economic Researcher B	650	2	60	30	23,400
Illustrator III	600	1	60	30	10,800
Radio Operator	493	1	60	30	8,870
Reference Librarian	448	1	60	30	8,064
Accounting Clerk II	372	1	60	30	6,698
Clerk II	469	4	60	30	33,739
Driver	446	1	60	30	8,019
Driver	332	1	60	15	2,988
Janitor	370	1	60	30	6,653
<b>NEDA TOTAL</b>					<b>257,431</b>

SOURCE: Region VI Neda Office, Iloilo

**TABLE: B-12**      Imputed Administration and Supervision Costs  
Estimated Department of Health Contribution  
**PUSH PROJECT (Pesos)**

<u>POSITIONS</u>	(1) <u>Monthly Salary &amp; Benefits</u>	(2) <u>Number of Positions Required</u>	(3) <u>Number of Months Required</u>	(4) <u>% of Time devoted to PUSH</u>	(5) <u>TOTAL (1x2x3x4)</u>
Regional Health Director ) Chief, Medical Division II)	4155	1 ea.	60	10	24,930
Regional Health Education Advisor) Regional Planning Officer ) Senior Sanitary Engineer ) Medical Nutritionist )	3881	1 ea.	36	80	111,773
Regional Training Nurse	736	1	36	80	21,197
Nurse Instructor	520	3	36	80	44,928
Senior Health Educator	634	1	36	80	18,259
Supervisory Sanitary Engineer	992	1	60	80	47,616
Provincial Health Officer	1375	4	60	10	33,000
Provincial Sanitary Engineer	774	4	60	80	148,608
Provincial Supervisory Public Health Nurse	666	4	36	80	76,723
Provincial Health Educator	639	4	36	80	73,590
Rural Health Physician	813	40	60	10	195,120
Rural Public Health Nurse	494	40	60	10	118,560
Rural Sanitary Inspector	386	40	60	80	741,120
Midwife	448	72	60	30	580,608
<b>DOH TOTAL</b>					<b>2,236,032</b>

SOURCE: Region VI DOH, Iloilo

**TABLE: B-13**      Imputed Administration and Supervision Costs  
 Estimated BPW, DLGCD and POPCOM Contribution  
 PUSH PROJECT      (Pesos)

<u>POSITIONS</u>	(1) <u>Monthly Salary &amp; Benefits</u>	(2) <u>Number of Positions Required</u>	(3) <u>Number of Months Required</u>	(4) <u>% of Time devoted to PUSH</u>	(5) <u>TOTAL (1x2x3x4)</u>
<u>Bureau of Public Works</u>					
Regional Director)					
Regional Auditor )	3347	1 ea.	60	10	20,082
OE Aide )					
Supervising District Engineer	1379	4	60	20	66,192
Supervisory Engineer I	1182	4	60	20	56,736
Dist. Well Drilling Supervisors	545	4	60	20	<u>26,160</u>
BPW TOTAL					<u>169,170</u>
<u>Department of Local Government &amp; Community Development</u>					
Provincial Development Officer	992	4	60	15	35,708
Barangay Development Worker	534	40	36	25	<u>192,240</u>
DLGCD TOTAL					<u>227,948</u>
<u>Population Commission</u>					
District Population Officer	520	4	60	20	24,960
Outreach Workers	350	20	60	20	<u>84,000</u>
POPCOM TOTAL					<u>108,960</u>

SOURCE: Region VI BPW and NEDA Offices, Iloilo

**TABLE: B-14 Imputed Administration and Supervision Costs**  
**Estimated Provincial Government Contribution**  
**PUSH PROJECT (Pesos)**

<u>POSITIONS</u>	(1) Annual Salary & Benefits	(2) Number of Positions Required	(3) Number of Years Required	(4) % of Time Devoted to PUSH	(5) <b>TOTAL</b> <b>(1x2x3x4)</b>
<u>Governor's Office</u>					
Governor	27,732				
Prov'l. Dev'l. Coordinator	20,580				
Project Analyst	8,712				
Infrastructure Analyst	8,712				
Fiscal Analyst	7,986				
Economist	7,986				
Clerk-Typist (2/prov.)	9,104				
Drivers (2/prov.)	8,626				
Sub-Total	99,438	4	5	13 <sup>1</sup> / <sub>2</sub>	258,539
<u>Provincial Treasurer's Office</u>					
Provincial Treasurer	22,728				
Asst. Prov'l. Treasurers (2/prov.)	39,168				
Administrative Deputy	11,180				
Chief, Accounting Division	9,583				
Chief, Cash Division	9,583				
Chief, Property Division	9,583				
Chief, Budget Division	9,583				
Asst. Division Chiefs (2/prov.)	29,388				
Junior Deputy, Journal	7,267				
Junior Deputy, Control	7,267				
Junior Deputy, Ledger	7,267				
Junior Deputy, Processing	7,267				
Clerks, Remittance	4,712				
Clerks, Recording	4,233				
Clerks, Carding	4,712				
Clerks, Issuance	4,153				
Clerks, Cashbooks	4,233				
Sub-Total	191,907	4	5	6.8 <sup>2</sup> / <sub>2</sub>	260,994

	(1)	(2)	(3)	(4)	(5)
<b><u>Provincial Auditor's Office</u></b>					
Provincial Auditor	8,250				
Asst. Provincial Auditor	5,610				
Senior Clerks	9,240				
Chief, Pre-Audit Division	7,920				
Audit Clerk	3,960				
Recording Clerk	3,630				
Carding Clerk	<u>3,432</u>				
Sub-Total	42,042	4	5	6.8 <sup>2/</sup>	<u>57,177</u>
<b>Provincial Government Total</b>					<b>576,710</b>

1/ 10% in years 1 and 2, 15% in years 3 - 5.  
2/ 5% in years 1 and 2, 8% in years 3 - 5.

SOURCE: Provincial Development Office, Iloilo

TABLE: B-16 Imputed Rent and Utilities Cost  
GOP Contribution  
PUSH PROJECT (Pesos)

<u>ACTIVITY</u>	(1) <u>No. of Personnel Housed</u>	(2) <u>Space Required (m<sup>2</sup>)</u>	(3) <u>Estimated Monthly Rental</u>	(4) <u>Estimated Monthly Utilities</u>	(5) <u>No. of Months Required</u>	(6) <u>No. of Units Required</u>	(7) <u>TOTAL (3+4)x5x6</u>
NEDA Admin. & Supervision	19	160	3200	500	60	1	222,000
NEDA Conferences and Briefing		240	4800	250	5.5 <sup>1/</sup>	1	27,775
DOH Training Center Offices Regional	8	64	1280	512	60	1	107,520
Provincial	2	16	320	355	60	4	162,000
Rent & Utilities TOTAL							<u>519,295</u>

1/ 2 days/mo. for 60 months = 120 days (+ 22) = 5.5 months

SOURCES: Region VI NEDA and DOFi, Iloilo

**TABLE: B-15** Imputed Administration and Supervision Costs  
Estimated Municipal and Barangay Government Contribution  
PUSH Project (Pesos)

<u>POSITIONS</u>	(1) <u>Annual Salaries &amp; Benefits</u>	(2) <u>Number of Positions Required</u>	(3) <u>Number of Years Required</u>	(4) <u>% of Time Devoted to PUSH</u>	(5) <u>TOTAL (1x2x3x4)</u>
<u>Municipal Mayor's Office</u>					
Mayor	10,260				
Municipal Dev'l. Coordinator	7,608				
Municipal Dev'l. Officer	7,608				
Project Analyst	4,800				
Fiscal Analyst	4,200				
Clerk-Typist	3,600				
Sub-Total	<u>38,076</u>				
<u>Municipal Treasurer's Office</u>					
Municipal Treasurer	10,260				
Asst. Municipal Treasurer	8,832				
Bookkeeper	3,600				
Clerks (4/municipality)	11,520				
Sub-Total	<u>34,212</u>				
Municipal TOTAL	<u>72,288</u>	40	5	24 <sup>1/</sup>	3,469,824
<u>Barangay Officials</u>					
Per diem and transportation	300 <sup>2/</sup>	600	5		465,000 <sup>2/</sup>
Municipal & Barangay TOTAL					<u>3,934,824</u>

<sup>1/</sup> 10% in year 1, 20% in year 2, and 30% in years 3-5.

<sup>2/</sup> Estimated as ₱300 annually per barangay in which BHW is deployed. Deployment schedule of BHWs is 50 in year 1, 150 in year 2, 300 in year 3, 450 in year 4 and 600 in year 5.

SOURCE: Provincial Development Office, Iloilo Province

Table B-17 Projected Provincial Expenditures on BHW Salaries, 1981-85 (in 1977 prices)  
PUSII Project

Province	%	Year 4 - 1981		Year 5 - 1982		Year 6 - 1983		Total General Fund Revenues in FY 75-76	FY 75-6 General Fund Revenues in 1977 prices <sup>1/</sup>	BHW Salaries as % of General Fund Revenues
		No. of BHW	Salaries (P1000)	No. of BHW	Salaries (P1000)	No. of BHW	Salaries (P1000)			
Aklan	16	8	17	24	65	96	378	3063	3522	11
Antique	20	10	21	30	82	120	473	3005	3456	14
Capiz	20	10	21	30	82	120	473	3678	4230	11
Iloilo	<u>44</u>	<u>22</u>	<u>47</u>	<u>66</u>	<u>172</u>	<u>264</u>	<u>1040</u>	9830	11305	?
TOTAL	100	50	106	150	408	600	2364			

Note: BHW salaries are projected at P328.35/mo., or P3940/yr. It is assumed the provinces will begin paying them 3 years after they are initially hired until the end of Year 5, after which they will assume the total salary cost.

<sup>1/</sup> Inflated by Consumer Price Index for all income households in regions outside Metro Manila: June 1977 = 1.150, where Jan. 1976 = 1.000. -- National Census and Statistics Office

Table B-18 Projected Increase in Real Property Tax (RPT) Collections and Comparison with BHW Salaries,  
Panay Island Provinces  
(₱1000)

Province	(1) FY 75 RPT Collections	(2) % Increase Projected <sup>1/</sup>	(3) Projected CY 83 RPT Collections	(4) Projected CY 83 RPT increase over FY75	(5) Col. 4 in mid- 77 prices <sup>2/</sup>	(6) CY 83 BHW Salaries in 77 prices	(7) BHW Salaries as % of RPT Increment
Aklan	322	292	1262	940	1144	378	33
Antique	352	222	1133	781	950	473	50
Capiz	620	613	4421	3801	4626	473	10
Iloilo	1442	320	6056	4614	5615	1040	19

<sup>1/</sup> Percentage increase projections are based on pilot Real Property Tax Mapping and Assessment Project results as follows:

	(a) % of Collections to Collectibles FY 75	(b) % of Collections to Collectibles expected CY 83	(c) % Increase of Collections to Collectibles	(d) % Increase due to Corrections for underdeclared improvements	(e) % Increase due to Corrections for underdeclared land area	(f) % Increase due to Corrections for undeclared property identified	(g) Total % increase in RPT collection projected
Aklan	42	75	79	50	25	25	292
Antique	51	75	47	50	25	25	222
Capiz	23	75	226	50	25	25	613
Iloilo	39	75	92	50	25	25	320

<sup>2/</sup> Inflated by Consumer Price Index for all income households in regions outside Metro Manila:  
June 1977 = 1.217, where Jan. 1975 = 1.000. -- National Census and Statistics Office.

**Table B-19 Average Real Growth Rates of Real Property Tax, Total Provincial Revenues, and Total Provincial Expenditures on Panay Island, FY 73-76**  
Constant 1972 Pesos (₱1000)

<u>Province</u>	<u>Fiscal Year</u>	<u>RPT Revenue</u>	<u>Total Revenue</u>	<u>Total Expenditure</u>	<u>Fiscal Surplus</u>
<u>Aklan</u>	1972-3	355	4628	3518	1110
	73-4	291	4463	4396	67
	74-5	205	4277	3268	1009
	75-6	182	2512	1839	673
Average % real growth rate		-20.0	-18.4	-19.4	-15.4
<u>Antique</u>	1972-3	n.a.	n.a.	2585	n.a.
	73-4	193	2374	2790	-416
	74-5	224	2528	2458	70
	75-6	160	2648	2401	247
Average % real growth rate <sup>1/</sup>		- 8.9	5.6	- 7.2	-
<u>Capiz</u>	1972-3	619	4303	3483	820
	73-4	471	3362	3431	-69
	74-5	395	3522	2563	959
	75-6	329	3626	3661	-35
Average % real growth rate		-19.0	- 5.5	1.7	-
<u>Iloilo</u>	1972-3	1033	9430	7340	2090
	73-4	1268	7788	4616	3172
	74-5	920	7572	6461	1111
	75-6	1591	9451	8116	1335
Average % real growth rate		15.5	0.1	3.4	-13.9

<sup>1/</sup> Growth rate for last two years only.

**Note:** Nominal values were deflated with the Consumer Price Index for Outside Manila and Suburbs, middle income families, all items, Central Bank Statistical Bulletin: 1972-3=100.0, 1973-4=112.2, 1974-5=156.8, 1975-6=168.5.

TABLE B-20. Sources of Revenue by Fund, FY 73-76  
Aklan Province, Nominal Values (P1000)

FISCAL YEAR	Sources of Revenue:		Other Taxation	Incidental	Other	TOTAL	Total Expenditure	Fiscal Surplus	Consumption Index Pt
	RPT <sup>1/</sup>	BIR <sup>2/</sup>							
FY 72-73: General Fund	266	691	1770	26	450	3203			
Infrastructure Fund	89	691	125	7	513	1425			
TOTAL	355	1382	1895	33	963	4628	3518	1110	100.0
FY 73-74: General Fund	244	1037	1931	17	1043	4272			
Infrastructure Fund	82	-	59	2	592	735			
TOTAL	326	1037	1990	19	1635	5007	4932	75	112.2
FY 74-75: General Fund	240	1766	2463	33	470	4972			
Infrastructure Fund	82	-	253	8	1391	1734			
TOTAL	322	1766	2716	41	1861	6706	5125	1581	156.8
FY 75-76: General Fund	230	853	1647	18	315	3063			
Infrastructure Fund	77	-	105	3	984	1169			
TOTAL	307	853	1752	21	1299	4232	3098	1134	168.5
Average % Annual Growth									
FY 72-73 to FY 75-76:									
General Fund	- 4.7	7.3	- 2.4	-11.5	-11.2	- 1.5			
Infrastructure Fund	- 4.7	-	- 5.6	-24.6	24.2	- 6.4			
TOTAL	- 4.7	- 14.9	- 2.6	-14.0	10.5	- 2.9	- 4.1	0.7	19.0

1/ Real Property Tax

2/ Bureau of Internal Revenue allotment from central government revenues.

SOURCE: Provincial Development Staff, Aklan Province

TABLE B-21, Sources of Revenue by Fund, FY 73-76  
 Antique Province, Nominal Values (P1000)

<u>FISCAL YEAR</u>	<u>Sources of Revenue:</u>		<u>Other Taxation</u>	<u>Incidental</u>	<u>Other</u>	<u>TOTAL</u>	<u>Total Expenditure</u>	<u>Fiscal Surplus</u>	<u>Const Index I</u>
	<u>RPT 1/</u>	<u>BIR 2/</u>							
<u>FY 72-73: General Fund</u>	143	870	253	14	229	1509			100.
<u>Infrastructure Fund</u>							2585		
<u>TOTAL 3/</u>									
<u>FY 73-74: General Fund</u>	145	1419	65	144	280	2053			
<u>Infrastructure Fund</u>	72	217	55	7	260	611			
<u>TOTAL</u>	217	1636	120	151	540	2664	3130	-466	112.
<u>FY 74-75: General Fund</u>	265	1858	145	87	311	2666			
<u>Infrastructure Fund</u>	87	-	360	7	844	1298			
<u>TOTAL</u>	352	1858	505	94	1155	3964	3854	110	156.
<u>FY 75-76: General Fund</u>	206	2026	111	227	435	3005			
<u>Infrastructure Fund</u>	63	98	145	10	1141	1457			
<u>TOTAL</u>	269	2124	256	237	1576	4462	4046	+16	168.
<u>Average % Annual Growth</u>									
<u>FY 72-73 to FY 75-76:</u>									
<u>General Fund</u>	12.9	32.5	-24.0	153.1	23.8	25.8			19.
<u>Infrastructure Fund 4/</u>	- 6.5	- 32.8	62.4	19.5	109.5	54.4			22.
<u>TOTAL</u>	11.3	13.9	46.1	25.3	70.8	29.4	13.7	-	22.

1/ Real Property Tax

2/ Bureau of Internal Revenue allotment from central government revenues.

3/ Data not available.

4/ Growth rates calculated for last 2 years only.

SOURCE: Provincial Development Staff  
 Antique Province

TABLE B-22, Sources of Revenue by Fund, FY 73-76  
Capiz Province, Nominal Values (P1000)

FISCAL YEAR	Sources of Revenue:		Other Taxation	Incidental	Other	TOTAL	Total Expenditure	Fiscal Surplus	Consumer Index Price
	RPT <sup>1/</sup>	BIR <sup>2/</sup>							
FY 72-73: General Fund	464	966	206	184	380	2200			
Infrastructure Fund	155	966	160	12	810	2103			
TOTAL	619	1932	366	196	1190	4303	3483	820	100.0
FY 73-74: General Fund	397	908	193	193	657	2258			
Infrastructure Fund	132	895	119	8	369	1514			
TOTAL	529	1803	313	201	1026	3772	3859	-78	112.2
FY 74-75: General Fund	465	2019	195	165	963	3717			
Infrastructure Fund	155	-	318	9	1323	1805			
TOTAL	620	2019	513	174	2286	5522	4919	1503	156.8
FY 75-76: General Fund	415	2335	129	241	558	3678			
Infrastructure Fund	149	-	164	9	2018	2431			
TOTAL	564	2335	293	250	2576	6109	5169	-60	166.5
Average % Annual Growth									
FY 72-73 to FY 75-76:									
General Fund	- 3.7	34.2	- 14.4	9.4	13.7	18.7			
Infrastructure Fund	- 3.3	-	18.2	- 2.1	35.6	4.9			
TOTAL	- 3.5	6.5	2.4	8.4	29.4	12.4	21.0	-	17.0

<sup>1/</sup> Real Property Tax

<sup>2/</sup> Bureau of Internal Revenue Allotment from central government revenues.

SOURCE: Provincial Development Staff, Capiz Province

TABLE B-23, Sources of Revenue by Fund, FY 72-73.  
Iloilo Province, Nominal Values (P1000)

FISCAL YEAR	Sources of Revenue:		Other Taxation	Incidental	Other	TOTAL	Total Expenditure	Fiscal Surplus	Consumer Index 1973
	RPT <sup>1/</sup>	BIP <sup>2/</sup>							
Y 72-73: General Fund	863	2267	707	193		5330			
Infrastructure Fund	159	2226	386	8	1280	4160			
TOTAL	1022	4493	1093	201	2560	9490	7349	2139	100.0
Y 73-74: General Fund	1095	4169	189	288		5631			
Infrastructure Fund	339	52	121	19	1347	2038			
TOTAL	1434	4221	310	307	2694	7669	5174	2495	112.2
Y 74-75: General Fund	1114	4081	344	183		5722			
Infrastructure Fund	329	18	629	19	3447	4435			
TOTAL	1443	4099	1013	194	4894	10157	19134	1742	136.5
Y 75-76: General Fund	2574	3782	428	274		6058			
Infrastructure Fund	109	15	578	1	1972	2775			
TOTAL	2683	3797	1006	275	3944	8833	19134	2249	156.5
Average % Annual Growth, Y 72-73 to FY 75-76:									
General Fund	32.9	38.2	- 15.4	12.4	- 5.7	22.6			
Infrastructure Fund	59.3	- 81.1	14.4	- 5.1	54.3	14.1			
TOTAL	37.4	10.1	- 2.7	11.7	31.7	19.1	23.1	2.5	136.0

Real Property Tax

Bureau of Internal Revenue Allotment from central government revenues.

SOURCE: Provincial Development Staff, Iloilo Province

**ANNEX B-24**  
**Expenditure Pattern**  
**Province of Aklan**  
**Actual - FY 1972-1976; Estimated July-Dec. 76**  
**and CY 77**  
**(P 000)**

OFFICE	FY 72-73	FY 73-74	FY 74-75	FY 75-76	Jul-Dec. 76	CY 77.
Governor	490	697	653	303	174	469
Provincial Dev. Staff	-	-	107	117	66	201
Provincial Board	296	365	358	47	1	-
Sangguniang Panlalawigan	-	-	-	80	59	163
Provincial Auditor	158	178	208	170	19	51
Provincial Treasurer	337	465	483	265	141	376
Deputy Provincial Treasurer	37	62	82	40	17	54
Provincial Assessor	118	113	207	97	52	264
Provincial Attorney	-	28	50	27	13	45
Provincial Fiscal	113	178	130	58	37	84
Clerk of Court-CFI	35	48	45	27	15	52
Provincial Health	112	117	157	92	52	156
Prov. Agriculturist	137	137	828	67	50	163
Prov. Library	-	-	18	12	6	24
Prov. Warden	177	180	233	147	83	219
Police Services	-	-	-	-	-	-
Tourism Board	-	-	-	13	-	21
Provincial Engineer	1473	2247	1565	1536	2128	3188
Board of Assessment Svcs.	-	-	-	-	-	7
Div. Supt. of Schools	35	17	-	-	-	2
Capitol Grounds Improvement	-	-	1	-	-	70
Non-Office	-	-	-	-	-	1495
	<b>3518</b>	<b>4932</b>	<b>5125</b>	<b>3098</b>	<b>2913</b>	<b>7104</b>

Source: COMPILED BY NEDA-ILOILO FROM AVAILABLE PROVINCIAL REPORTS AND RECORDS.

Annex B-25  
EXPENDITURE PATTERN  
 (Actual FY 1972-1976: Estimated Jul-Dec 1976 & CY 77)  
 (P000)  
 Province of Antique

<u>OFFICE</u>	<u>FY 72-73</u>	<u>FY 73-74</u>	<u>FY 74-75</u>	<u>FY 75-76</u>	<u>Jul-Dec 76</u>	<u>CY 77</u>
Governor	267	453	587	613	374	925
Board	209	247	308	233	134	229
Auditor	104	133	159	160	100	42
Treasurer	267	314	345	421	220	509
Assessor	84	129	107	133	100	223
Fiscal	48	53	141	73	31	60
Clerk of Court	12	17	15	11	7	13
Register of Deeds	1	1	1	1	-	1
Provincial Health Office	101	114	160	180	102	227
Division Supt. of Schools	22	23	29	37	11	18
Warden	87	116	134	123	77	198
Library	9	19	21	74	16	35
Agriculturist	134	139	162	177	104	206
APLECS	38	24	31	-	-	-
Engineer	1106	965	1313	1428	901	1670
Non-Office	96	383	341	382	109	689
<b>TOTAL</b>	<b>2585</b>	<b>3130</b>	<b>3854</b>	<b>4046</b>	<b>2286</b>	<b>5045</b>

SOURCE: Compiled by NEDA-Iloilo from available Provincial reports and records.

**Annex B-26**  
**EXPENDITURE PATTERN**  
**Province of Capiz**  
 (Actual FY 1972-1976: Estimated Jul -Dec 1976 & CY 77)  
 (P000)

<u>OFFICE</u>	<u>FY 72-73</u>	<u>FY 73-74</u>	<u>FY 74-75</u>	<u>FY 75-76</u>	<u>Jul-Dec 76</u>	<u>CY 77</u>
Governor	532	329	470	894	440	1039
Sangguniang Bayan	95	168	172	203	132	325
Auditor	82	88	85	137	88	34
Treasurer	359	257	343	493	256	637
Assessor	131	76	134	180	109	235
Fiscal	122	68	81	103	52	124
CFI/Clerk of Court	22	23	20	25	11	47
Attorney	18	22	23	41	22	49
Register of Deeds	15	16	17	18	9	19
Provincial Health Office	115	109	105	159	106	179
Capiz High School	225	305	333	411	250	543
Library	19	16	13	24	10	19
Warden	219	211	193	233	119	256
Engineer	1269	1183	1377	2237	2202	3749
Office of Non-Christian	-	2	-	-	-	-
Telephone System	43	37	-	-	-	-
Agriculturist	134	134	101	156	118	211
Non-Office (General Fund)	-	164	315	848	911	1509
Non-Office (Infra. Fund)	-	573	237	-	4	9
Court of Agrarian Relation	-	2	-	3	2	4
DLGCD	-	-	-	4	2	4
Economic Development Fund	80	-	-	-	-	-
Sunday Educational Service	3	-	-	-	-	-
Division Supt. of Schools	-	4	-	-	-	-
<b>TOTAL</b>	<b>3483</b>	<b>3850</b>	<b>4019</b>	<b>6169</b>	<b>4843</b>	<b>8992</b>

SOURCE: Compiled by NEDA-Iloilo from available provincial reports and records.

**Annex B-27**  
**EXPENDITURE PATTERN**  
**Province of Iloilo**  
**(Actual FY 1972-1976: Estimated Jul-Dec 1976 & CY 77)**  
**(P000)**

<u>OFFICE</u>	<u>FY 72-73</u>	<u>FY 73-74</u>	<u>FY 74-75</u>	<u>FY 75-76</u>	<u>Jul-Dec 76</u>	<u>CY 77</u>
Governor	1118	1085	1393	1599	983	2354
Board	302	304	389	470	288	558
Auditor	265	204	300	200	204	93
Treasurer	583	569	911	1077	484	1191
Assessor	346	294	396	490	264	579
Fiscal	120	112	152	159	95	248
Attorney	-	26	84	103	54	127
Clerk of Court	42	42	51	89	46	154
Register of Deeds	1	1	6	9	9	19
Health Officer	383	481	537	684	360	842
Division of Supt. Schools	69	73	78	52	32	89
Library	69	53	95	98	51	123
Agriculturist	316	307	374	422	235	55
Engineer	3204	929	3115	5083	2942	5218
Non-Office	522	699	2250	3141	813	1883
<b>TOTAL</b>	<b>7340</b>	<b>5179</b>	<b>10131</b>	<b>13676</b>	<b>6860</b>	<b>13533</b>

SOURCE: Compiled by NEDA-Iloilo from available provincial reports and records.

TABLE B-28

- Estimated Benefits due to Reduction in Intestinal Parasitism

	Project Area <u>Population</u>	Population Affected by Hookworm Infestation	<u>(In 1977 P r i c e s)</u>			<u>Present Value at 15% Discount</u>
			<u>Value of Rice Loss (P000)</u>	<u>Percent Saved by Program</u>	<u>Loss Averted (P000)</u>	
1978	363,929	263,485	3,869	-	-	-
1979	372,773	269,888	3,964	10.0	396	344
1980	381,309	276,068	4,055	19.0	770	582
1981	389,508	282,004	4,142	27.1	1,122	738
1982	397,298	287,644	4,226	34.4	1,454	831
1983	405,244	293,397	4,309	41.0	1,767	879
1984	413,349	299,265	4,396	46.9	2,062	891
1985	412,616	305,250	4,485	52.2	2,341	880
1986	430,048	311,355	4,574	57.0	2,607	852
1987	438,649	317,582	4,666	61.3	2,860	813
1988	447,422	323,934	4,757	65.2	3,102	767
1989	456,371	330,413	4,852	68.7	3,333	716
1990	465,498	337,021	4,949	71.8	3,553	664
1991	474,808	343,761	5,049	74.6	3,767	612
1992	484,304	350,636	5,149	77.1	3,970	561
1993	494,990	357,649	5,254	79.4	4,172	513
1994	503,870	364,802	5,360	81.5	4,368	467
1995	513,948	372,098	5,465	83.4	4,558	424
1996	524,226	379,540	5,576	85.1	4,745	383
1997	534,711	387,131	5,686	86.6	4,924	346
			<u>94,783</u>	<u>58.9</u>	<u>55,871</u>	<u>12,263</u>

NOTES:

1. Incidence of parasitic infestation assumed at 72.4/100.
2. Rice loss due to intestinal parasites is assumed at 5.44 kgs. per man-year.
3. Shadow price of milled rice used is P2,700/MT.

**TABLE - B29**  
**Estimated Benefits due to Reduction in Incidence of Intestinal Mal-Absorption**  
**Peso Values in Thousand Pesos, 1977 Prices**

	<u>No. of Affected Families</u>	<u>Food Loss</u>	<u>Percent Saved by Project</u>	<u>Loss Averted</u>	<u>Present Value at 15% Discount Rate</u>
1978	46,388	P 14,858	-	P -	P -
1979	47,515	15,219	10.0	1,522	1,323
1980	48,604	15,568	19.0	2,958	2,237
1981	49,648	15,902	27.1	4,309	2,833
1982	50,642	16,221	34.4	5,580	3,190
1983	51,655	16,545	41.0	6,783	3,372
1984	52,688	16,876	46.9	7,915	3,422
1985	53,741	17,213	52.2	8,985	3,378
1986	54,816	17,558	57.0	10,008	3,272
1987	55,912	17,909	61.3	10,978	3,121
1988	57,030	18,267	65.2	11,910	2,944
1989	58,171	18,632	68.7	12,800	2,751
1990	59,335	19,005	71.8	13,646	2,551
1991	60,521	19,385	74.6	14,461	2,350
1992	61,732	19,773	77.1	15,245	2,155
1993	62,966	20,168	79.4	16,013	1,968
1994	64,226	20,572	81.5	16,766	1,792
1995	65,510	20,983	83.4	17,500	1,626
1996	66,820	21,402	85.1	18,213	1,472
1997	68,157	21,831	86.6	18,906	1,328
				<u>P 214,498</u>	<u>47,085</u>

NOTES:

1. 5.68 persons/family (actual for Panay 1975).
2. P3,203 food expenditures per family per year. Based on P2,823.6 food expenditures (1975) for rural families in Panay. Adjusted to 1977 prices using actual 1976/75 inflation rate for food items (regions outside Manila). 77/76 inflation rate used is 9.1% per annum (historical inflation rate for food items: 1957-76).
3. No. of affected families = 72.4% of total number of families.
4. Food loss is 10% of value of food intake of affected families.

TABLE B30

- Estimated Benefits due to Reduction in Incidence of Enteric Diseases

	<u>Affected Population</u>	<u>C o s t / L o s s</u> (In thousand pesos, 77 prices)			<u>Loss Averted</u>	<u>Present Value at 15% Discount Rate</u>
		<u>Hospital &amp; Medical Costs</u>	<u>Reduction in Workdays</u>	<u>Total</u>		
1978	1,157	58	24	82	-	-
1979	1,185	59	25	84	8	7
1980	1,213	61	25	86	16	12
1981	1,239	62	26	88	24	16
1982	1,263	63	27	90	31	18
1983	1,289	64	27	91	37	18
1984	1,314	66	28	94	44	19
1985	1,341	67	28	95	50	19
1986	1,368	68	29	97	55	18
1987	1,395	70	29	99	61	17
1988	1,423	71	30	101	66	16
1989	1,451	73	30	103	71	15
1990	1,480	74	31	104	75	14
1991	1,510	76	32	108	81	13
1992	1,540	77	32	109	84	12
1993	1,571	79	33	112	89	11
1994	1,602	80	34	114	93	10
1995	1,634	82	34	116	97	9
1996	1,667	83	35	118	100	8
1997	1,700	85	36	121	105	7
					<u>1187</u>	<u>259</u>

## NOTES:

1. Incidence of enteric disease is at 318 per 100,000.
2. Hospital and medical costs = ₱50/person.
3. Savings in labor cost = 7 working days at ₱6 per day.  
50% of population assumed in working force.

TABLE B31  
Estimated Benefits due to Reduction in Incidence of Tuberculosis  
 In Thousand Pesos, 1977 Prices

	<u>Affected Population</u>	<u>C o s t / L o s s</u>			<u>Loss Averted due to Project</u>	<u>Discounted at 15%</u>
		<u>Medicine</u>	<u>Reduction in Workdays</u>	<u>Total</u>		
1978	1,034	290	512	802	-	-
1979	1,059	297	524	821	82	71
1980	1,083	303	536	839	159	120
1981	1,106	310	547	857	232	153
1982	1,128	316	558	874	301	172
1983	1,151	322	570	892	366	182
1984	1,174	329	581	910	427	185
1985	1,197	335	593	928	484	182
1986	1,221	342	604	946	539	176
1987	1,246	349	617	966	592	168
1988	1,271	356	629	985	642	159
1989	1,296	363	642	1,005	690	148
1990	1,322	370	654	1,024	735	137
1991	1,348	377	667	1,044	779	127
1992	1,375	385	681	1,066	822	116
1993	1,403	393	694	1,087	863	106
1994	1,431	401	708	1,109	904	97
1995	1,460	409	723	1,132	944	88
1996	1,489	417	737	1,154	982	79
1997	1,519	425	752	1,177	<u>1,019</u>	<u>72</u>
					11,562	2,538

NOTES:

1. Incidence of tuberculosis is assumed at 284/100,000.
2. Costs of medicine and hospitalization = P280/case.
3. Shadow wage rate = P6.00/day.
4. Loss in workdays = 6.5 mos. per case.
5. 50% of affected population is with the working force.

Table B-32. Estimated Increase in Productivity Resulting from Improved Nutrition and Health, PUSH Project  
In Thousand Pesos, 1977 Prices

Year	(1) Value of Labor in the Project Area	(2) Possible Increased Production due to Improved:		(4) % Improvement due to this Project:		(6) Total Production Increase due to Project	(7) Present Value Discounted at 15%
		Health	Nutrition	Health	Nutrition		
1978	210,205	8,408	12,612	-	-	-	
1979	216,511	8,660	12,991	10		866	753
1980	223,006	8,920	13,380	19		1,695	1,281
1981	229,670	9,187	13,780	27		2,480	1,631
1982	236,588	9,464	14,195	34		3,218	1,840
1983	243,685	9,747	14,621	41		3,996	1,987
1984	250,996	10,040	15,060	47		4,719	2,040
1985	258,526	10,341	15,512	52		5,377	2,021
1986	266,281	10,651	15,977	57		6,071	1,985
1987	274,270	10,971	16,456	61		6,692	1,902
1988	282,498	11,300	16,950	65		7,345	1,816
1989	290,973	11,639	17,458	69	10	9,777	2,101
1990	299,702	11,988	17,982	72	19	12,048	2,252
1991	308,693	12,348	18,522	75	27	14,262	2,318
1992	317,954	12,718	19,077	77	34	16,279	2,301
1993	327,493	13,100	19,650	79	41	18,406	2,262
1994	337,317	13,493	20,239	82	47	20,576	2,199
1995	347,437	13,897	20,846	83	52	22,375	2,079
1996	357,860	14,314	21,472	85	57	24,406	1,972
1997	368,596	14,744	22,116	87	61	26,318	1,849
						206,906	36,589

Notes:

Col. (1) assumes 35% of the target barangay population participates in the labor force and that 72.4% of these workers suffer poor health and nutrition status. The average productivity per agricultural worker in Panay has been estimated as ₱2283 annually, and this is used as a proxy value for all workers. This column is assumed to grow by 3% annually, 2% for growth in the labor force, 1% for growth in productivity. (The average annual agricultural production growth rate nationwide from 1954-76 was 4.1%.)

Col. (2) is 4% of col. (1).

Col. (3) is 6% of col. (1).

Col. (4) and (5) assume 10% of the remaining health and nutrition problem is solved each year, with a 1-year lag in productivity improvement in col. (4) and a 11-year lag in col. (5).

Col. (6) = Cols. (2) x (4) + (3) x (5).

**TABLE B33**  
**Estimated Increase in Returns to Education**  
**Due to Improved Health and Nutrition**  
 (in thousand pesos, 1977 prices)

	<u>Cost of Education<sup>1/</sup></u>	<u>Present Returns to Education<sup>2/</sup></u>	<u>Increase in Returns to Education</u>	<u>Discounted at 15% Annually</u>
1978	34,295	-	-	-
1979	35,128	-	-	-
1980	35,933	1,880	188	120
1981	36,704	3,800	380	220
1982	37,438	5,770	577	290
1983	38,187	7,780	778	340
1984	38,951	9,830	983	370
1985	39,731	11,920	1192	370
1986	40,525	14,060	1406	400
1987	41,336	16,230	1623	400
1988	42,162	18,450	1845	400
1989	43,006	20,710	2071	390
1990	43,886	23,020	2302	370
1991	44,743	25,380	2538	360
1992	45,638	27,780	2778	340
1993	46,551	30,230	3023	320
1994	47,482	32,730	3273	300
1995	48,432	35,280	3528	290
1996	49,401	37,880	3788	270
1997	50,388	309,720	30972	<u>1890</u>

P 7440

**NOTE:**

1. Estimated on the basis of per capita national government, private government and private expenditures for education.
2. Computed on the basis of a 5% current internal rate of return on investment on education. The 1997 entry includes returns accruing after 1997 to investment in education made during period of analysis, discounted at 15% rate back to 1997 value.
3. Assumed at 10% of returns to education.

Table B-34. Economic Cost-Benefit Analysis, PUSH Project  
(₱1000, 1977 Prices)

Year	Incremental Project Costs <sup>1/</sup>	Economic Benefits <sup>2/</sup>	Present Value at 15% Discount Rate		Net Un- discounted Benefits	P. V. of Net Benefits at 32.7% Discount
			Costs	Benefits		
1978	9,901	-	9,901	-	-9,901	-9,901
1979	7,115	2,874	6,187	2,499	-4,241	-3,196
1980	9,531	5,786	7,207	4,375	-3,745	-2,127
1981	11,746	8,547	7,723	5,620	-3,199	-1,369
1982	14,913	11,161	8,527	6,381	-3,752	-1,210
1983	2,913	13,727	1,448	6,825	10,814	2,628
1984	2,793	16,150	1,207	6,982	13,357	2,446
1985	2,673	18,429	1,005	6,928	15,756	2,174
1986	2,583	20,686	844	6,762	18,103	1,883
1987	2,583	22,796	734	6,480	20,213	1,584
1988	2,583	24,910	638	6,157	22,327	1,319
1989	2,583	28,742	555	6,178	26,159	1,164
1990	2,583	32,359	483	6,048	29,776	999
1991	2,583	35,888	420	5,833	33,305	842
1992	2,583	39,178	365	5,537	36,595	697
1993	2,583	42,566	317	5,231	39,983	574
1994	2,583	45,980	276	4,914	43,397	469
1995	2,583	49,002	240	4,554	46,419	378
1996	2,583	52,243	209	4,222	49,660	305
1997	2,583	82,244	181	5,779	79,661	369
TOTAL	92,581	553,268	48,467	107,305	460,687	28

Benefit/Cost Ratio at 15% rate of discount = 2.21

Net Present Value of Project at 15% discount = ₱58.8 million (\$7.8 million)

Internal Rate of Return = 32.7%

<sup>1/</sup> Total incremental project costs of AID grant, AID loan, GOP contribution to participant training, BHW salaries and well drilling, and beneficiary contribution to well-drilling and improvements and toilet construction, plus estimated PL 480 commodity costs. Costs include 15% contingency factor, but not escalation. Foreign exchange costs were converted to pesos at shadow exchange rate of ₱9.0/\$, except for PL 480 commodities which were converted at ₱7.5/\$. Imputed GOP administration and supervision costs were excluded as not incremental costs to the economy. BHW retraining costs continued for 3 years after initial training. Other costs recurring annually after 1982 are BHW salaries and repair and maintenance costs of hand-operated pumps, estimated as 5% of initial cost annually.

<sup>2/</sup> This column is the sum of the undiscounted costs and losses avoided plus the increased value of production and returns to education estimated in Tables B-28 to B-33.

Table B-35. Cost-Benefit Sensitivity Analysis, PUSH Project  
(₱1000, 1977 Prices)

Year	Incremental Costs <sup>1/</sup> +20%	Economic Benefits <sup>2/</sup> -20%	Present Value at 15% Discount Rate		Net Un- discounted Benefits	P. V. of Net Benefits at 22.5% Discount
			Costs	Benefits		
1978	11,881	-	11,881	-	-11,881	-11,881
1979	8,538	2,299	7,424	1,999	- 6,239	- 5,093
1980	11,437	4,629	8,648	3,500	- 6,808	- 4,537
1981	14,095	6,838	9,268	4,496	- 7,257	- 3,948
1982	17,896	8,929	10,232	5,105	- 8,967	- 3,982
1983	3,497	10,982	1,739	5,460	7,485	2,713
1984	3,352	12,920	1,449	5,586	9,568	2,831
1985	3,208	14,743	1,206	5,542	11,535	2,787
1986	3,100	16,549	1,013	5,410	13,449	2,652
1987	3,100	18,237	881	5,184	15,137	2,437
1988	3,100	19,928	766	4,926	16,828	2,211
1989	3,100	22,994	666	4,942	19,894	2,134
1990	3,100	25,887	579	4,838	22,787	1,996
1991	3,100	28,710	504	4,666	25,610	1,831
1992	3,100	31,342	438	4,430	28,242	1,648
1993	3,100	34,053	381	4,185	30,953	1,475
1994	3,100	36,784	331	3,931	33,684	1,310
1995	3,100	39,202	288	3,643	36,102	1,146
1996	3,100	41,794	250	3,377	38,694	1,003
1997	3,100	65,795	218	4,623	62,695	1,326
	111,097	442,614	58,162	85,843	331,511	59

Benefit/Cost Ratio at 15% Rate of Discount = 1.48  
 Net Present Value of Project at 15% Discount = ₱27.7 million (\$3.7 million)  
 Internal Rate of Return = 22.5%

<sup>1/</sup> See footnote 1, Table B-34.

<sup>2/</sup> See footnote 2, Table B-34.

ANNEX C

INITIAL ENVIRONMENTAL EXAMINATION  
(IEE)

INITIAL ENVIRONMENTAL EXAMINATION  
(IEE)

Project Location: Panay Island, Provinces of Iloilo, Antique, Aklan  
and Capiz, Republic of the Philippines

Project Title : Panay Unified Services for Health (PUSH)

Funding : FY 78 - \$5.4 million Loan. \$.316 million Grant

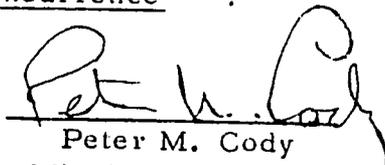
Life of Project : FY 78-83 5 Years

IEE Prepared by: Dr. Gerold van der Vlugt  
Chief, Health Division  
HRD/AID/Manila

Environmental  
Action

Recommended : Negative Determination

Concurrence :

  
Peter M. Cody  
Mission Director

Date:

8 NOV 1977

APPROVE:  \_\_\_\_\_

DISAPPROVE: \_\_\_\_\_

A. Description of Project

Panay Unified Services for Health (PUSH)

1. Goal

To improve the health status of barangay residents of Panay Island.

2. Purpose

To increase use of health services on Panay Island and to improve accessibility of integrated health services to barangay residents.

3. Background

Panay Island is located in the Western Visayas of the Philippines, and is made up of four provinces: Iloilo, Antique, Aklan and Capiz. The island has a population of 2.4 million representing 6% of the total population of the Philippines. Although the island is a food export area (rice, fish, fruit, and feed grains), malnutrition is a major problem in that 83% of the children between the ages of 0-6 are malnourished.

The area also suffers from a very high TB rate - 284/100,000 and pneumonia rate - 165/100,000 making these two diseases the number one and two causes of morbidity and mortality. In addition, poor water supplies and sanitation facilities have made gastroenteritis and parasitism the number three and four causes of morbidity and an undocumented secondary cause in the mortality statistics. The health and nutrition problems of the island are further complicated by the high birth rate thus increasing the burden on meager family incomes, estimated at less than \$200 (US) per year for 70% of the population. (Philippine Bureau of Census and Statistics Reports)

It has been estimated that only 15-20% of the total population have access to adequate medical care, and the 70% of the population who live in rural areas have little or no access to organized medical care.

There have been numerous health programs instituted along specialized lines which are an effort to improve the quality of life. Currently, such programs as Project Compassion, Green

Revolution, Family Planning, Nutrition Programs and Operation Timbang have been launched in an effort to accomplish this.

However with few exceptions, most programs had adopted a pragmatic approach and had been developed in a vertical pattern so as to address certain aspects of health with little emphasis on their interphasing to improve the overall village well being.

A review of the statistics reveals that more than 50% of hospital admissions on Panay are due to preventable diseases which are related to deficiencies in nutrition, sanitation or personal hygiene.

Malnutrition constitutes the most serious single public health problem affecting an estimated 85% of children aged six years and below. The incidence of third degree malnutrition alone is 7,000/100,000, higher than for any other recorded illness. The four other major causes of morbidity are pneumonia, TB, gastroenteritis and parasitic diseases.

Over fifty percent of the rural households, according to official data, are using water from unimproved shallow-dug wells. Thirty-five percent of the households on Panay have no toilets, and of the 65% having toilets, only 30% are satisfactory. Thus, nearly 70% of the households on Panay have unsanitary waste disposal and over 40% have unsatisfactory water supplies. The situation is believed to be much worse in the depressed barangays targeted for PUSH, where an estimated 65% of the population do not have access to water supplies in adequate quantities and desirable quality, and where 85% of the population are estimated to have no excreta disposal facilities that meet minimum sanitation standards.

Although the rural population makes up at least 70% of Panay's inhabitants, it is the recipient of only a very limited share of total government investment and services. The government's "Outreach" is generally ineffective in the rural areas of Panay Island and points up the great disparity between the "poor rural majority" and their urban cousins who have better access to improved education, health and employment opportunities in the cities and municipalities.

Traditionally in the Philippines, too much of the planning and development investment has been national government in origin and control. This was due mainly to a traditional lack of planning expertise at the local level. However, the situation has changed in many parts of the country and particularly on Panay Island where

an increasingly competent local planning capability can be found within the four provincial government's planning staffs, buttressed by a strong Region VI Office in Iloilo. All 4 provinces are members of the Provincial Development Assistance Project (PDAP), which indicates the priority assigned to the area by the Government of the Philippines. As a result of PDAP involvement, the provinces had made long range development plans for their respective areas and, in all cases, adequate health services have been identified as the number one priority for development along with the supportive services needed for successful health improvements (household water, increased family food levels, improved incomes, etc.).

In the past, most of the Department of Health budget has been allocated to finance curative activities with a minimal amount of funds being provided for preventive medicine. Despite the extensive facilities located in the larger communities, there has been a limited percentage of population served. In the depressed areas, limited facilities and health manpower resources exist. When services are available, they are often delivered on a temporary basis which is not enough to bring about lasting effects or effect the health statistics.

These problem areas are now given high priority in the Department of Health Four-Year Health Plan and are particularly addressed by the activities to be developed in this project. In an effort to combat the deficiencies of health services which exist in the rural areas, a significant move has been made by the Philippine Government in that all physician and nurse graduates must serve in the rural areas for, at least, six months prior to receiving their licenses.

However, if a significant change in the health situation on Panay is to be made, additional help is needed in the form of manpower, training and capital support.

#### 4. Major Outputs

The PUSH Project will place 600 indigenous health workers over a 5-year period in rural barangays and they will work in: water resource development, waste disposal improvement, immunization, nutrition, family planning, health care referral, and basic first aid practices. The Barangay Health Workers will be the extenders for health and sanitation services and supplies in order to increase the access of the indigenous poor to integrated health facilities. The project will also support the development of a

provincial, municipal and barangay infrastructure that is responsive to the needs of the rural residents. The major intent of the project is to create a unified health delivery system that can be sustained and is attuned to the needs of the rural poor.

Specific Outputs will be as follows:

- a. Barangay Health Technicians who facilitate access to health services.
- b. Barangay household water supply systems.
- c. Barangay household waste disposal systems.
- d. Installed medical logistics systems which reach barangay.
- e. Family planning services provided at barangay level.
- f. Health reporting system provided at barangay level.
- g. IEC materials and techniques to motivate barangay residents to adopt health services.
- h. Nutrition services provided at barangay level.
- i. Provincial Hospital Laboratories improved.

B. Identification and Evaluation of Environmental Impacts

1. General

The proposed PUSH water component aims at the improvement of drinking water resources for many small clusters of families residing in remote village in the Philippines.

An analysis of the action to be taken during the course of implementing the project reveals no significant major disturbance or pollution to the air, water, vegetation terrain or other natural resources. This conclusion is based upon previous Mission experience with the development of potable water projects financed with loan funds for improving water systems in larger urban areas. More recently, a \$20,000,000 loan was authorized for the development of a high impact program for improvement of water systems in medium sized urban areas. Systems under these two represent larger capital outlays, involve more complex construction, and generate greater environmental impact than the relatively minor sub-projects visualized under the proposed PUSH Water Project.

No water impoundments are visualized that would seriously alter the natural flow of water or the downstream movement of water borne nutrients; no equipment will be utilized that will significantly increase noise levels in the community; and no harmful chemicals will be introduced to the environment.

To the contrary, the PUSH Water Component is designated in such a way as to make the general environment in which sub-projects are executed a safer, healthier, and more desirable place to live. In this respect, polluted matter (contaminated water) already in the environment will be improved for human and other animal consumption. Additionally, it is planned to promote other programs such as reforestation, watershed development and protection, and educational programs emphasizing improved environmental sanitation as an adjunct to the contemplated water project.

A question has arisen with regards to the procedures for handling defunct and abandoned well perforations. Administrative procedures have been developed which stress the local government and community responsibilities vis-a-vis such wells. In effect, the policy will be to require filling, capping, sealing or otherwise covering all such abandoned wells. No adverse effects are anticipated in connection with abandoned wells but due caution will be exercised nevertheless.

The experience of the USAID Engineering Staff indicates that the increased water usage resulting from the installation of the barangay water facilities will not adversely affect the underground water supply or underground water level. In general, the Philippines is a high rainfall area with abundant water level recharge potential.

#### Discussion of Impacts

Certainly, the detrimental effects, while there will be some, would be of no greater impact than those experienced by runoff after the peak of a normal tropical rainstorm, so common in the Philippines.

#### C. Water Quality

The only impact foreseen with relation to water quality is favorable.

#### D. Atmospheric

1. No environmental impact.
2. No environmental impact.
3. Noise Pollution - No environmental impact during the construction period. No heavy construction equipment will be employed.

4. Other Factors: Aesthetics: No environmental impact.

E. Natural Resources

1. Diversion altered use of water

The impoundment of water will occur in connection with some of the proposed sub-projects. This is particularly true of spring, river, and stream development sub-projects.

The construction of water supply impoundments will have both positive and negative impacts on the environment. A review of these impacts, however, reveals a resulting net environmental benefit.

Discussion of Impacts

Again, it is noted that the projects to be realized are of such a small size that impoundments will not produce significant detrimental impacts to the general ecology.

With careful consideration during the planning and final design stages, negative impacts will be virtually eliminated in projects of the size anticipated.

2. No environmental impact.

F. Cultural

It can be stated categorically that no alteration or destruction of important physical symbols of culture will be permitted and that nothing will be introduced to a community that would adulterate, dilute, or have a dispersing effect on the indigenous culture.

G. Socio-Economic

Infrastructure projects, including small improved water sources, offer a strong stimuli to economic growth and improved quality of health.

H. Health

The PUSH Project will have a high impact on health. The effect will be beneficial.

The establishment of improved water source and waste disposal system in the communities will necessarily bring about health benefits to the population. Undeniably, the provision of improved water to the population is a prerequisite for the maintenance of minimum health standards. These health benefits are ordinarily manifested in the following:

1. A significant reduction in the incidence of water borne diseases such as cholera, dysentery, gastro-enteritis, and typhoid/paratyphoid. As a result, there will be a decrease in the amount of time lost by income earners who are afflicted with such diseases.
2. A subsequent reduction in premature deaths due to the lower incidence of water borne diseases.
3. A corresponding reduction in medical expenses due to lower incidence of water borne diseases.
4. An overall improvement in the total environment.

## II. IMPACT IDENTIFICATION AND EVALUATION FORM

### Impact Areas and Sub-Areas

#### A. LAND USE

- |  |       |
|--|-------|
| 1. Changing the character of the land through: |       |
| a. Increasing the population -----             | L     |
| b. Extracting natural resources -----          | L     |
| c. Land clearing -----                         | M*    |
| d. Changing soil character -----               | L     |
| 2. Altering natural defenses -----             | L     |
| 3. Foreclosing important uses -----            | L     |
| 4. Jeopardizing man or his works -----         | L     |
| 5. Other factors                               |       |
| _____  | _____ |
| _____  | _____ |

#### B. WATER QUALITY

- |   |       |
|---|-------|
| 1. Physical state of water -----        | L     |
| 2. Chemical and biological states ----- | N     |
| 3. Ecological balance -----             | L     |
| 4. Other factors                        |       |
| _____                                   | _____ |
| _____                                   | _____ |

\* See "Discussion of Impacts" attached.

- U - Unknown environmental impact
- N - No environmental impact
- L - Little environmental impact
- M - Moderate environmental impact
- H - High environmental impact

C. ATMOSPHERIC

- |                         |          |
|-------------------------|----------|
| 1. Air additives-----   | <u>N</u> |
| 2. Air pollution-----   | <u>N</u> |
| 3. Noise pollution----- | <u>L</u> |
| 4. Other factors        |          |
| _____                   | <u>X</u> |
| _____                   |          |

D. NATURAL RESOURCES

- |   |          |
|---|----------|
| 1. Diversion, altered use of water-----       | <u>L</u> |
| 2. Irreversible, inefficient commitments----- | <u>N</u> |
| 3. Other factors                              |          |
| _____   | <u>X</u> |
| _____   |          |

E. CULTURAL

- |   |          |
|---|----------|
| 1. Altering physical symbols -----      | <u>N</u> |
| 2. Dilution of cultural traditions----- | <u>L</u> |
| 3. Other factors                        |          |
| _____                                   | <u>X</u> |
| _____                                   |          |

F. SOCIO-ECONOMIC

- |   |                      |
|---|----------------------|
| 1. Changes in economic/employment patterns----- | <u>M(/) positive</u> |
| 2. Changes in population-----                   | <u>M(/) positive</u> |
| 3. Changes in cultural patterns-----            | <u>U</u>             |
| 4. Other factors                                |                      |
| _____   |                      |
| _____   |                      |

G. HEALTH

- |  |                      |
|--|----------------------|
| 1. Changing a natural environment-----   | <u>H(+) positive</u> |
| 2. Eliminating an ecosystem element----- | <u>N</u>             |
| 3. Other factors                         |                      |
| _____                                    | <u>X</u>             |
| _____                                    |                      |

H. GENERAL

- |                                |          |
|--------------------------------|----------|
| 1. International impacts ----- | <u>N</u> |
| 2. Controversial impacts-----  | <u>N</u> |
| 3. Larger program impacts----- | <u>N</u> |
| 4. Other factors               |          |
| _____                          | <u>X</u> |
| _____                          |          |

I. OTHER POSSIBLE IMPACTS (Not listed above)

- |       |          |
|-------|----------|
| _____ | <u>X</u> |
| _____ | <u>X</u> |
| _____ |          |

See attached "Discussion of Impacts"

### III. DISCUSSION OF IMPACTS - IMPACT AREAS & SUB-AREAS

#### A. LAND USE

##### 1. Changing the character of the land through:

- a) No environmental impact
- b) Land Clearing

There will be a moderate, short term but minor disturbance to the top soil in limited areas for restricted periods of time during the construction phase of some of the proposed sub-projects.

Minor soils disturbances can be expected at the construction point of well drilling, and in the areas where footing for concrete well aprons are built.

In the removal of the top soil for construction, there is always some erosive effects due to either runoff by rain water or soil lost to dust causes by preventing or temporary gusting winds. This project is not a typical in that respect.

Not all sub-projects will necessitate the removal of top soil but many will. Even those that do, however, will be of a small enough construction outlay and the duration of construction for such sub-projects will be of a sufficiently short period to preclude significant major negative ecological impacts.

Where it is necessary, permanent physical controls will be installed as quickly as possible in construction areas. These would include sodded diversion terraces, sod on steep cut or fill banks, and reforestation practices.

Dust problems during construction can be minimized by routine sprinkling of the construction area and by returning the excavated area to its original state as soon as possible.

It should be pointed out that while recognition is made of potential problems related to soil erosion, none are expected to occur as the sub-projects are generally small and the control procedures and practices will be sufficient to preclude such problems.

#### IV. OTHER IMPACTS

(A "with" and "without" comparison of the Project)

The water supply project will generate other benefits as shown in the following table. This table indicates the implications of having, (with) or not having, (without) the Project.

<u>Hypothesis</u>	<u>"Without" Project</u>	<u>"With" Project</u>
1. Water Adequacy	will continue to be in short supply; services will be intermittent and unreliable.	supply will be adequate and have continuous pressure.
2. Water Quality	will continue to provide unsafe water and water-borne diseases, and will continuously be a menace to health.	supply will be increased, protected, and improved.
3. Personal Hygiene of Served Population	because of current water shortage, personal cleanliness is expected to range from marginal to minimal.	will enhance personal hygiene and the overall appearance and cleanliness of the population.
4. Personal Convenience	will be minimal; significant time will be spent in carrying water.	permits time for other productive activities provides "modernization" benefits; enhances self-reliance.
5. Employment Benefits	no improvement	will provide short and long-term employment benefits.
6. Water-Using Industries in Area	no inducement to the promotion of small, cottage industries which use water as a primary or secondary input.	water-using small industries will be able to expand facilities and activities.

<u>Hypothesis</u>	<u>"Without" Project</u>	<u>"With" Project</u>
7. Local Tourism	non-availability water and poor sanitation facilities will be a deterrent to local tourism.	availability of improved water will help promote modest, local tourism.

## V. SUMMARY

The probably unfavorable environmental effects are summarized below:

SUMMARY TABLE

<u>Item</u>	<u>Term</u>	<u>Negative</u>	<u>Solution</u>
Soil Erosion	Short	Slight	Strict compliance with construction specifications.
Dust	Short	Slight	Strict compliance with construction specifications.
Noise- Construction	Short	Slight	Strict compliance with construction specifications.
Noise- Operational	Long	Slight	Proper design and implementation.
Aesthetics	Long	Slight	Proper design and implementation.
Increase in Wastewater	Long	Unavoidable	Proper design and implementation.
Impoundment	Long	Slight	Careful design.
Resource Use	Long/Short	Unavoidable	Feasibility studies.

- Careful design and construction will minimize the noted, slight, and generally temporary environmental disturbances discussed above. They will also create aesthetic, culturally pleasing, and more healthful conditions under which man develops his most desirable potentialities.
- The recommended plan will enhance public health, improve the

quality of life in the community, and guide its long-term growth and productivity.

3. The commitment of resources is small compared with the anticipated benefits. Resource use is necessary in the construction and operation of a water facility, but the overall sum of the benefits shows overwhelming advantages to be gained by carrying on with the project.

## VI. RECOMMENDATION FOR ENVIRONMENTAL ACTION

### A. Recommendation for Threshold Decision

This project will have no significant major detrimental effect on the environment; therefore, a "Negative Determination" is appropriate.

This recommendation is based upon the discussion of impacts in this IEE and an indepth environmental impact analysis conducted for a similar but larger water systems program being AID-financed with development loan funds. The findings of the referenced study was that there were no significant major actions affecting the environment.

ANNEX D

PROJECT DESIGN SUMMARY  
LOGICAL FRAMEWORK

**PROJECT DESIGN SUMMARY**  
**LOGICAL FRAMEWORK**

**Project Title & Number**

Panay Unified Services for Health (PUSH)

**Program or Sector Goal:** The broader objective to which this project contributes (A-1)

To improve the health status of the residents of 600 barangays in Panay Island.

**Project Purpose:** (B-1)

To strengthen the regional health system to deliver integrated services to the barangay level.

**Project Outputs:** (C-1)

1. Barangay Health Workers who facilitate access to health services.
2. Barangay household water supply facilities.
3. Barangay household waste disposal facilities.
4. Installed medical logistics systems which reach barangay.
5. Family planning services provided at barangay level.
6. Nutrition services provided at barangay level.
7. Provincial laboratories improved.

**Project Inputs:** (D-1)

1. Environmental Sanitation Construction commodities.
2. Barangay Health Workers Training and Salaries
3. Equipment and supplies.
4. Project Support Staff
5. Consultants
6. Participant & Project Management Training
7. GOP Administration and Supervision
8. Rent and Utilities
9. PL 480 Title II Commodities

OBJECTIVELY VERIFIABLE INDICATORS

Measures of Goal Achievement: (A-2)

1. 25% reduction of TB, Diptheria, Tetanus and Gastro-Intestinal infections.
2. Infant mortality rate reduced by 25%.
3. Crude Birth Rate reduced from 31.5 to 24 per thousand
4. Reduction by 40% and 70%, respectively, of the incidence of second and third degree malnutrition among children aged 6 years and below.

Conditions that will indicate purpose has been achieved: End-of-Project status. (B-2)

1. 60% of households using sanitary toilets.
2. 80% of households using improved water supply.
3. 70% of target population immunized with BCG and DPT.
4. 10,000 second and third degree malnutrition cases rehabilitated.
5. Administrative/Financial support of BHWs by Provincial Governments as follows: 50 BHWs in 1981, 150 in 1982, and 600 in 1983.

Magnitude of Outputs: (C-2)

1. 600 BHWs recruited, trained and deployed.
2. 1,200 shallow driven wells and 280 drilled deep wells constructed and functional; 5,400 existing shallow dug wells improved.
3. 40,000 water-seal toilets constructed.
4. 100 Rural Health Units supplied with BCG and DPT vaccines and drug for treatment of tuberculosis; 600 barangay drug stores organized, supplied and functional.
5. Family planning outreach services and supply points established in 600 barangays.
6. Nutrition outreach services established and functional in 600 barangays, providing nutrition services and commodities to 10,000 mal-nourished children.
7. 4 Provincial laboratories provided with equipment for water analysis, sputum and other examinations.

OBJECTIVELY VERIFIABLE INDICATORS

Implementation Target (Type and Quantity D-2)

1. \$3.524
2. 1.061
3. .478
4. .331
5. .168
6. .075
7. 1.001
8. .069
9. (.509)

MEANS OF VERIFICATION

(A-3)

1. Rural Health Unit and Provincial Health Office records and surveys as necessary.
2. DOH Service Statistic Records.
3. NCSO Census Data.
4. Rural Health Unit and Barangay Records.
5. Child Growth Records (VolAg, DOH, BaEx).

(B-3)

1. Provincial Health Office and RHU records, Regional Health Office reports and occasional sample surveys.
2. Review of provincial budgets.

(C-3)

1. Provincial Health Office records and surveys.
- 2.) Provincial Health Office inspection records
- 3.) (Sanitary Inspectors as source data), Records of
- 4.) Bureau of Public Works.
5. Provincial Health Office Inspection records.
6. RHU reports; occasional sample surveys.
7. DOH and POPCOM data.
8. Provincial Health Office data.
9. DOH and NNC service statistics.

(D-3)

1. Regional Development Council and DOH, Region VI records and reports.
2. Regional Development Council and NEDA reports.
3. USAID, VolAg, NEDA, and DOH reports and records.

IMPORTANT ASSUMPTIONS

Assumptions for achieving goal targets: (A-4)

1. Expected number of Barangay Health Stations in place as now planned by DOH with IBRD/NEDA support.
2. DOH allocations are received in timely fashion.

Assumptions for achieving purpose: (B-4)

1. IEC program motivates target population to use new services and facilities.
2. Sufficient BHWs are recruited and deployed.
3. Commodities available and BHWs on hand to extend services.
4. All commodities arrive on time and are distributed and installed.
5. Project beneficiaries avail of health services provided
6. Provinces revise expenditure pattern and give priority to rural health care delivery.

Assumptions for achieving outputs: (C-4)

1. Recruitment and training proceeds on schedule with full PHO support of training staffs. RHUs fully staffed.
- 2.) Commodities and technical assistance supplied
- 3.) in timely fashion by provincial and municipal
- 4.) governments.
- 5.) RHUs have established appropriate procedures and
- 6.) linkages to assure flow of commodities.
7. Population will adopt principles of proper nutrition and family planning as oriented by outreach services and family planning commodities available in sufficient quantities.
8. Provincial Health offices are able to obtain needed laboratory equipment and have experienced laboratory staff to man new laboratory.
9. Supporting socio-economic activities (e.g., increased agricultural productivity) will succeed so that self-reliance replaces externaly supplied commodities.

IMPORTANT ASSUMPTIONS

Assumptions for providing inputs: (D-4)

1. Appropriate candidates exist at barangay level who motivated to new career, all levels agree to individual selections and support work of BHWs.
2. Sufficient quantity of sanitation commodities available.
3. System of allocating and channeling funds to provincial government efficient.
4. Sufficient PL 480 Title II commodities available through existing channels.

ANNEX E

PROJECT CHECKLIST

CROSS REFERENCES:

Is country checklist up to date? Identify

Yes. See Project Paper for Population Planning II, May 1977.

Has Standard item checklist been reviewed for this project?

Yes.

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) Committee on Appropriations of the 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 September 5, 1973 (replaces Memorandum of May 15, 1962; see Fed. Register, Vol 38, No. 174, Part III, September 10, 1973?

Yes. The project is designed to either provide small potable water facilities or improve existing ones, including family household water systems.

5. FAA Sec. 611 (3) 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 multi-lateral 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 furnished through multi-lateral organizations or plans to the maximum extent appropriate? **N.A.**
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. **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. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise).
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. **Host government is contributing 31% of overall project cost in local currency.**

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. 281(a)  
Extend 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; 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?

Develop institutions to provide effective health delivery services to the poor in rural areas.

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.)

(1) (103) for agriculture, rural development or nutrition; if so, extent to which activity is specifically designed to increase productivity and income of rural poor; (103A) if for agricultural research, is full account taken of needs of small farmers;

Funding for nutrition.

(2) (104) for population planning or health; if so, extent to which activity extends low-cost, integrated delivery systems to provide health and family planning services, especially to rural areas and poor;

Specifically designed to deliver health and family planning services in the remote areas of Panay Island.

(3) (105) for education, public administration, or human resources development; if so,

N.A.

extent to which activity strengthens non-formal education, makes formal education more relevant, especially for rural families and urban poor, or strengthens management capability of institutions enabling the poor to participate in development;

(4) (106) for technical assistance, energy, research, reconstruction, and selected development problems; if so, extent activity is:

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

(b) to help alleviate energy problem; N. A.

(c) research into, and evaluation of, economic development processes and techniques; N. A.

(d) reconstruction after natural or man-made disaster; N. A.

(e) for special development problem, and to enable proper utilization of earlier U.S. infrastructure, etc., assistance; Institutions developed by the PDAP project will be utilized in carrying out health delivery services.

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

(5) (107) by grants for coordinated private effort to develop and disseminate intermediate technologies appropriate for developing countries. N. A.

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

Recipient country fully supports the project and is contributing 31% of total project cost.

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)?

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-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.

This project is primarily designed to meet the health needs of the rural poor in the project areas; through this process there will be spin-offs with respect to institutions, training and integrating women into the rural development process.

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.

N. A.

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

This project contributes to rural development and economic growth in that the people in the project area will be healthier and, thus, more productive.

growth; or of educational or other institutions directed toward social progress? Is it 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?

The Project Paper provides an economic, social and technical soundness analysis.

h. FAA Sec. 201(b) (6); Sec. 211(a) (5), (6) Information and conclusion 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.

Financing from other sources not available at this time.

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.

The recipient country is deemed fully capable with respect to repayment of the loan. Standard loan terms were used.

c. FAA Sec. 201(e) If loan is not made pursuant to a multi-lateral 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

Yes.

resources requirements and relationship between ultimate objectives of the project and overall economic development?

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.

3. Project Criteria Solely for Security Supporting Assistance N. A.

FAA Sec 531 How will this assistance support promote economic or political stability?

4. Additional Criteria for Alliance for Progress N. A.

(Note: Alliance for Progress projects should add the following two items to a project checklist.)

a. FAA Sec. 251(b) (1) - (8) Does assistance take into account principles of the Act of Bogota and the Charter of Punta del Este; and to what extent will the activity contribute to the economic or political integration of Latin America?

b. FAA Sec. 251(b) (8); 251(h) For loans, has there been taken into account the effort made by recipient nation to repatriate capital invested in other countries by their own citizens? Is loan consistent with the findings and recommendations of the Inter-American Committee for the Alliance for Progress (now "CEPCIES", the Permanent Executive Committee of the OAS) in its annual review of national development activities?

ANNEX F

A PROFILE OF PUSH PROJECT BENEFICIARIES

## A Profile of PUSH Project Beneficiaries

### INTRODUCTION

The Panay Unified Services for Health (PUSH) Project was conceived early in 1976 primarily in response to the great need to extend basic health and health-related services to far-flung barangays. These barangays, as of yet, have not been reached by conventional health service delivery systems. The PUSH Project, slated for implementation in the second quarter of Fiscal Year 1978, aims to recruit, train, equip and deploy a Barangay Health Worker (BHW) in each of the 600 target barangays. The BHW will be providing simple yet essential preventive, curative and health promotive services to the people and link the barangay to the higher levels of the region's health service system. An important aspect of the BHW function is to mobilize the barangay to identify their community health problems and catalyze their efforts to obtain the necessary resources to solve them. The project will also provide commodity support for the repair and construction of waste disposal, water supply, and drainage facilities.

### GEORGRAPHICAL SETTING

The PUSH Project will be implemented in the provinces of Aklan, Antique, Capiz and Iloilo, that comprise the island of Panay. Panay Island is situated in the Western Visayan region, in the middle of the Philippine archipelago.

The PUSH barangays will be chosen from among the 31 most depressed municipalities in Panay. Eighteen of these municipalities are situated along the coast while 13 are in mountainous areas. Many barangays of the inland municipalities are inaccessible by land transportation. The people are therefore relatively isolated and contact with the urban centers is minimal.

Houses in both coastal and inland barangays are typically built along roads, usually near the school house, or along the coastline or river where there is also a road leading to the water. In the interior, houses are built on the farm itself and are therefore far apart. The wide dispersal of houses and the distance of these barangays from the Poblacion (the center of the municipality) make them relatively inaccessible to any organized social service delivery system.

### THE PUSH BARANGAY

A typical barangay where a BHW is deployed will be 10-12 kilometers away from the Poblacion. There will be about 561 barangay residents in 102

households. The houses (80%) are made of light material, mostly nipa and bamboo. Oil or kerosene lamps are used for lighting, and wood is the main cooking fuel used.

The barangay does not have a health facility. People depend heavily on traditional medicine for their medical problems. Babies are delivered by hilots (traditional midwives), and 75 of every 1000 babies born dies before the first birthday from tetanus, respiratory or gastro-intestinal disorders. Pulmonary tuberculosis is a common problem as well as parasitism and diarrheal disorders. As a result, the bread earner in the family on an average loses 24 working days in a year. Among toddlers, this contributes heavily to the 85% incidence of malnutrition in various forms and degrees.

If there is an elementary school in the BHW barangay, chances are 55% that it will not be complete, i. e., it will offer only the first four years of elementary education. Adults in these households average about four years of schooling.

Eighty-five percent of the households in a typical PUSH barangay do not have sanitary excreta disposal facilities. The common practice of relieving themselves in open fields, along the coast or riverbanks is the principal factor responsible for the endemicity of parasitism and other fecal-borne gastro-intestinal diseases. In addition, 65% of the barangay households draw their water for household use from sources which are not only of insufficient supply but also highly questionable in quality.

#### DIRECT BENEFICIARIES

All the households of the 600 PUSH barangays will be the direct beneficiaries of the project. An estimated 340,000 people in 61,200 households will be directly benefitted. Included in this number are 10,000 children with third-degree malnutrition who will be rehabilitated.

Between 80-90% of the families in the PUSH barangays will be subsistence farmers cultivating rice, corn and rootcrops, and marginal fishermen. These people only have limited access to economic opportunities, and the great majority of them are sharecroppers. Credit is not available, nor is the modern technology to increase the production efficiency of the land they till. As a consequence, 70% of the households earn an equivalent of only \$200 a year, which is certainly insufficient to provide the essential needs of 6 household members. As a rule, there is only one earner, usually the household head, for five dependents, and employment is seasonal coinciding with the cropping seasons.

The prevalent malnutrition problem has been brought about principally by lack of food. A household member has an equivalent of 24 cents worth of food intake everyday, which does not include all the nutrients essential for healthy growth and development. The problem is of course compounded by lack of education, poor quality of the environment and the absence of the necessary social services.

Because of the low economic potential of the PUSH Project areas and the limited access to economic development inputs, the PUSH beneficiaries are from the lowest economic third of Panay households.

The improvement of the regional health care, family planning and nutrition service delivery systems, which the project aims to strengthen, will indirectly benefit the rest of the 2.4 million population of Panay.

ANNEX G

MISSION DIRECTOR'S SECTION 611 (e)  
CERTIFICATION

**U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT**  
Manila Philippines

Ramon Magsaysay Center  
1680 Roxas Boulevard

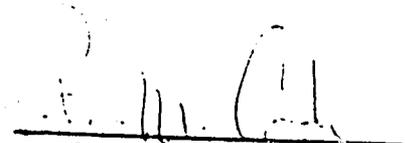
Annex G

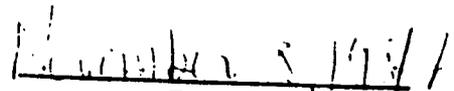
Telephone: 59-80-11

**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, inter alia, the maintenance and utilization of the Project 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 capability to effectively implement and execute the proposed Panay Unified Services for Health (PUSH) Project.

This judgment is based upon the project analysis as detailed in the PUSH Project Paper and is subject to the conditions imposed therein.

  
Peter M. Cody  
Director  
USAID/Philippines

  
Date

ANNEX H

RDC RESOLUTION

Republic of the Philippines  
NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY  
Region VI

REGIONAL DEVELOPMENT COUNCIL  
Region VI - Western Visayas

Resolution No. 9  
Series 1977

A RESOLUTION ADOPTING THE PROPOSAL "PANAY UNIFIED SERVICES FOR HEALTH" (PUSH) AS A PROJECT OF THE REGIONAL DEVELOPMENT COUNCIL OF REGION VI AND STRONGLY ENDORSING SAME FOR APPROVAL BY THE AUTHORITIES CONCERNED AS WELL AS BY THE NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY SO THAT REPRESENTATIONS FOR EXTERNAL ASSISTANCE CAN BE MADE WITH THE USAID-WASHINGTON D.C.

WHEREAS, the officials and members of the Regional Development Council of Region VI aware of the need to improve and ensure efficient and equitable distribution of minimum levels of services and facilities from the government and other assisting organizations for the socially and economically depressed areas within the region have worked out a project proposal otherwise known as the "Panay Unified Services for Health" (PUSH) copy of which is made an integral part of this Resolution;

WHEREAS, the innovative approach, hinging on the concept of a Barangay-selected and Barangay based and trained Health Worker (BHW) who shall act as "counselor, planner, organizer, facilitator and implementor" of Barangay identified Health and other related projects, focuses on the upgrading of the quality of life of the rural population;

WHEREAS, the objectives, strategies and methodologies incorporated in the project paper will serve as a potent catalyst for the development of rural areas as they would meet the basic want and needs of people who, otherwise, would be waiting for such services as competition for allocation of scarce local government resources between development sectors become more acute;

WHEREAS, RDC VI cooperating agencies, after consultations with their department central offices, and believing in the replicability of the concept under similar conditions and situations, discussed the concept paper with USAID Manila and have received favorable reactions of an "approval in principle" subject to final negotiations between the Government of the Philippines and the United States of America through USAID Washington D.C.;

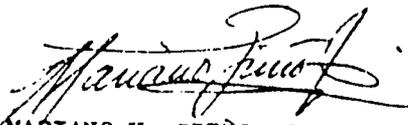
NOW THEREFORE, on motion of Governor Conrado J. Morada, Chairman, RDC, Region VI, unanimously seconded, Resolved as it is hereby Resolved, that the Regional Development Council (RDC) Region VI and the officials and members of cooperating agencies and local governments of Region VI hereby ADOPT the proposals embodied in the PROJECT PAPER entitled "PANAY UNIFIED SERVICES FOR HEALTH" (PUSH) as an official program of RDC, Region VI, and hereby manifest their commitment, should the project be approved by the proper authorities, to support said project in accordance with the provisions of the approved project paper;

RESOLVED, that RDC request for assistance from the National Economic and Development Authority through the Hon. Gerardo P. Sicat, Secretary of Economic Planning (NEDA Director-General) on the following items:

- a) To favorably endorse the concept as a viable and effective strategy for delivery of health-related services;
- b) To assist local governments in formulating a funding scheme, similar to the reimbursable scheme initiated by the USAID in the project paper, where by the initial funding component in terms of "Forward funding" shall not unduly paralyze implementation of other on-going programs and projects of local government and to assist in the identification of probable sources of initial funding;
- c) To ensure that the foreign assistance component of the projects, estimated at \$6.0 million in soft loan and the direct grant assistance of \$0.9 million, shall directly benefit the target areas of Panay and further ensure the replicability of said project in other regions of the country.

RESOLVED FINALLY, to furnish copies of this Resolution to the Hon. Gerardo P. Sicat, Secretary of Economic Planning, (NEDA Director-General), USAID Mission Director Peter Cody, and to all cooperating agencies.

UNANIMOUSLY APPROVED this 31st day of May, 1977, at Iloilo City, Philippines.

  
MARIANO U. GRINO, JR.  
Secretary  
Regional Development Council  
Region VI

Attested:

  
GOVERNOR CONRADO J. NORADA  
Chairman  
Regional Development Council  
Region VI

ANNEX I

DRAFT PROJECT AUTHORIZATION

AND

REQUEST FOR ALLOTMENT OF FUNDS

Part II

AGENCY FOR INTERNATIONAL DEVELOPMENT  
**PROJECT AUTHORIZATION AND REQUEST  
 FOR ALLOTMENT OF FUNDS PART I**

1. TRANSACTION CODE

A ADD  
 C CHANGE  
 D DELETE

PAF

2. DOCUMENT CODE  
 5

3. COUNTRY ENTITY

Philippines

4. DOCUMENT REVISION NUMBER

5. PROJECT NUMBER (7 digits)

[ 492-0312 ]

6. BUREAU/OFFICE

A SYMBOL B CODE  
 Asia [ 04 ]

7. PROJECT TITLE (Maximum 40 characters)

[ Panay Unified Services for Health (PUSH) ]

8. PROJECT APPROVAL DECISION

ACTION TAKEN

A APPROVED  
 D DISAPPROVED  
 DL DISAUTHORIZED

9. EST. PERIOD OF IMPLEMENTATION

YRS [ 0 ] [ 5 ] QTRS [ ]

10. APPROVED BUDGET AID APPROPRIATED FUNDS (\$000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	PRIMARY TECH CODE		E. 1ST FY 78		H. 2ND FY		K. 3RD FY	
		C GRANT	D LOAN	F GRANT	G LOAN	I GRANT	J. LOAN	L GRANT	M. LOAN
(1) PH	533 B	540	540	316	5400				
(2)									
(3)									
(4)									
TOTALS				316	5400				

A. APPROPRIATION	N. 4TH FY		O. 5TH FY		LIFE OF PROJECT		11. PROJECT FUNDING AUTHORIZED		A GRANT	B LOAN
	C GRANT	P LOAN	R GRANT	S LOAN	T GRANT	U. LOAN	(ENTER APPROPRIATE CODE(S)) 1 - LIFE OF PROJECT 2 - INCREMENTAL LIFE OF PROJECT			
(1) PH					316	5400			1	1
(2)										
(3)										
(4)										
TOTALS					316	5400			C PROJECT FUNDING AUTHORIZED THRU PV [ 8 ] [ 2 ]	

12. INITIAL PROJECT FUNDING ALLOTMENT REQUESTED (\$000)

A. APPROPRIATION	B. ALLOTMENT REQUEST NO	
	C GRANT	D LOAN
(1) PH	316	5400
(2)		
(3)		
(4)		
TOTALS		
	316	5400

13. FUNDS RESERVED FOR ALLOTMENT

TYPED NAME (Check SER/EM/ESD)

SIGNATURE

DATE

14. SOURCE ORIGIN OF GOODS AND SERVICES

000  941  LOCAL  OTHER

15. FOR AMENDMENTS, NATURE OF CHANGE PROPOSED

FOR PPC/PIAS USE ONLY

16. AUTHORIZING OFFICE SYMBOL

17. ACTION DATE

MM DD YY

18. ACTION REFERENCE (Optional)

ACTION REFERENCE DATE

MM DD YY

Draft Project Authorization and Request for Allotment of Funds  
Part II

Country/Entity : Philippines

Project Title : Panay Unified Services for Health (PUSH) Project

Project No. : 492-0312

Pursuant to Part I, Chapter I, Section 104 of the Foreign Assistance Act of 1961, as amended, I hereby authorize a Loan and Grant to the Government of the Republic of the Philippines (the "Cooperating Country") of not to exceed Five Million Seven Hundred Sixteen Thousand Dollars (\$ 5,716,000) (the "Assistance") to help finance certain foreign exchange and local currency costs required to implement the Panay Unified Services for Health (PUSH) Project, which aims to improve the health status of the residents of 600 depressed villages in the Island of Panay, Philippines, by: (a) reducing the incidence of tuberculosis, diphtheria, tetanus and gastro-intestinal infections, (b) reducing the infant mortality rate, (c) reducing the crude birthrate, and (d) reducing the incidence of malnutrition among children aged six years and below.

Specifically, the proceeds of the Assistance are to be used to assist the Cooperating Country in financing the local currency costs of recruiting, training, equipping and deployment of 600 Barangay Health Workers, local technical services, and the improvement and construction of water and sanitary waste disposal facilities; and to assist in financing the foreign exchange requirements of essential equipment, commodities and services needed for the project. The different project components are expected to (1) strengthen the regional health system to deliver essential health services down to the barangay level, (2) provide 85% of the project area households with sanitary toilets, (3) provide 80% of project area households with water of improved quality, (4) immunize 70% of the target population with BCG and DPT, and (5) rehabilitate 10,000 malnourished children,

Of the Assistance Five Million Four Hundred Thousand U.S. Dollars (\$5,400,000) ("Loan") will be loaned to the Cooperating Country to assist in financing certain Foreign Exchange and local currency 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 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 Delegations of Authority subject to the following essential terms and covenants and major conditions; together with such terms and conditions as AID may deem appropriate:

A. Interest Rate and Terms of Repayment

The Cooperating Country 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 Cooperating Country shall pay to AID in United States Dollars interest from the date of the first disbursement of the Loan at the rate of (a) two percent (2%) per annum during the first ten (10) years, (b) three percent (3%) per annum thereafter, on the outstanding disbursed balance of the Loan on any due and unpaid interest accrued thereon.

B. Other Terms and Conditions

1. Unless AID otherwise agrees in writing:

a. Except for ocean shipping, goods and services financed by AID under the Project shall have their source and origin in the Cooperating Country or in countries included in AID Geographic Code 941. Ocean shipping financed under the project shall be procured in any eligible source country except the Cooperating Country. Services financed under the Grant shall have their source and origin in the Philippines or in the United States.

b. Prior to any disbursement, or the issuance of any commitment documents under the Loan portion of the Assistance, the Cooperating Country shall submit, or cause to be submitted, the following in form and substance satisfactory to AID:

1) A copy of the Philippine Government order designating the Regional Development Council VI (RDC VI) as the Implementing Agency, responsible to the National Economic & Development Authority (NEDA) for the effective and timely implementation of the Project.

2) A copy of the executed Memorandum of Agreement between NEDA, the RDC VI and the Department of Health, which will contain their respective responsibilities in the implementation of the Project.

- 3) A copy of the Philippine Government order establishing the PUSH Project Management Team (PMT), with authorities and responsibilities to enable the PMT to effectively carry out assigned functions.
  - 4) Copies of the appointment documents of the five-man Project Support Staff (PSS), and a certification from NEDA that the PSS has been provided with office space, office equipment and other forms of support to become operational.
  - 5) A plan for the implementation of the Project prepared by the PMT and the PSS on behalf of the RDC VI.
  - 6) Copies of the Memorandums of Agreement between each of the participating Panay provinces and the National Economic & Development Authority, Department of Health, Regional Development Council VI and the Department of Local Governments and Community Development, which shall stipulate the responsibilities of the provincial and municipal governments in the implementation of the PUSH Project, particularly the manner by which the provinces will disburse the funds that will be advanced to them under the Trust Funds.
  - 7) A copy of the Philippine Government order establishing the PUSH Regional Trust Fund and a special Provincial Trust Fund in each of the participating Panay provinces.
  - 8) A copy of the Barangay Health Worker's Handbook which the Barangay Health Worker will use as an aid in performing his duties and responsibilities in connection with the project, and a copy of the Training Manual to be used in the training of BHWs.
  - 9) A copy of the Administrative Systems and Procedures Manual to be followed in the implementation of the environmental sanitation sub-projects in the barangay.
- c. The Project Agreement shall contain the following special covenants by the Cooperating Country:
- 1) The Regional Development Council VI (RDC VI) will submit for AID approval the list of 600 barangays where the PUSH Project will be implemented.

- 2) The Cooperating Country will assure that sufficient funds are released to the RDC VI on a timely basis to assure orderly implementation of the Project as scheduled.
  - 3) The Cooperating Country shall assure that the four participating provinces in Panay will absorb the financial responsibility of maintaining the Barangay Health Workers after the three-year external financial subsidy has terminated.
2. The Project Agreement shall include such other terms, conditions and covenants as AID may deem advisable and negotiate with the Cooperating Country.

Assistant Administrator  
Bureau for Asia  
AID/Washington

\_\_\_\_\_  
Date

Clearance: RLA:RWJohnson (in draft)

ANNEX J

BORROWER/GRANTEE'S REQUEST FOR ASSISTANCE

U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT  
Manila, Philippines

Ramon Magsaysay Center  
1680 Roxas Boulevard

Telephone: 59-80-11

1 FEB 1978

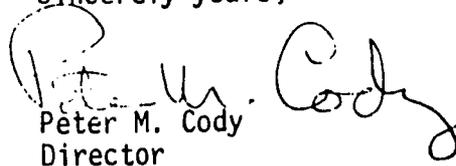
The Honorable Gerardo P. Sicat  
Secretary of Economic Planning  
National Economic and Development  
Authority  
Manila

Dear Secretary Sicat:

This is to acknowledge receipt of your letter of January 24, 1978, endorsing the PUSH Project Paper and formally requesting the loan and grant.

We have taken under consideration the points raised in your letter and, at a meeting yesterday between our staffs, specific revisions to the Project Paper were agreed upon. These revisions are now being incorporated in the final version of the Project Paper, which will be forwarded at once to AID/Washington for review and approval.

Sincerely yours,

  
Peter M. Cody  
Director



Department of Health, Philippines  
 NATIONAL BUREAU OF HEALTH AND DEVELOPMENT SERVICES  
 1000, EDSA, Manila

January 24, 1978

Mr. Peter M. Cody  
 Director, USAID Mission  
 Manila

Dear Mr. Cody,

I refer to USAID letter dated 15 November 1977 forwarding the draft Project Paper for the Panay Unified Services for Health (PUSH) Project designed to improve the health of residents of 600 depressed Barangays in Panay Island.

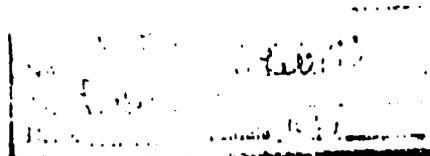
This Office has examined the project and join the Secretary of Health in endorsing it. I would, therefore, formally request assistance from USAID in the form of grant of \$316,000 and a loan of up to \$6.0 million.

The following should, however, be considered in the implementation of this project: 1) determine specific amount of initial seed money required and source thereof; 2) consider delegating to Provincial Health Officer supervision over Barangay Health Workers (BHW); 3) evolve mechanism to link BHW to the Barangay Government; 4) review need of Provincial Training Centers; 5) mechanisms together with necessary finance and logistics should be adopted for the repair and maintenance of infrastructures built after termination of the project; and 7) remove classification of BSW as "Casuals" to ensure continuity of tenure.

Sincerely yours,

*Gerardo P. Sicat*  
 GERARDO P. SICAT  
 Secretary of Economic Planning  
 (Director-General)

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