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

PROJECT PAPER

PHILIPPINES - BICOL INTEGRATED HEALTH, NUTRITION AND POPULATION (492-05...)

### ABBREVIATIONS USED IN RUP PP

<b>BAEx</b>	Bureau of Agricultural Extension (MOA)
<b>BAI</b>	Bureau of Animal Industry (MOA)
<b>BDW</b>	Barangay Development Worker (MLGCD)
<b>BFAR</b>	Bureau of Fisheries and Aquatic Resources (MNR)
<b>BHA</b>	Barangay Health Aide
<b>BHP</b>	Bicol Integrated Health, Nutrition and Population Project
<b>BNS</b>	Barangay Nutrition Scholar (NNC)
<b>BPI</b>	Bureau of Plant Industries (MOA)
<b>BFW</b>	Bureau of Public Works (MPWTC)
<b>BRBDP</b>	Bicol River Basin Development Program
<b>BSP</b>	Barangay Supply Point (POPCOM)
<b>CO</b>	Community Organizer (CRS)
<b>CRS/SAC</b>	Catholic Relief Services/Social Action Center
<b>DN</b>	Diocesan Nutritionist (CRS)
<b>DPO</b>	District Population Officer (POPCOM)
<b>FB</b>	Fishery Biologist (MNR/BFAR)
<b>FFWC</b>	Food For Work Coordinator (CRS)
<b>FMT</b>	Farm Management Technician (MOA/BPI and BAEx)
<b>FTOW</b>	Full Time Outreach Worker (POPCOM and PROCOM)
<b>GOP</b>	Government of the Philippines
<b>HMT</b>	Home Management Technician (MOA/BAEx)
<b>IECM</b>	Information, Education, Communication and Motivation Campaign
<b>MAO</b>	Municipal Action Officer (NNC)
<b>MDO</b>	Municipal Development Officer (MLGCD)
<b>MFDO</b>	Municipal Family Development Officer (POPCOM)
<b>MHC</b>	Municipal Health Center
<b>MLGCD</b>	Ministry of Local Government and Community Development
<b>MNR</b>	Ministry of Natural Resources
<b>MOA</b>	Ministry of Agriculture
<b>MPI</b>	Ministry of Public Information
<b>MPWTC</b>	Ministry of Public Works, Transportation and Communication
<b>MSSD</b>	Ministry of Social Services and Development
<b>MSW</b>	Municipal Social Worker (MSSD)
<b>MT</b>	Marine Technologist (MNR/BFAR)
<b>NEDA</b>	National Economic and Development Authority
<b>NMYC</b>	National Manpower and Youth Council
<b>NNC</b>	National Nutrition Council
<b>PAO</b>	Provincial Action Officer (NNC)
<b>PE</b>	Provincial Engineer (BWP)
<b>PIO</b>	Provincial Information Officer (MPI)
<b>PPO</b>	Provincial Population Officer (POPCOM)
<b>PFDO</b>	Provincial Family Development Officer (PROCOM)
<b>PL</b>	Purok Leader (NNC)
<b>POPCOM</b>	Commission on Population
<b>PROCOM</b>	Project Compassion
<b>PUSH</b>	Panay Unified Services for Health
<b>RHM</b>	Rural Health Midwife (MOH)
<b>RHU</b>	Rural Health Unit (RHU)
<b>RSI</b>	Rural Sanitary Inspector (MOH)
<b>RYDO</b>	Rural Youth Development Officer (BAEx)
<b>UL</b>	Unit Leader (NNC)
<b>YDW</b>	Youth Development Worker (MSSD)

AGENCY FOR INTERNATIONAL DEVELOPMENT <b>PROJECT PAPER FACESHEET</b>		1. TRANSACTION CODE <b>A</b> A ADD C CHANGE D DELETE		PP
3. COUNTRY ENTITY <b>Philippines</b>		2. DOCUMENT CODE <b>3</b>		
5. PROJECT NUMBER (7 digits) <b>492-0319</b>		6. BUREAU/OFFICE A. SYMBOL <b>Asia</b> B. CODE <b>04</b>		7. PROJECT TITLE (Maximum 40 characters) <b>Bicol Integrated Health, Nutrition &amp; Population</b>
8. ESTIMATED FY OF PROJECT COMPLETION FY <b>83</b>		9. ESTIMATED DATE OF OBLIGATION A. INITIAL FY <b>79</b> B. QUARTER <b>3</b> C. FINAL FY <b>79</b> (Enter 1, 2, 3 or 4)		

10. ESTIMATED COSTS (\$000 OR EQUIVALENT \$) - **P7.5**

A. FUNDING SOURCE	FIRST FY			LIFE OF PROJECT		
	B. FX	C. L C	D. TOTAL	E. FX	F. L C	G. TOTAL
AID APPROPRIATED TOTAL	447	130	577	895	1605	2500
(GRANT)	-	-	-	-	-	-
(LOAN)	447	130	577	895	1605	2500
OTHER U.S.						
1. PL-480 (currency)		163	163	-	750	750
2. PL-480 (commodities)		(46)	(46)	-	(1170)	(1170)
HOST COUNTRY		450	450	-	4537	4537
OTHER DONOR(S)						
TOTALS	447	743	1190	895	6892	7787

11. PROPOSED BUDGET APPROPRIATED FUNDS (\$000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	PRIMARY TECH CODE		E. 1ST FY <b>79</b>		H. 2ND FY <b>80</b>		K. 3RD FY <b>81</b>	
		C. GRANT	D. LOAN	F. GRANT	G. LOAN	I. GRANT	J. LOAN	L. GRANT	M. LOAN
(1) PH	532 B		540		2500				
(2)									
(3)									
(4)									
TOTALS									

A. APPROPRIATION	N. 4TH FY <b>82</b>		O. 5TH FY <b>83</b>		LIFE OF PROJECT		12. IN-DEPTH EVALUATION SCHEDULE
	P. GRANT	Q. LOAN	R. GRANT	S. LOAN	T. GRANT	U. LOAN	
(1)						2500	MM YY <b>7 8 0</b>
(2)							
(3)							
(4)							
TOTALS						2500	

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

**2** 1 = NO  
2 = YES

14. ORIGINATING OFFICE CLEARANCE		15. DATE DOCUMENT RECEIVED IN AID/W OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION	
SIGNATURE <b>Gerold van der Vlugt</b>	<i>Gerold van der Vlugt</i>	DATE SIGNED	
TITLE <b>Chief, Office of Health</b>		MM DD YY <b>2 0 1 7 9</b>	MM DD YY

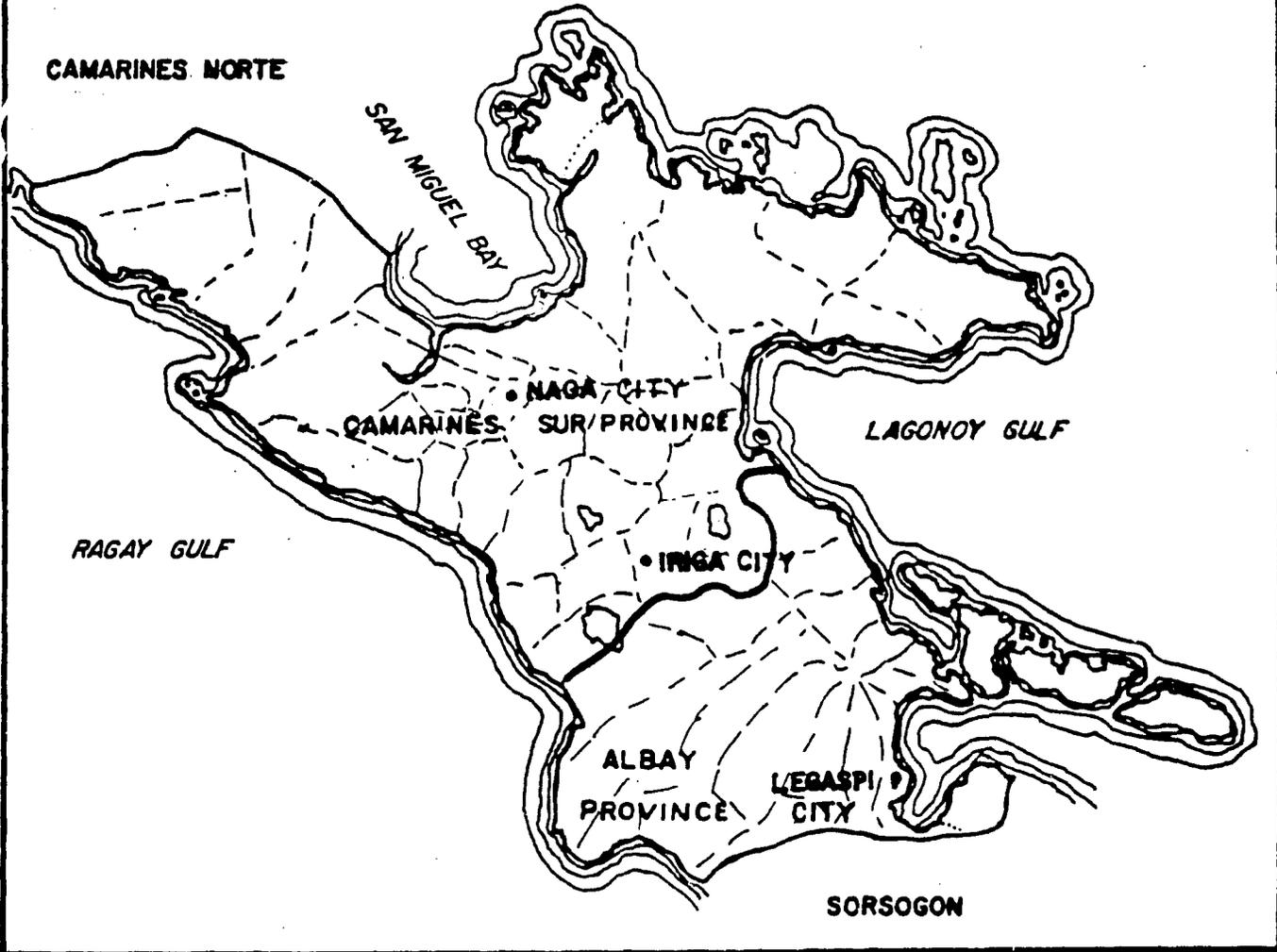
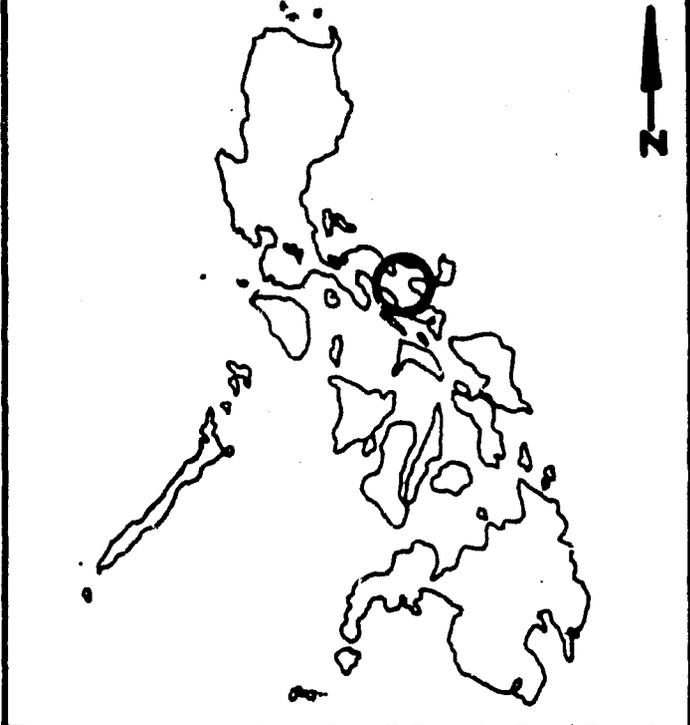
## PROJECT PAPER

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PROJECT AREA

REPUBLIC OF THE PHILIPPINES



## I. DETAILED PROJECT DESCRIPTION

### A. BACKGROUND

Envisioned as the major social development component of the Bicol River Basin Development Program (BRBDP), the Bicol Integrated Health, Nutrition and Population Project (BHP) has undergone three years of intensive investigation and planning. A 16-member BHP Task Force was formed in early 1976 representing departments, agencies, and organizations who will participate in project implementation. Consultations with local leaders, social soundness studies, community surveys, and the technical review by numerous specialists form a part of the background of the BHP Task Force's work. To orient government leadership and solicit participation in project planning, a workshop was held on March 25 and 26, 1977. In attendance were the governors of Albay and Camarines Sur and 52 mayors from the two provinces.

BRBDP has prepared and circulated an exhaustive Feasibility Study, generally following and expanding the Project Review Paper (PRP) submitted for review in mid-1977. With modifications in the scope and in administrative design of the BHP, the Project Identification Document (PID) was prepared in late 1977 and approved in early 1978 by AID/W.<sup>1/</sup> This PP reflects the consensus of the above research and planning activities and documents the design and implementation of an effective, financially feasible, and replicable rural health delivery system. The successful implementation of BHP and a planned follow-on project is considered critical to the overall success of the BRBDP. The BHP represents a balanced integration of available resources to insure that the poor majority share in the benefits of that development program.

Relation to DAP Strategy and GOP Priorities. Both GOP planners and local leaders place high priority on the implementation of BHP, viewing the project and replicable expansion as the vital social development component of BRBDP. National officials, the Ministry of Health, and the National Nutrition Council view BHP as offering a cost-effective and replicable approach to extending important social services to rural residents. BHP, in terms of the USAID/Philippines Development Assistance program (DAP), pursues on a regional basis the lines of action charted by that document as the key areas of AID assistance. Being an essential feature of the BRBDP strategy, this project falls under the DAP Rural Development Sector and pursues its overall objectives. USAID has extensive experience in implementing regional and provincial programs in the Philippines. These include: 1) Assistance to the Local Water Utilities Administration, initiated in 1973, and to date receiving through USAID \$35 million. This program is directed toward improving water systems in urban areas with populations of 30,000 and above and thus does not affect rural residents. 2) the Barangay Water Project (BWP) proposes a FY 1978 \$3 million USAID loan to provide necessary training and financing involved in the construction of 250 to 480 barangay water systems nationwide. BHP and its successor project will build on this base and extend water services rapidly to the approximately 1000 rural barangays in the two-province project area which urgently need improved water supply facilities. While BWP funds larger water systems costing from ₱20,000 to ₱30,000 per barangay, BHP plans to finance smaller projects averaging only ₱2,500 for each water facility. The coordination of these two projects at the barangay level will be facilitated by the

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<sup>1/</sup> State 081592

Bureau of Public Works, the implementing agency for BWP and the water supply facility construction of the BHP.

The Commission on Population (POPCOM). POPCOM is the agency in charge of coordinating the implementation of the national population program. Established in 1969, POPCOM serves as the central coordinator; integrating and determining the administration and development of individual programs. A key feature of POPCOM's extensive Outreach Project is the placing of one Full-Time Outreach Worker per 2000 married couples (approximately 12,000 population) of reproductive age and the establishment of Barangay Supply Points (BSP). The Barangay Health Aide funded by BHP will participate in and intensify the successful implementation of POPCOM programming through referrals to the BSP and cooperation with POPCOM barangay activities.

Philippine Nutrition Program. The nutrition component of BHP complements and strengthens the National Nutrition Council's (NNC) nationwide Philippine Nutrition Program to reduce malnutrition. This project component of BHP was largely developed by the Bicol Regional Nutrition Committee and NNC's Provincial Nutrition Committees in Albay and Camarines Sur. Through health education activities, promotion of supplemental feeding and referrals of severe malnutrition cases, the BHA's activities will complement the national nutrition program.

BREDFP Filter System. Under USAID support, three pilot filter systems designed by Dr. Richard O. Frankel were constructed in the Bicol program area. The filtration process uses inexpensive local materials and has proven satisfactory in improving water quality. A simpler filter system utilizing burnt rice husks medium and serving about 50 households per unit, has now been built by BREDFP with GOP funding in 57 rural barangays at an average cost of P3500 per unit. The project provides for construction of these units in the few areas where appropriate in the basin. (Annex A and B11-D).

Panay Unified Services for Health (PUSH). PUSH and BHP are similar in that they will train and assign health workers at the rural barangay level with similar tasks. They differ in administrative structure and in issues concerning financial viability and replicability. BHP will attempt to reduce government expenses in delivering similar services as PUSH by generating greater local participation in program support in BHP. The Mission and the GOP intend to pursue both of these approaches simultaneously to identify the most successful components of each program for nationwide replicability.

## B. SCOPE OF THE PROJECT

BHP will be implemented in the provinces of Albay and Camarines Sur in the Bicol River Basin of Southeastern Luzon, some 400 kilometers from Manila by road. Approximately 80 percent of the 1.75 million population of the project area is made up of rural households. This rural population is the recipient of a very limited share of government investments and services. Averaging 6.2 persons per household, there are 282,868 households in the area with a median annual income of approximately P2,700 (\$360), below the poverty threshold and one of the lowest in the nation.

The smallest local government unit is the Barangay. Camarines Sur has 1,060 barangays, 35 municipalities, and 2 chartered cities. Albay has 696 barangays, 16 municipalities, and the capital city. Local government barangay activities

are administered under a non-salaried Barangay Chairman and various officers and committees of the barangay. A typical target barangay in the project area has about 1000 residents in 160 households. Houses are made of light, inexpensive materials such as nipa and bamboo, often gathered by the family who usually construct their own house with the help of neighbors and relatives. Children often play in the polluted areas of the barrio, and generally suffer from parasitic infestation, skin diseases, and various degrees of malnutrition. Sanitary facilities are usually nonexistent, and polluted sources of water are common. In the rural areas, oil or kerosene lamps provide light, and cooking is usually over a wood fire.

For most of the rural population, health services are either unavailable or not affordable. Morbidity and mortality statistics present a rather dismal profile of public health. In 1976, registered crude birth and death rates were 37.9 and 7.2 per 1,000 population, as compared with the national average of 26.1 and 6.9. Infant mortality rate is 72.7 per 1,000 live births while the national average is 64.7. The traditional midwife (hilot) delivers the majority of babies. She has little or no formal health training and often uses unsafe and unsanitary procedures. Her services are a mixture of skill, experience, superstition, and folklore related to pregnancy, childbirth, and the care of the newborn. Others sought during illnesses include faith-healers and "quack doctors". Seldom do the rural poor benefit from modern scientific medicine or appropriate drug therapy when sick.<sup>1/</sup>

The three leading causes of infant mortality are pneumonia, gastro-enteritis, and bronchitis. These are complicated by a high incidence of malnutrition among pre-school children: 48.1 percent first degree, 24.1 percent second degree, and 5.9 percent third degree malnutrition. Only three percent of the total population were found to eat the recommended three servings of protein, carbohydrates, and vegetable foods in 1974.<sup>2/</sup> With parasitic infestation and water-borne, enteric diseases endemic, the resultant nutrient loss further depletes an already inadequate diet. Poverty is thus deepened as the nutritive value is not fully received from food eaten.

The three leading causes of adult mortality in the project area are pneumonia, pulmonary tuberculosis, and heart disease. Corresponding causes of morbidity are gastro-enteritis, pneumonia, and influenza.

Nine of the ten leading causes of death in the area are considered "preventable" by improving sanitation, nutrition, water supply, and an appropriate vaccination and health education program.<sup>3/</sup> The BHAs trained and fielded by BHP and the environmental, nutritonal, and population components of the project shall directly focus upon disease prevention. While they may be expected to have a significant impact, success will depend upon levels of motivation toward essential health behavior change. An Information, Education, Communication and Motivation (IECM) campaign is an integral part of the project to assure preparation of the population to be served. Through coordination and integration of all available resources, the BHP will maximize the impact of all components in promoting health, combatting disease, and improving the quality of life of the rural poor.

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<sup>1/</sup> NOH Annual Report, 1976

<sup>2/</sup> Operation Timbang Data, 1976

<sup>3/</sup> NOH Annual Report, 1976

### C. DETAILED PROJECT DESCRIPTION

**Project Goal.** The goal of the project is to raise the quality of life and the real per capita incomes of the residents of 400 rural barangays in the provinces of Camarines Sur and Albay through improved health and nutrition status, reduced death rate, reduced occurrence and controlled spread of communicable and preventable diseases, maintenance of population growth at a desirable level, and achievement of local government units' self-reliance in health and health-related services.

Under the initial five-year project, 400 rural barangays will be selected, using a set of socio-economic indicators to identify the communities of greatest need. Since the average barangay population in the provinces of Camarines Sur and Albay is 1,000 individuals, there will be approximately 400,000 direct beneficiaries. This is about 23 percent of the total population of the two provinces and 29 percent of the rural population.

Goal achievement among the target population shall be reflected in terms of an improvement in perceived and objective quality of life indicators by 1984, improved sanitary environment and water supplies, and reduced incidence of parasitic infection from 90% to 30% indicating reduction in food nutrient losses, and reduced absenteeism from work and schools due to illness, thus increasing the real income enjoyed by the project beneficiaries (see Part II, Section A).

The achievement of the project goal can be measured in terms of increased life expectancy from 59 to 62 years; reduction of the infant mortality rate from 73 to 54.4 per 1,000 live births; incidence of first degree, second degree and third degree malnutrition reduced from 48.1 percent to 9 percent, 24 percent to 2.35 percent and 5.9 percent to 1 percent, respectively, among pre-school children; incidence of water borne diseases reduced from 600 to 350 cases per 100,000; incidence of tuberculosis and other pulmonary diseases reduced from 1,500 to 1,000 cases per 100,000; birth rate reduced from 37.86 to 30.32 per 1,000, and local government units completely funding all required expenses for the 400 target barangays in support of the project.

**Project Purposes.** To realize the above-mentioned goals, this integrated, comprehensive and multi-sectoral project has been designed to achieve the following (as project purposes): 1) Health, nutrition and population services effectively reaching the target barangays through an economical delivery system, 2) improved sanitary environment and household water supplies in target barangays; 3) increased local government financial support of health, nutrition and population programs; and 4) increased participation of barangay workers and residents alike in health, nutrition and population programs.

Conditions that will indicate the purposes have been achieved are as follows: 90 percent of the targetted households using recommended health practices; recommended immunization indices for BCG, CTPa, DPT, Tetanus Toxoid and TOPV achieved; 80 percent of the infants and 50 percent of the expectant and nursing mothers participating in nutrition programs; 40 percent of married women of reproductive age using family planning methods; 50 percent of the population using satisfactory toilets; 100 percent of BHA stipends funded from local government revenues; 400 barangays establishing barangay development centers from local funds; community-type water facilities and communal school toilets maintained by barangay; 75 percent repayment rate achieved on outstanding loans for barangay and individual household facilities; and families developing their own blind drainage systems.

### Project Outputs I: Rural Institutional Development

1. Barangay Health Aides (BHA).<sup>1/</sup> The project requires the recruitment, training, equipping, and deployment of 400 Barangay Health Aides (BHA). The BHA will be locally recruited by the barangay, a male or female between 18 and 45 years of age with at least six years of education or its equivalent. It is anticipated, however, that the educational level of applicants will be far above the minimum stated and that preference will be given to graduate midwives or nurses who are in surplus numbers in the area.

The BHA will receive six weeks of formal training and orientation and two weeks of supervised field experience which will be followed by a one week refresher course every six months. This in-service training will be designed to enable the BHA to appropriately perform the highest priority activities involving health promotion, disease prevention, clinical and referral functions required by the project. To avoid confusion of the BHA's activities involving various agencies, all BHA participation will be scheduled through the Rural Health Unit. Thus the BHA will be the principal barangay contact and facilitator for sanitary inspectors, social workers, population specialists, nutrition workers, and other health-related personnel as they carry out their agency functions.

The BHA should be a permanent resident of the barangay and will be nominated for the position by the barangay council, endorsed by the Rural Health Unit, the municipal mayor, and the Regional Director of Health, with appointment by the provincial governor. The technical and administrative supervision of the BHA will be the responsibility of the Rural Health Unit. The BHA will be a fulltime worker of the local government, paid a proposed monthly stipend of ₱306.75 through the municipal treasurer. The training program and the handbook of the BHA will specify the following areas of activity. It is important to note that the BHA will focus attention and efforts on those priority areas of need identified by the Barangay Council and endorsed by the supervising RHU and associates line agency representative. Over time, as problem areas are resolved, the emphasis and priorities will change.

a) Community Organization. As barangay health educators, the BHAs will utilize group process, communication techniques and consultation in assisting barangay residents to identify and find solutions to their health-related problems. Agency, school, church, and other social service resources will be encouraged by the BHA to integrate their activities directed toward personnel and community health behavior change. The BHA will project the image of a coordinator and facilitator, rather than a director, in solving health problems. Although the BHA does have an "agenda" of goals to be accomplished, he/she may not know the best means for success. The integration and participation of all available resources and personnel will be sought to best solve the problems the barangay has identified.

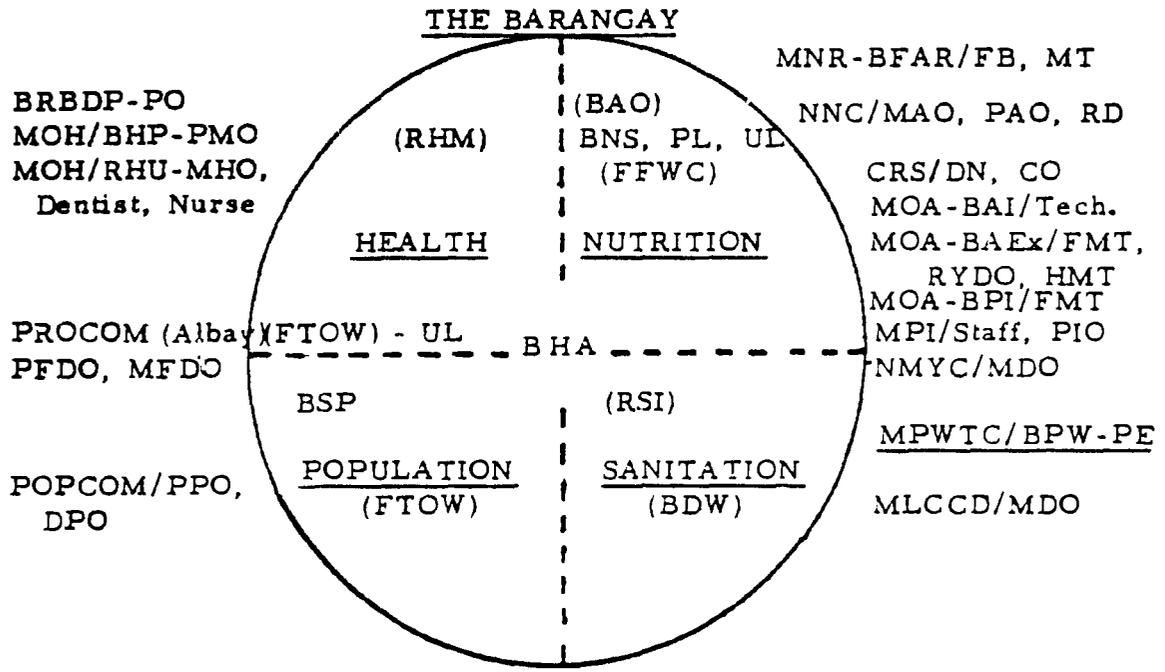
b) Environmental Sanitation. Cleanliness, safe water, and proper waste disposal will be among the first health activities promoted by the BHA in his/her health

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<sup>1/</sup> See Figure 1 for BHA Relationships

Figure 1

BHA RELATIONSHIP TO AGENCY PERSONNEL



NOTE:

1. The circle represents the Barangay, divided by broken lines showing interrelationship of BHP components: Health, Nutrition, Population, Sanitation.
2. The Project Participants shown in the area of their chief concern within the circle are directly associated with the BHA in the Barangay. Those in brackets do not necessarily reside in the project barangay.
3. The Ministries, Bureaus, Agencies and Organizations with their personnel shown outside the circle are concerned with project implementation, but only personnel connected to their organizations by lines in the figure are frequently directly involved with the BHP. Participant organizations are shown near the area of their primary concern. Those near the mid-line have more general interest in the overall BHP project rather than specific specialty areas.
4. See the List of Abbreviations for identification.

education work. Areas in the barangay needing improved sanitary facilities will be identified by the BHA in consultation with the Barangay Council and specific plans will be made for the necessary commodities and construction. Technical assistance will be provided by the Bureau of Public Works (Provincial Engineering Office), BRBDP and BHP staff, and the sanitary inspector from the Rural Health Unit. Early focus will be upon water quality, handling, and utilization; the construction of water-sealed toilets for every household; drainage; proper disposal of refuse; and the control of insect and rodent pests.

c) Nutrition. The BHA will encourage all households to strive for a balanced, adequate diet. Instruction will be given on infant and child nutrition including the importance of breast feeding. Working with concerned agencies the BHA will periodically weigh and keep records of children under six years of age, assist in the distribution of food assistance commodities; and conduct barangay feeding programs for malnourished children. Third degree cases of malnutrition will be referred for treatment to the RHU for appropriate treatment. The BHA will assist in the barangay food production campaign and will help to formulate and implement an effective nutritional program.

d) Family Planning. The BHA will participate in the population education and family planning programs of the barangay in cooperation with concerned agencies. Information will be provided with various forms of contraceptives, and in cooperation with the BSP, acceptors will be referred to appropriate agencies. Ongoing users will be supplied with the required commodities. Where no family planning program has been established, the BHA will take the primary initiative in organizing one.

e) Control of Communicable Diseases. The BHA is responsible at the barangay level to promote whatever disease-control campaign the rural health unit may conduct. Immunization targets will be identified and prioritized and efforts will be initiated to secure the necessary immunization services and supplies. Records of immunization will be kept by the BHA and families will be instructed on the role of immunization in health maintenance. When notifiable diseases are recognized, proper reporting and referral will be done by the BHA, with necessary follow-up of such cases by the RHU.

f) Vital Statistics. Barangay births and deaths will be recorded by the BHA and periodically reported to the RHU. Upon arrival in the barangay, spot-maps portraying important health and sanitation information will be prepared. As improvements in sanitary or water facilities occur these will be noted on the maps. Individual family health folders containing disease records, treatment and outcome will be prepared and retained by the BHA for RHU reference.

g) Curative Functions. The BHA in the event of sickness or accident will provide necessary emergency treatment, referring cases to the nearest medical facility when so indicated. The regimen prescribed by the RHU for patients with chronic diseases will be monitored. The BHA will see that approved supplies of medicine will be replenished from the RHU as needed and will maintain health and nutrition kits.

2. BHA Training Program. The six week BHA training program which will be held at the Regional Health Training Center in Legazpi City will initially be funded by the project. Through project funding supplemental trainers will be detailed from the Bureau of Agricultural Extension, National Nutrition Council, Commission

on Population, Ministry of Local Government and Community Development, Ministry of Education and Culture, and the National Manpower and Youth Council.

During the training period the BHA recruits will be introduced to the various line agencies and personnel with whom they will be working and where possible these personnel will participate in the training programs of the BHA. These are shown in Figure 1.

To assist in the Development of Audio-Visual, video, programmed learning materials, and other training aspects, USAID will provide a training consultant under the Bicol Integrated Rural Development Project (492-0303). The consultant will also facilitate coordination of teaching/learning materials procurement of both national and international origin.

Recognizing re-training as an essential component of BHA, provision has been made for two one week (5-day) in-service training workshops each year. In addition the BHA will receive one day of consultation at the MHC each month when reporting for his stipend. The re-training staff will be part of the PMEG/PIO and will include a nurse (Health and Population specialist), an engineer (Environmental health specialist) and a Health Educator. (Annex D).

3. Information, Education, Communication and Motivation Campaign (IECM). A barangay oriented IECM campaign utilizing the tri-media approach will be launched cooperatively by health, nutrition, and population educators. The campaign is directed toward increasing awareness of the public on the value of proper health practices, and encouraging the barangay residents to support the project. Representatives of the Project Management Office (PMO) will explain the project to barangay and municipal councils to enlist their active support and to gain their official commitments for the eventual financing of the project.

4. Botica sa Barangay (Village Drugstore). A start up subsidy of ₱1,000 will be provided for a village drugstore in the 400 participating barangays. These are intended to make available appropriate non-prescription medicines at the lowest possible price. The BHS will give leadership to the development and utilization of the drugstores. They will be owned and operated by a Barangay Cooperative Association or other appropriate arrangement. Details of operation will be provided in the BHP Manual of Operation.

5. Equipment and Incentives for Nutrition and Community Development Worker. Municipality-based Home Management Technicians (HMT) and Rural Youth Development Officers (RYDO) of the Bureau of Agricultural Extension (BAEx) will assist and backstop the BHAs especially in organizing Rural Improvement Clubs, Mothers' Clubs and 4-H Clubs. The project will provide grinders and scales needed by the HMTs in the preparation of weaning mix and in the weighing of children. The two provincial HMT supervisors and the RYDO supervisors will be provided vehicles by the project to facilitate their mobility in supervising HMT and RYDO activities. The project will also include GOP-funded special incentive allowances for the HMTs and the RYDOs, their provincial supervisors, and the regional HMT and RYDO supervisors to encourage extra effort during its lifespan. The Youth Development Worker (YDW) of the Ministry of Social Services and Development shall also organize other youth clubs. The Rural Clubs will be organized in each barangay by the HMTs, RYDOs, YDWs and BHAs as part of their educational and promotional efforts. This is an extension of the on-going

BAEx and MSSD programs and will facilitate the food production and assistance programs utilizing PL-480 Food for Peace Commodities. These activities will be in harmony with the planned Food and Nutrition Outreach Project jointly sponsored by AID and GOP.

Diocesan representatives of the Catholic Relief Services and the Social Action Center will augment their local staffs by five Diocesan Nutritionist, three Food for Work Coordinators, and three Community Organizers in support of this part of the project, at project expense for five years, after which their support will be provided by their parent organizations.

All Barangays will be encouraged to establish multi-purpose Barangay Development Centers (BDC). The BDC may serve as the BHA's office and general meeting place for the community. The BDC or the school may serve as a feeding center. Utensil for food preparation are project funded.

6. Immunization Program. The Ministry of Health Expanded Immunization Program will also be subsidized by the project, as shown in Annex B21. The BHAs will assist the rural health personnel pursue targetted immunizations in their barangay.

7. Barangay Supply Points. POPCOM has designated barangay contraceptive service points (BSPs) in most barangays which will support the family planning functions of the BHAs. Since family planning is a major concern of the BHAs, POPCOM has assured the appointment of the BSPs in the targetted Barangay and their continued supply of contraceptives and other program-related facilities.

8. Microscopy Center Assistance. Each MMC shall be provided with microscopy equipment and supplies for tuberculosis and intestinal parasitism detection.

#### Project Outputs II: Physical Health Infrastructure and Sanitation Development

1. Barangay Household Water and Waste Disposal Facilities. About 70 percent of the households of the target area now lack proper toilet facilities. Based on the BRBDP sanitation survey findings, subsidy will be provided for construction of 32,000 water-sealed toilets, representing about 50 percent of the households, as well as 400 school toilets at a cost of \$952,700. The required labor for the toilet installation will be provided by the recipient household. The project will subsidize each installation to a maximum of ₱60.

A \$390,000 (₱2.9 million) revolving loan fund will be established to enable 400 barangays to finance materials for the construction of appropriate domestic water supply and chlorination. The loans, to be repaid over a five-year period from water fees, will also help an estimated 2,000 additional remote households to improve their water supply.

Cooperative associations will be formed to own, operate, and maintain the community water facilities constructed or repaired through the loan funds. The fees set by the Cooperative will be collected monthly by its treasurer and the required amounts will be remitted to the municipal treasurer.

Loan funding will be coordinated with the Department of Rural Banks and the Saving and Loan Association of the Central Bank, in cooperation with the Ministry of Local Government and Community Development. The BPW assisted by the MLGCD, the MOH and PEO will implement this component of the project. They will work directly with the BHAs, barangay councils, cooperative associations, and barangay residents to assure their participation in the planning, design, and construction of recommended facilities.

2. Physical Construction of Health Infrastructures. The project will provide funds for the construction of nine new Barangay Health Stations, adding to those already constructed or financed by the GOP and a World Bank Project. The planned density is three per municipality (municipalities average 32 barangays each). Funds are also stipulated for the renovation of seven municipal health centers presently in need of repair. These facilities, to be funded as part of the GOP contribution to the project, will better enable the MOH to provide backstop support to the BHAs and to accommodate the anticipated increase in clinical referrals. Municipal Health Center Extensions for the 52 municipalities and three city health center extensions shall likewise be constructed.

The Regional Laboratory and Provincial Laboratory facilities will be upgraded to enable them to provide hospitals more effective diagnostic services. Primary emphasis will be to provide more adequate bacteriological and chemical analysis of water sources.

Table 1 presents a summary of BHP outputs.

Project Inputs. A total cost input of \$7.787 million is required to achieve the desired outputs in the 5-year implementation period of the project.

The funding requirements will be derived from the following sources:

USAID Loan	\$2.500 M (32%)
PL 480 LC generations	.750 M (10%)
Host Country contribution	<u>4.537 M (58%)</u>
T O T A L	\$7.787 M (100%)

(PL 480 Commodities \$1.17 M)

## II. PROJECT SPECIFIC ANALYSES

### A. ECONOMIC FEASIBILITY

1. Cost-Benefit Analysis. The cost-benefit analysis summarized in Tables B32-4, Annex B, attempts to estimate some of the real economic benefits the rural Philippine society will derive from this project. The humanitarian and "quality of life" aspects of improved health and nutrition, in terms of reduced suffering and misery and longer, healthier lives, are certainly of equal or even greater importance than increased monetary incomes, which, after all, are desirable in large part because they can be used to "purchase" the services and commodities that improve health and nutritional status. Several of the beneficial effects

Table 1 - Magnitude of Outputs

PROJECT OUTPUTS	MAGNITUDE OF OUTPUTS					TOTAL
	1979	1980	1981	1982	1983	
1. Rural Institutional Development						
a. BHAs trained and fielded	80	160	160	-	-	400
b. BHNPTs organized	80	160	160	-	-	400
c. BHA Manuals Distributed	80	160	160	-	-	400
d. BHA Kits Distributed	80	160	160	-	-	400
e. Regional Training Team Organized	1	-	-	-	-	1
f. Barangays covered by IECM	80	160	160	-	-	400
g. Barangays with Functional Rural Clubs	80	160	160	-	-	400
h. Diocesan Nutritionists trained and fielded	5	-	-	-	-	5
i. Food-for-Work Coordinators trained and fielded	2	-	-	-	-	2
j. Community Organizers trained and fielded	3	-	-	-	-	3
k. Barangay Development Centers Operationalized	80	160	160	-	-	400
l. Village Drugstores Established	80	160	160	-	-	400
m. 1) School entrants immunized with BCG	-	2320	6960	11600	11600	32480
2) Infants immunized with BCG	-	2080	6240	10400	10400	29120
3) Persons immunized with CTPs	-	56000	168000	280000	280000	784000
4) Infants immunized with DPT	-	2080	6240	10400	10400	28120
5) Pre-natal cases immunized with Tetanus Toxoid	-	1600	4800	8000	8000	22400

Table 4 - Magnitude of Outputs

PROJECT OUTPUTS	MAGNITUDE OF OUTPUTS					TOTAL
	YEAR					
	1979	1980	1981	1982	1983	
6) School entrants immunized with Trivalent Oral Polio Vaccine (TOPV) -		1040	3120	5200	5200	14560
n. Microscopy Centers Established	38	-	-	-	-	38
2. Physical Health Infrastructure and Sanitation Development						
a. Laboratories Upgraded	3	-	-	-	-	3
b. Municipal Health Centers Renovated	7	-	-	-	-	7
c. Barangay Health Stations Constructed	9	-	-	-	-	9
d. City Health Center Extensions	3	-	-	-	-	3
e. Municipal Health Center Extensions Constructed	52	-	-	-	-	52
f. Barangays Surveyed for Health and Sanitation Status	1370	-	-	-	-	1370
g. Community-type Water Supply Facilities Constructed	-	253	337	338	338	1266
h. Individual Household Water Supply Facilities Constructed/Upgraded	-	400	533	533	534	2000
i. Households Chlorinating Drinking Water	-	12800	25600	25600	-	64000
j. Households with satisfactory toilets	-	6400	12800	12800	-	32000
k. Barangay schools with communal toilets	-	80	160	160	-	400

of this project can be roughly quantified, however, based on the results of recent research into health and nutrition problems. It appears that, starting from the conditions of poor sanitation and serious malnourishment that exist in the project area, a significant, real social-economic return can be expected on the social and environmental sanitation infrastructure investments proposed by this project.

The present values of project-related initial and on-going costs over a 20-year period are compared with those of quantifiable project benefits over the same period, the latter estimated for the following:

- a. Value of carbohydrate loss to parasites averted by the project,
- b. Value of food losses from intestinal malabsorption averted,
- c. Value of workdays lost to morbidity saved by reduction in enteric diseases,
- d. Treatment costs saved by reduction in enteric diseases,
- e. Value of workdays lost to morbidity saved by reduction in tuberculosis and pulmonary disease,
- f. Treatment costs saved by reduction in tuberculosis and pulmonary diseases,
- g. Value of caloric loss saved by reduction in tuberculosis,
- h. Projected increase in worker productivity due to improved health and nutrition,
- i. Projected increase in returns to educational expenditure due to improved health and nutrition.

Additional details on the economic cost and benefit estimation procedure, shadow pricing, and assumptions used are reported in Tables B32-4, Annex B.

At a 15% rate of discount the present value of total benefits amounts to \$17.5 million, while costs total only \$7.4 million, for a benefit/cost ratio of 2.36. The net present value (discounted benefits minus costs) of the project is \$10.1 million, and the internal rate of return (IRR) is 30.3%.

Computed as part of the sensitivity analysis, the benefit/cost ratio at a 20% rate of discount is still high at 1.74, while the net present value is \$4.8 million. When all costs are increased by 20% and benefits reduced by 20%, and then discounted by 15%, the adjusted benefit/cost ratio is 1.57 and the adjusted net present value \$5.1 million. When discounted by 20%, the adjusted benefit/cost ratio is 1.16 and the adjusted net present value \$1.2 million. The adjusted IRR of the sensitivity analysis is still a high 22.6%.

2. 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 BHA 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 BIA functions. While this is clearly less costly to the government than hiring full-time paid BRAs, 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, fourtimes 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 ₱9382 (\$1251) per barangay, or an average of ₱97 (\$12) 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 ₱1,106 (\$143) per family.

The household toilets to be funded under this project have likewise been designed to meet acceptable sanitation standards at minimum cost, ₱240 (\$32) per unit, and 75% 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.

#### B. SOCIAL SOUNDNESS ANALYSIS

Determination of the social soundness of the BMP is based upon an analysis of three research surveys conducted in the provinces of Albay and Camarines Sur

supplemented by extensive field observation.<sup>1/</sup>

The dates and scope of the surveys were as follows:

- a) April 1974; 3,240 households in Camarines Sur were questioned regarding health attitudes and practices.
- b) October 1976; 288 households in Camarines Sur were further surveyed on health behavior.
- c) February-May 1978; 1,615 households were questioned on health beliefs, family planning, nutrition, and infant feeding practices.

Random samplings of the survey populations indicate the following prevailing conditions:

- a) Serious shortage of medical services and health personnel: Twenty-three percent of the sick seek help from "folk doctors". Many are not treated at all.
- b) Health services are distant from rural residents. The average distance an ill person must go for competent care is 19 kilometers.
- c) Superstitions and taboos regarding the cause and treatment of disease are widespread and are contributing factors in increasing cases of malnourishment among children and the excessive morbidity and mortality rates which prevail among the targetted population.
- d) In life-threatening illnesses and when serious accidents occur, professional medical services are sought by 86 percent of the surveyed population.

Indicators of Receptivity to the BHP. Survey findings that less than 20 percent of respondents are satisfied with their present homes is an indication of receptivity to the BHP's home improvement components. The addition of a sanitary toilet and improved water facility are in response to the existing motivation to have a "better house". It has been frequently observed that as the comforts and convenience of such improvements are experienced, there is a momentum of motivation toward further improvements. The BHA will thus be assisted in campaigns for change meeting stronger resistance.

Modern medicine is desired and appreciated though generally unavailable or beyond the means of the rural poor. Drug treatment for tuberculosis is considered important by 81 percent of the respondents which suggests receptivity to the planned immunization program if appropriate IECM campaigns are conducted. The need for the BHA's health education input is evidenced by the fact that 65 percent of the population surveyed are against giving BCG vaccine to the newly born. Since the average education of respondents is about four years, it may be assumed probable that they simply do not understand what BCG is.

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<sup>1/</sup> This section has been developed from the survey findings and analysis of the Social Survey Research Unit, Institute of Philippine Culture, Ateneo de Naga.

The fact that 22 percent of respondents prefer home treatment while 53 percent wish a doctor when "ill" supports the referral and preventive health components of the BHP. In the health education work of the BHA there will be an emphasis on appropriate home health care in the treatment of common illnesses.

The residence of the BHA within the barangay gives a sympathetic understanding of the fears, ignorance, and superstition related to health and disease which prevail. The BHA will be sensitive to the need for a proper rapport with the hilots or parteras (traditional midwives), the spirit healers and other folk "doctors". If the BHA is a midwife she may well be favorably received as a consultant to the hilot and thus unobtrusively encourage sanitary measures of mother and baby during childbirth. The partera was listed as the preferred attendant at delivery by 67 percent of the women surveyed. This predominant preference is in part due to the fact that no other help is believed to be available.

There is also widespread indication of need for the family planning component of BHP. While 82 percent of mothers surveyed did not want more children, it was felt by only 50 percent that they would not have more. The rest were already pregnant (14 percent) or anticipate future pregnancy (31 percent). There are 12 percent of children born who will be outlived by their mothers indicating unnecessarily high pari-natal death rates. A rather high (30 percent) of respondents have no family planning knowledge, and only 22 percent are "most aware" of the rhythm method. The "pill" is the best known method (55 percent), followed by the IUD (46 percent) and the condom (38 percent).

Conditions Suggesting Possible Resistance to some Components of the BHP.

Acceptance of the BHA by the 23 percent who prefer traditional practitioners and "quack" doctors or spirit healers represent a high risk group. It should not, however, be concluded that all in this group will resist using the BHA's services. There has been no opportunity for the majority of the rural poor to experience the advantages of modern medical care. Nevertheless, it is anticipated that deep-seated traditions and superstitions regarding disease and health will not easily be changed. Survey findings reveal that 47 percent of the respondents feel an evil spirit is the cause of mental illness, 51 percent feel an herbolario (herb or "quack" doctor) is as good a "healer" as a nurse. Night fever in children is considered by 55 percent to be best treated by folk healers, and 56 percent believe that parasitism in children is caused by eating fish.

The BHA will explore the reasons why 30 percent of those claiming no family planning knowledge state they are unwilling to be informed, for this represents about 25 percent of the mothers surveyed. It is known that among the rural poor, women, due to misinformation and the fear of embarrassment, there is resistance to family planning. The barangay base of the BHP and the fact that the BHA is an understanding friend will help overcome this resistance, hopefully.

Nutritional activities concerned with the proper feeding of infants and children will encourage breast feeding and balanced diets. The 36 percent of women preferring bottle feeding as being better for babies are a target group for the health education activities of the BHA. There were 25 percent who felt that "extended" breastfeeding is not good for babies and 24 percent gave their reason for such belief as being the assumption that mother's milk is less nutritious.

It has been found that even when offered free hospitalization and maternity care, some women would decline with preference for the traditional midwife services familiar to them. There is probably a basis for the belief that there will be more security and sympathy at home and this for many is more important than "safety".

A key question yet to be explored is what more precisely do the respondents perceive as "illness". Widespread malnutrition, parasitism, enteric diseases, scabies, and fungal infections are perhaps too commonplace to be considered as "illness" as far as seeking medical help is concerned. The financial sacrifice entailed in seeking professional treatment eliminates the likelihood that such services will be sought unless the condition is life-threatening or very painful. The BHA may alleviate misunderstandings, effect referrals, and generally help the community to "see" the conditions to which they have become inured.

The acceptability by the majority of the target population of the BHP is indicated by the willingness to seek the help of present resources, inadequate as they are. No significant socio-cultural obstacles were noted which would have strong negative effect on the fulfillment of project objectives.

Survey findings indicate further, the probability of a "spread effect" inferring an influence by BHP activities well beyond the targetted barangay.

Participation of Women. The husband is usually responsible for providing for the family's needs, and turns over his earnings to his wife for budgeting and disbursements. Concerning family matters, decision-making is relatively egalitarian since the wife is consulted and is instrumental in major decisions.

The rural women, in contrast to the men, whose major activity is non-household or occupational in nature, spend a major portion of their life in home management activities. Literature on time allocation reveals that among the low-income women this time is taken up in routine household chores. Such activities as child care, backyard cultivation, home crafts, and small-scale retailing are the usual activities of rural women.

Community participation of the Filipino women is at a low level and their involvement in government is of a non-decision-making nature.

Surveys reveal that only 25 percent of Bicolano married women have ever visited hospitals, health or family planning centers. It is therefore essential in the health education program carried by the BHAs to introduce women to the health care facilities and medical resources which are available. The rural mother and housewife simply does not usually perceive that there are available services which will enhance family health and happiness which they can afford to utilize.

The consensus of opinion among project participants is that the BHAs will be recruited from an existing pool of unemployed midwives residing in the Bicol region. This group has completed two years of college-level training which includes an over-view of the health sciences as well as specialization in maternal and child health. The project is therefore expected to give employment opportunity to a qualified category of unemployed women who will be acceptable and effective in fulfilling the project objectives in their own barangays.

Human Rights. If human rights are defined to include the right of every individual to a healthful, sanitary environment, to a reasonably safe household water, and

to basic information, guidance and assistance on preventive health, nutrition and family planning matters, then this project will directly enhance those rights.

By organizing small groups of rural families into cooperative associations to construct, operate and maintain their own improved water facilities, the project will also sponsor the improvement of rural residents' control over their own environment and their ability to organize for a common purpose.

### C. TECHNICAL FEASIBILITY

Evaluation of the effectiveness of "Barefoot Doctors" and village paramedics must be viewed in terms of their ability to function as a link between traditional sources of health care and modern medical technology. Their emphasis on preventive health measures especially in sanitation, nutrition, and family planning should result in a marked reduction of morbidity and mortality.

The BHA at work in the field will not rely on advanced medical technology but will be competent in a limited number of specified health-related functions. It would be misleading, however, to infer that the rural poor are less in need of advanced medical technology than residents of urban areas or those of higher socio-economic status. The BHP represents a significant effort at a more equitable distribution of health services to the entire population. It provides an economical and technically feasible means of increasing the quality of life in the target area.

Adequate technical capability can be provided by the BRBDP, the Provincial Development and Engineering Staff, the Ministry of Public Works, and the Ministry of Health for the planning, designing, and the supervising and installing of project facilities. The BHAs will be trained in the techniques of the minimal maintenance required. Cost and construction details and designs appear in Annex A.

Given the conditions of the rural barangay, the big water systems such as those provided for in the Barangay Water Program, a USAID financed project, 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.

Depending on the physiography of the area and the nature of water resources, five types of small water supply facilities, which can be easily engineered by barangay labor, are recommended: Shallow Dug Well; Jet-Driven Well; Spring Development; BRBDP Filter Systems; Tank or Earthen Jar Water Reservoirs. (Annex A)

The most practical household waste disposal system is the pit privy with a water-sealed toilet bowl. This is the recommended type of toilet funded by this project. Designs of this and alternative installations are shown in Annex A, Figures 1, 2.

To minimize the health hazards of stagnant and ponding waters in the barangay the project provides for easily constructed blind drainage systems illustrated in Annex A, Figure 3.

#### D. ADMINISTRATIVE FEASIBILITY

The lead agency for the project is the Ministry of Health. The organization chart of BPH illustrates the flow of administrative direction focusing upon the integration of BHA activities with direct supervision of the Rural Health Unit level.

The Project Management Office will develop a systems and procedures manual for project operation indicating lines of administrative and fiscal responsibility.

While integration of services implies the participation of several organizations and agencies with varying degrees of input to the BHP, it is essential to the success of the project that clear lines of direction of BHA activities be established and the authority of the MHO/RHU to define and schedule the BHA's activities be preserved. Thus through appropriate channels, all agencies, and the barangay officers, will clear and plan programs involving the BHA with the MHO/RHU prior to implementation.

Responsibility of Project Proponents and Implementing/Participating Units. Details of the responsibilities of each agency and organization participating in the BHP appear in Annex E.

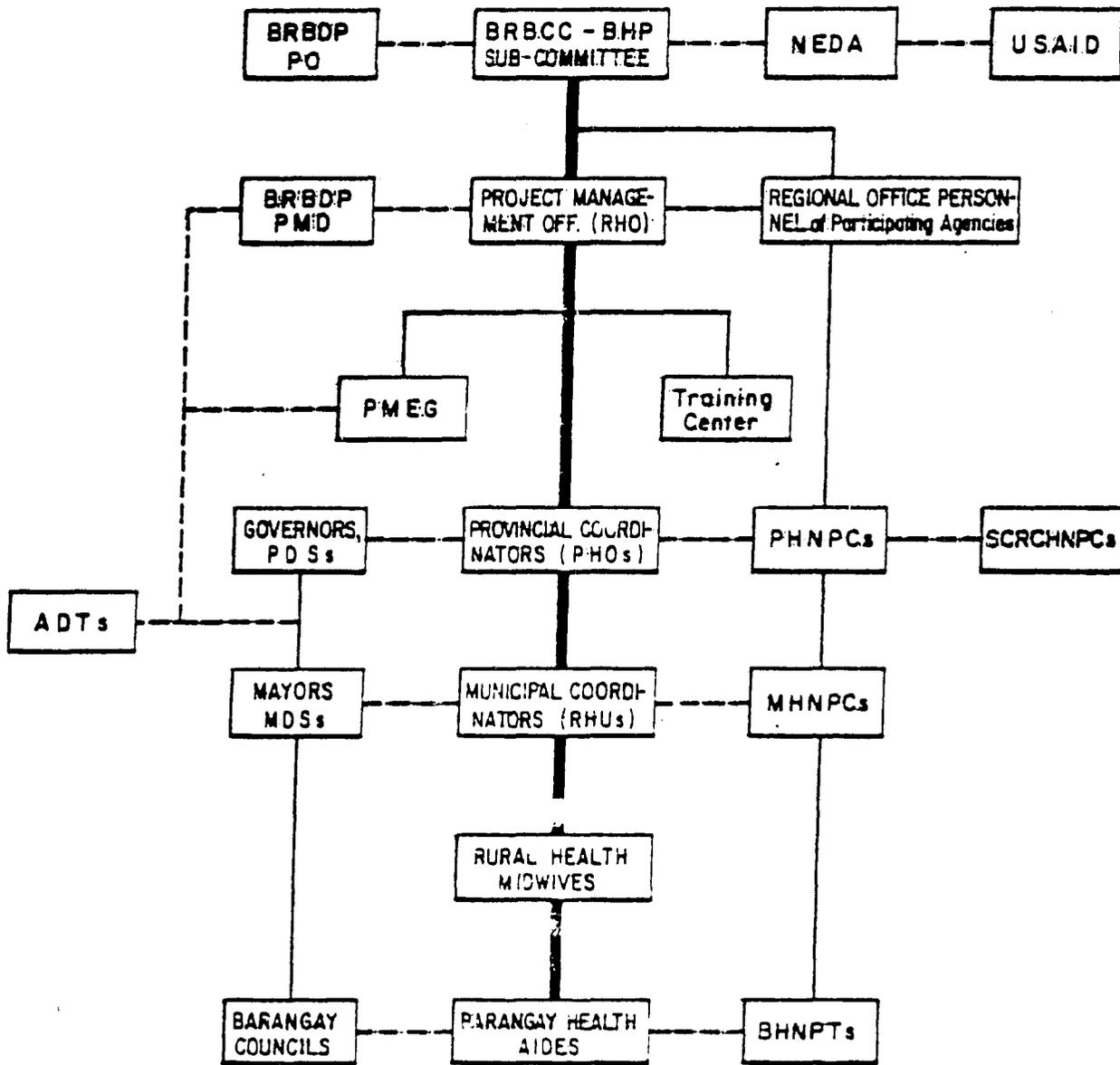
BHP Funds Flow. The funds flow for the project shall be governed by the provision of Presidential Decree No. 1177. The lead agency, MOH, has already earmarked and included in its FY 1979 budget request sufficient funds for the first year of the project. Required funds for subsequent fiscal years will be specified in the loan agreement and/or implementation plan submitted as fulfillment of a condition precedent.

The general procedure is for the regional office of the lead agency to include in its budget request for the succeeding year the amount required in the project's financial plan. Together with other regional offices' budget requests, the lead agency's request shall be subjected to a public hearing sponsored by the Budget Commission. After this, the requests will be forwarded to the respective national agency offices for review and inclusion into the agency's total annual budget. The requests shall be consolidated at the Ministry level and the Minister of Health will submit the MOH's annual budget request to the Prime Minister. The Prime Minister will then initiate the examination of the request by the National Assembly for inclusion into the General Appropriations Bill. When the bill is signed into law, the appropriations shall be deemed final for the incoming fiscal year and advice will be sent out to all the Ministries. This process takes from March to November of the preceding fiscal year. By designating its line item request for this project "KBI Code 4", the MOH notifies the Budget Ministry that the amount requested is the required peso counterpart of a foreign-donor assisted project, thus giving it priority for budgetary releases and protecting it against a reduction.

#### E. ENVIRONMENTAL CONCERNS

The Bicol Health Project's environmental examination was included in the Bicol River Basin's environmental assessment and was declared free of harmful impact and a "Negative Determination" was recommended. It was impossible to classify any element of this project as detrimental to health or to the environment, as the overall impact was favorable and will provide for a better environment in the Bicol River Basin.

ORGANIZATIONAL CHART



LIST OF ABBREVIATIONS :

BRBDP-PO	Bicol River-Basin Development Program-Prog. Office	PD S	Provincial Development Staff
BRBCC	Bicol River-Basin Coordinating Committee	MDS	Municipal Development Staff
NEDA	National Economic and Development Authority	PHNPC	Prov'l Health, Nutrition and Population Committee
BRBDP-PMD	BRBDP-Program Management Department	SCRCHNPC	Socio-Civic- Religious Clubs Health, Nutrition & Population Comm.
RHO	Regional Health Office	MHNPC	Municipal Health, Nutrition & Population Committee
PMEG	Project Monitoring & Evaluation Group	ADT	Area Development Team
PHO	Provincial Health Office	BHNPT	Barangay Health, Nutrition & Population Team
BHNPT	Barangay Health, Nutrition & Population Team		

This Integrated Health Project influences and is influenced by other Bicol Basin projects. It was viewed as a part of the total Basin development process and was included in the overall Basin environmental assessment. Since it will have an impact on the health and environment of the people, even though the impact is beneficial in every respect, it is considered to have a "Positive Impact." The Initial Environmental Examination (IEE) was included in the approved PID, and no objections were encountered at that time. (Annex D).

### III. FINANCIAL ANALYSIS AND PLAN

A. FINANCIAL PLAN AND PROJECT BUDGET. A tabular summary of project funded components is presented in tables 2 and 3. More detailed cost estimates are included in the statistical tables shown in Annex B, including the unit cost analysis used in preparing the cost estimates.

Of the \$7.8 million total project cost, the AID loan of \$2.5 million will cover 32%. (See Table 3). A significant nutrition-related component, \$750,000 or 10%, will be funded out of PL 480 generations of local currency earmarked for nutrition activities. The Philippine national and participating local government entities will fund a total peso amount equivalent to \$2.5 million, or 32%, of total incremental project costs (imputed values of regular employee salaries and the use of existing government facilities were not included as project costs). The beneficiaries themselves are expected to provide self-help labor and material support totalling \$2.0 million of project requirements, or 26%. This high level of host country contribution to the project clearly satisfies the requirements of the FAA Section 110(A).

The attempt to mobilize local resources to accomplish project outputs represents an important and basic concept in the design of this project, and its success will ensure its financial replicability nationwide in the provision of these basic social services. Local governments and beneficiaries are together expected to provide \$2.3 million in direct project support, or 30% of total project costs, larger contribution than the national government will provide. In addition, another \$0.36 million (including escalation and contingency funds) of the AID loan, or 4.6% of total project costs, represents seed money to finance materials for household water supply facilities, the costs of which are to be amortized over a 5-year period from user water fees. This will bring the proportion of the project funded from local resources to 34%, or roughly one third.

Some 21% of the AID loan will provide seed money to support BHA stipends for the first four years of the project (institutional development). Another 25% will fund the health and environmental survey and support the construction or improvement of household and small communal water supply facilities and water-sealed toilets (construction). It is noteworthy that the proposed AID support will comprise about half of the anticipated costs of water facilities and only one-fifth of the cost of the toilets, the rest of the funds coming from the GOP and beneficiary contributions (see Table B2 of Annex B).

About 29% of AID loan funds will purchase equipment, supplies and vehicles required by the project, most of which must be imported from abroad. The rest of the loan is earmarked for cost escalation (11%) and contingencies (13%), as

Table 2. Estimated Project Cost, Annual Dollar Equivalent by Major Component and by Source of Funds  
Bicol Integrated Health, Nutrition and Population Project (\$1000)<sup>1/</sup>

Project Component and Source of Funds	Year 1	Year 2	Year 3	Year 4	Year 5	Constant Price Total	Cost Escalation	15% Contingency	Project Total
I Institutional Development	133	230	313	276	276	1229	210	216	1655
II Construction	314	539	726	735	734	3047	536	537	4120
III Equipment and Supplies	421	141	178	47	35	822	129	143	1094
IV Project Mgt & Coordination	167	120	120	120	167	693	105	120	918
<u>Constant Price Sub-Total</u>	<u>1035</u>	<u>1030</u>	<u>1338</u>	<u>1178</u>	<u>1212</u>	<u>5791</u>	<u>980</u>	<u>1016</u>	<u>7787</u>
Cost Escalation <sup>2/</sup>	-	83	225	279	392	980			
15% Contingency	155	167	235	219	241	1016			
<u>Project Total</u>	<u>1190</u>	<u>1280</u>	<u>1798</u>	<u>1675</u>	<u>1845</u>	<u>7787</u>			
(U.S. PL 480 Title II Food Commod.)	(46)	(200)	(308)	(308)	(308)	(1170)			
<u>AID Loan Total</u>	<u>501</u>	<u>356</u>	<u>505</u>	<u>367</u>	<u>170</u>	<u>1900</u>	<u>270</u>	<u>330</u>	<u>2500</u>
FX	388	101	138	32	24	684	95	117	895
LC	113	255	367	335	146	1217	175	213	1605
<u>Host Country Total</u>	<u>391</u>	<u>548</u>	<u>700</u>	<u>697</u>	<u>983</u>	<u>3319</u>	<u>630</u>	<u>588</u>	<u>4537</u>
GOP	362	274	299	263	446	1644	288	286	2218
Local Government	22	45	50	30	70	217	39	38	294
Beneficiaries LC	-	63	119	165	210	557	124	102	783
Beneficiaries Labor	8	165	232	239	257	901	179	162	1242
<u>PL 480 Generations of LC</u>	<u>142</u>	<u>125</u>	<u>132</u>	<u>114</u>	<u>59</u>	<u>572</u>	<u>81</u>	<u>98</u>	<u>750</u>

1/ Converted from peso figures in Table B1, Annex B, at an exchange rate of ₱7.5/\$1. See Table B1 for more detail.

2/ The escalation factors used were 15% compounded annually for equipment and supplies and 7% compounded annually for all other components.

NOTE: Columns and lines may not add exactly to totals due to rounding.

Table 3.

Estimated Project Cost by Source of Funding (Financial Plan), Dollar Equivalents<sup>1/</sup>  
Bicol Integrated Health, Nutrition and Population Project (\$1000)

Project Component	Total Cost <sup>2/</sup>	United States Contribution			PL 480 Generations of LC	Host Country Contribution				Host Co. Total
		Approp. Total	AID FX	Loan LC		PL 480 Commod.	GOP LC	Local Govt. LC	Beneficiaries LC	
I. Institutional Contribution	1229	530		530		621	79			699
II. Construction	3047	637		637	321	493	139	557	901	2090
III. Equipment & Supplies	822	734	684	50	79	10				10
IV. Project Management & Coordination	693				172	520				520
<u>SUB-TOTAL</u>	<u>5791</u>	<u>1900</u>	<u>684</u>	<u>1217</u>	<u>572</u>	<u>1644</u>	<u>217</u>	<u>557</u>	<u>901</u>	<u>3319</u>
Cost Escalation	980	270	95	175	81	288	39	124	179	630
15% Contingency	1016	330	117	213	98	286	38	102	162	588
<b>T O T A L</b>	<b>7787</b>	<b>2500</b>	<b>895</b>	<b>1605</b>	<b>750</b>	<b>2218</b>	<b>294</b>	<b>783</b>	<b>1242</b>	<b>4537</b>
(U. S. PL 480 Title II Food Commodities)	(1170)				(1170)					

NOTE: Some columns and lines may not add exactly to totals due to rounding.

<sup>1/</sup> Converted from peso figures in Table B2, Annex B, at a P7.5/\$1 exchange rate. See Table B2 for more detail.

<sup>2/</sup> Total Project Cost equals the sum of the contributions summarized in the 3 columns "AID Total," "PL 480 Generations of LC" and "Host Co. Total".

Table 4 . Cost of Project Outputs by Source of Input Funding (\$1000)  
Bicol Integrated Health, Nutrition and Population Project

Project Outputs	Magnitude of Output (units)	Total Cost of Output (\$000)	United States Contribution		PL 480 Generations	Host Country Contribution				
			Appropriated AID Loan	PL 480 Commodities		Host Co. Total	Local Beneficiaries	Gov't	LC	Labor
<b>I. Rural Institutional Development</b>		<u>2058</u>	<u>1054</u>		<u>156</u>	<u>849</u>	<u>624</u>	<u>187</u>		<u>38</u>
a. BHAs trained and fielded	400	1063 <sup>1/</sup>	573			490	411	79		
b. BINPTs organized	400									
c. BHA Manuals distributed	400	23				23	23			
d. BHA Kits distributed	400	85 <sup>1/</sup>	85							
e. Regional Learning Team Organized	1									
f. Barangays Covered by IECM	400	247 <sup>1/</sup>	64			183	183			
g. Bgys. w/ Functional Rural Clubs	400									
h. Diocesan Nutritionists trained & fielded	5	40			46					
i. Food-for-work Coordinators trnd & fielded	2	19			19					
j. Community Organizers trained & fielded	3	28			28					
k. Bgy Development Centers operationalized	400	297	86		63	146		108 <sup>2/</sup>		38
l. Village Drugstores established	400	53	53							
m. 1) School entrants immunized w/ BCG	32480									
2) Infants immunized w/ BCG	29120									
3) Persons immunized w/ CIPa	784000									
4) Infants immunized w/ DPT	29120									
5) Pre-natal cases immunized with Tetanus Toxoid	22400									
6) School entrants immunized w/ TOPV	14560									
Total Immunization Cost		125	125							
n. Microscopy Centers established	38	72	66			7	7			
<b>II. Physical Health Infrastructure and Sanitation Development</b>		<u>3099</u>	<u>767</u>		<u>336</u>	<u>1996</u>	<u>545</u>	<u>30</u>	<u>557</u>	<u>863</u>
a. Laboratories upgraded	3	177	99			78	78			
b. MHCs renovated	7	37				37	37			
c. BHCs constructed	9	66				66	66			
d. City Health Center extensions	3	40			40					
e. MHC extensions constructed	52	233	11		220					
f. Bgys surveyed for health & sanitation status	1370	64	64							
g. Community Water Supply Facilities constructed	1266	377	190			187		46	141	

Table 4 (Cont.)

Project Outputs	Magnitude of Output (units)	Total Cost of Output (\$1000)	United States Contribution		PL 480 Generations of Local Currency	Host Country Contribution				
			Appropriated AID Loan	PL 480 Commodities		Host Co. Total	Local Govt. COP	Local Beneficiaries LC	Labor	
h. Individual Household Water Supply Facilities constructed	2000	124	74			50		18	32	
i. Households chlorinating drinking water	64000	21	21							
j. Households w/ satisfactory toilets	32000	1024	128			896	128	316	452	
k. Bgy schools w/ communal toilets	400	485	181			304	181		123	
l. Maintenance of facilities constructed or improved	n.a.	454			77	377	54	30	177	115
<b>II. Project Management and Coordination (Not included above) (years)</b>		<b>634</b>	<b>80</b>		<b>80</b>	<b>475</b>	<b>475</b>			
PIO and BSSD	5	377	62			315	315			
BARx	5	97	17		80					
Monitoring & Evaluation	5	60				160	160			
<b>SUB-TOTAL</b>		<b>5771</b>	<b>1900</b>		<b>572</b>	<b>3319</b>	<b>1644</b>	<b>217</b>	<b>557</b>	<b>901</b>
Cost Escalation		(40)	270		81	630	288	39	124	179
15% Contingency		1016	330		98	588	296	38	102	162
<b>TOTAL</b>		<b>7787</b>	<b>2500</b>		<b>750</b>	<b>4537</b>	<b>2218</b>	<b>294</b>	<b>783</b>	<b>1242</b>

(Food commodities Distributed to Malnourished children and in Food-for-Work projects)(tons)

(1170)

1/ Included in Project Management and Coordination

2/ Estimated value of local building and materials and construction labor to be provided in kind or procured by each Barangay, or, alternatively, the value of existing building space to be made available to house project-related activities.

Note: Some columns and lines may not add exactly to totals due to rounding.

ORD:CSCallison, 10/20/78

required by Handbook 3. The cost escalation factors applied were 15% annually for equipment and supplies and 7% annually for all other (local currency) costs.

Project expenditures have been planned so that about 15% of total requirements will be needed the first year, 16% the second, 23% the third, 22% the fourth and 24% the fifth (see Table 2). Of total project expenditures, 16% is allotted for institutional development (primarily BHA training and stipends), 39% for physical construction or improvements, 11% for equipment and supplies, 9% for project management and coordination, 13% for cost escalation over the 5-year lifespan of the project and 13% for contingencies.

Fixed Amount Reimbursement. Of the \$2.5 million AID loan support, \$1.605 million is planned for reimbursement to the GOP for local currency costs of implementing the BHP. The balance of \$.895 million will be utilized to finance the foreign exchange requirements of the project. AID loan support of local currency costs will utilize standard Mission fixed amount reimbursement (FAR) procedures. Reimbursement will be authorized when expenditures reach a fixed amount of pesos (instead of by unit of latrines or wells constructed) and certified that they have been made for planned project purposes. AID reimbursement will be made in pesos under the direct reimbursement authority (DRA) mechanism.

The GOP Ministry of Health will budget the advance funding required for GOP and AID local currency inputs (see Table B4, Annex B) and will establish a revolving loan fund in the Rural Banking System to finance the water supply facility construction under the supervision of the BRBDP and BPW.

Equipment Procurement. The Project Management Office (PMO) shall be the designated procurement agent. Procurement shall be made in accordance with AID Handbook 11, Chapter 3. The following categories of commodities will be procured:

1. Vehicles - All project funded vehicles will be 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 - BHA Kits, provincial hospital laboratories' equipment and that provided for the MOH Regional Laboratory, training, project support and rural health unit equipment are to be procured in the U.S. Approximately half of the vaccines, most of the nutrition feeding equipment and furniture are to be purchased locally.

Interest Rate and Terms of Repayment. The cooperating country shall repay the loan to AID in United States dollars within forty (40) 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.

**B. BUDGET ANALYSIS OF THE LEAD IMPLEMENTING AGENCY.** The project budget will be managed by the Regional Office of MOH in Legazpi, as the lead implementing agency, and monitored by the BRBDPO. Annual local currency budget counterpart requirements are presented in Table B4, Annex B, and rise from \$0.5 (P4.1) million in year one to \$0.9 (P6.7) million in year five of the project. Since estimated total budget figures for the Regional MOH Office are projected to rise from \$9.4 (P70.2) million in CY 1978 to \$12.3 (P91.9) in CY 1982, the proposed project budget represents an increment of only 6 to 8% of the regular funds controlled and disbursed by that office, following GOP fiscal procedures and subject to national regulations and audit. The Mission believes adequate procedures and sufficient capability for handling the magnitude of this project's flow of funds do exist in and have been demonstrated by the lead implementing agency.

**C. FINANCIAL VIABILITY OF THE PROJECT.** The principal project viability question is whether the local governments of the project area will be able to assume the recurrent costs of the 400 BHA stipends as planned, after the 5-year period of project support is completed. It is more important to the ultimate success of the project design as a model for nationwide replication, however, to consider the larger question of whether the local governments would be able to finance the estimated 1200 BHA stipends required if a follow-on project expands its coverage to include most of the rural barangays in the two-province area. The latter question was analyzed in the Bicol Integrated Health, Nutrition and Population Project Feasibility Study (BRBDP, Pili, Camarines Sur, December 1977, pp. 118-131), which concluded that, "Based on these analyses, the BHA stipends are well within the capability of the local governments to support."

The reader is referred to the Feasibility Study itself for a detailed analysis of historical provincial, municipal, and city revenue and expenditure patterns and of ten-year revenue and expenditure projections, upon which this conclusion is based. Of the total local CY 1984 revenue projected for Camarines Sur and Albay Provinces of P71.3 million (\$9.5 million), the total annual stipend cost of the 400 BHA's fielded under this project will amount to only 2.1%, and the total cost of 1200 BHA stipends would amount to 6.2%.

Furthermore, the feasibility study revenue projections were conservative in forecasting the incremental revenue expected from the current Real Property Tax Mapping and Assessment Project. A more optimistic revenue potential from real property taxes (RPT) alone is presented in Table B31, Annex B, based on pilot project results, indicating that RPT taxes could be expected to increase from their currently small totals by as much as 467% in Camarines Sur and 331% in Albay, still with only a 75% rate of collections to collectibles:

If the RPT project is pushed to a successful completion, as planned, the proposed stipend requirements for 400 BHA's will only amount to 7.1% of the RPT increment for these two provinces, and for all 1200 BHA's eventually targetted by follow-on projects the requirement will only be 21% of the RPT increment, 43% in Albay and 16% in Camarines Sur. And, to quote from the Feasibility Study (p. 122),

"This analysis ignores the potential for increasing the legal rate of property taxation in the future by either raising the ratios of

assessed values to market values (currently 30 percent for residential, 40 percent for agricultural and 50 percent for commercial property) or raising the real property tax above its current 2 percent level (one percent local government plus one percent education fund), both of which have been recommended by the United Nations ILO Team (the Ranis Report)<sup>1/</sup> and the most recent World Bank report.<sup>2/</sup>

1/ Sharing in Development, International Labor Office, U.N., Geneva, 1974, pp. 263-7.

2/ The Philippines: Priorities and Prospects for Development Basic Economic Report, Report No. 1095a-PH, World Bank, Washington, May 5, 1976, Vol. I, pp. 14 and 35, and Vol. III, ch. 9."

As for the second viability question, whether the targetted rural families can afford even the low level of cash outlay expected from them in support of project activities directly benefitting them, the Feasibility Study also reported a positive conclusion (pp. 123-33). For 30 households to amortize the maximum material loan required to construct planned water facilities of ₱2000 (\$267) (for improving a shallow dug well) in 5 years will require an annual payment of ₱528 (\$70) at 10% interest, or ₱17.60 (\$2.35) each household. This will require a monthly water fee of only ₱1.50 (20¢) per household for amortization, and a fee of ₱2.00 (27¢) would more than cover miscellaneous operating and maintenance costs.

The material cost of installing a new hand pump is ₱344 (\$46), or ₱138 (\$18.40) per household on average if shared by the expected 2.5 households. Five-year amortization of this amount at 10% interest comes to ₱91 (\$12.13) a year, or ₱36.40 (\$4.85) per household). The average monthly water "fee" required to amortize such a loan would be ₱3.03 (40¢) per household, or ₱7.58 (\$1.01) per facility.

The maximum value of local materials to be procured or provided by the household for toilet construction is ₱74 (\$9.37), ₱30 for a metal drum, where soil conditions require it, and ₱44 for nipa and bamboo, the same materials used in most rural house construction. In most cases, the materials required can simply be cut from nearby stands of vegetation. The value of the labor expected from the beneficiary households in the construction of toilets and water facilities is minimal for each household and can be provided on weekends or during periods of slack time, so as not to interfere with normal economic pursuits.

The median household income in the Bicol Region in 1971 was ₱1875, and all but the bottom 21.6% of households earned at least ₱1,000.<sup>1/</sup> Converted to 1978

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1/ National Census and Statistics Office, Survey of Households, Family Income and Expenditures, 1971.

prices; these figures become ₱4461 (\$595) and ₱2379 (\$317) respectively.<sup>1/</sup> It is readily apparent that the small sums expected from the beneficiary households as monthly water fees and the value of the local building materials they are expected to provide, as discussed above, will require relatively small percentages of even these low household income levels. This is not coincidental, since this project was designed from the beginning to utilize the least expensive cost-effective prototype facilities and to fit low-income budgets, while retaining the principle of local resource mobilization in order to ensure nationwide replicability.

With respect to the questions of local government and rural household expenditure priorities, local government leadership continues to regard this project as a priority need in the project area, considering the present poor health and nutrition status as a serious and debilitating problem that impedes other development efforts. (See Annex D of PID). One of the primary project purposes is to change rural perceptions and priorities about these matters, so that rural households will appreciate the value to their own welfare of making the effort and small expenditures required of them by this project.

The BRBDP has recently constructed, using beneficiary labor and providing only the necessary materials, 65 BRBDP modified filter systems in rural barangays throughout the project area. The users of these facilities have formed small user cooperatives averaging 50 members each and are currently paying ₱0.50 (7c) to ₱1.50 (20c) per month for the water used. The payment rate is currently running at about 50% in this pilot effort, and the BRBDP is seeking ways to increase this rate.

D. FINANCIAL EFFECTS ON PROJECT PARTICIPANTS. The primary financial effects of this project on its participants have been discussed above, in considering the financial viability of the project's proposed reliance on a significant total magnitude of local resource mobilization. While the sum of projected beneficiary contributions to the project is expected to provide a substantial portion of the total resource requirement, the amount to be contributed by any one household was shown to be small and well within the capability of even relatively poor families to provide.

The provision of their own labor to construct communal or household facilities is not likely to be burdensome on beneficiary households, either, especially considering the high rate of under and unemployment prevalent in the project area.

#### IV. IMPLEMENTATION PLAN<sup>2/</sup>

The project implementation over a five year period will necessarily be accomplished in phases:

Phase I	Proposed Dates	
	<u>Project Mo.</u>	<u>Project Year</u>
A. Signing of the Memorandum of Agreement	3	Year 1
B. Development of the organizational structure	3	1

<sup>1/</sup> Consumer Price Index for regions outside Metro-Manila, 1971-2, and for the Bicol Region, 1972-78, where 1971 = 100.0, mid-1978 = 237.9.

<sup>2/</sup> See Annex E for more details and for agency responsibilities.

	<u>Proj. Mo.</u>	<u>Proj. Year</u>
C. Recruitment and appointment of additional staff members of the participating agencies	4	1
D. Orientation of line officers of participating agencies	4	1
E. Convening of inter-agency groups	5	1
F. Setting up of training center and training programs	6	1
G. Materials procurement and reproduction	6	1
H. Recruitment, screening and appointment of BHAs	7	1
I. Environmental sanitation survey	8	1
J. Construction of physical infrastructure	10	1 thru
	12	4
<b>Phase II</b>		
A. Launching of IECM campaign	5	1
B. Training and deployment of BHAs and other line-agency personnel	7	1 thru
	1	4
<b>Phase III</b>		
A. BHA spot-mapping activities	9	1
B. Initiation of construction of environmental sanitation facilities	9	1
C. Initiation of program evaluation	*1	2 & annually
D. Begin Phase-in of local BHA support	8	4
<b>Phase IV</b>		
A. Full implementation of the program in 400 barangays	3	4
<b>Phase V</b>		
A. Finalization of project evaluation by contracted third party	12	5

\*Initiated or completed 1978

#### PHASE I

1. Signing of the Memorandum of Agreement. The Memorandum of Agreement will be prepared and signed by the BRBDP and the heads of the participating agencies, including the local government. The responsibilities and obligations of all participants will be defined as well as the support and incentives to be given to line-agencies.

2. Development of the Organizational Structure. A sub-committee of the Bicol River Basin Coordinating Committee (BRBCC) will be created with the Ministry of Health Regional Director as chairman. Members of the sub-committee, which is responsible for organizational and administrative policy, including the following:

Regional Directors of -

Bureau of Agricultural Extension  
Bureau of Public Works

Ministry of Education and Culture  
National Manpower and Youth Council

National Nutrition Council  
 Ministry of Public Information  
 Ministry of Social Services and Development  
 Commission on Population  
 Catholic Relief Services/Social Action Center  
 Bicol River Basin Development Program  
 Ministry of Local Government and Community Development

and -

The Governors of the Provinces of Camarines Sur and Albay  
 The Mayors of the Cities of Naga, Iriga, and Legazpi  
 The Provincial Family Development Officer for Project  
 Compassion, Albay.

The project will be implemented through a Project Management Office (PMO) at the regional office of the Ministry of Health, Legazpi City, headed by a full-time Project Implementing Officer (PIO) appointed by the MOH. A staff under the PMO will be hired to handle administrative matters. Management participation and technical support will be provided at this level by senior staff representatives of NMYC, NNC, POPCOM, CRS/SAC, NMPC, and MP, as these assume coordinative roles. The Area Development Teams and the BRBDP Program Office will be similarly involved.<sup>1/</sup>

The Provincial Coordinators will be immediately responsible to the PIO and the Municipal Coordinators will be responsible to the Provincial Coordinators, appointed by their respective directors of the MOH. The Rural Health Midwife under the Municipal Coordinator of the RHU will be directly responsible for the technical and administrative supervision of the BHAs. Activities of the various participating agencies involving the BHAs will be coordinated through the RHU.

3. Recruitment and Appointment of Additional Staff Members of the Participating Agencies. As will be stipulated in the Memorandum of Agreement, additional staff members of the participating agencies will be recruited and appointed in accordance with the approved organizational structures of the project and of these agencies.

4. Orientation of Line Officers of Participating Agencies. Line officers of participating agencies will be oriented by the PMO on their roles in the project. Concerned provincial, city, municipal, and barangay officials will also be included.

5. Convening of Inter-Agency Groups. After participating agencies have been oriented on their roles, the various groups will be convened so that they may start their respective implementation activities.

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<sup>1/</sup> The BRBDP program area has been divided into 10 Integrated Area Development sites (IAD) according to commonality of physical, economic, and social characteristics. For each IAD, an Area Development Team (ADT) has been formed, membership being municipal mayors and line-agency personnel.

6. Materials Procurement and Reproduction. Materials necessary to support the project will be procured and/or reproduced by the PMO in coordination with concerned project personnel. Medicine for the village drugstores and biologicals for the immunization program, the BHA kits, mobile team vehicles, and other needed equipment and materials will be procured.

7. Recruitment, Screening and Appointment of BHAs. During the first year of the project an initial batch of 80 BHAs will be recruited, screened, and appointed, according to conditions and criteria set by the BRECC and the PMO, through the Recruitment and Training Group (RTC). The RTC will have a line function with the MOH acting as the coordinating agency. The nomination procedure will be as follows:

The Barangay Council will nominate three persons (giving priorities in accordance with stipulated criteria) and send the applications to the office of the mayor and the MHO for endorsement. Approved applications will be sent to the PHO/RTG Screening Committee and then in prioritized listing to the RD/MOH for his selection. The above offices will be informed, and the appointee will be notified of the appointment and, prior to deployment, will sign a one-year renewable contract as a casual worker of the provincial government under the technical supervision of the MHO/RHU.

8. Environmental Sanitation Survey. Comprehensive studies and evaluation of the sanitation level of the target barangay will be undertaken during the first six months of the project. Under the direction of the PMO the necessary researchers will be hired. The findings of the survey will provide guidance on the appropriate facilities to be constructed in each barangay.

9. Construction of the Physical Infrastructure. 1) Nine Barrio Health Stations (BHS) will be constructed and seven Municipal health centers (MHC) will be repaired during the first year of the project. In order to extend existing services, these will be located outside the 14 municipalities identified as IBRD/GOP input sites.

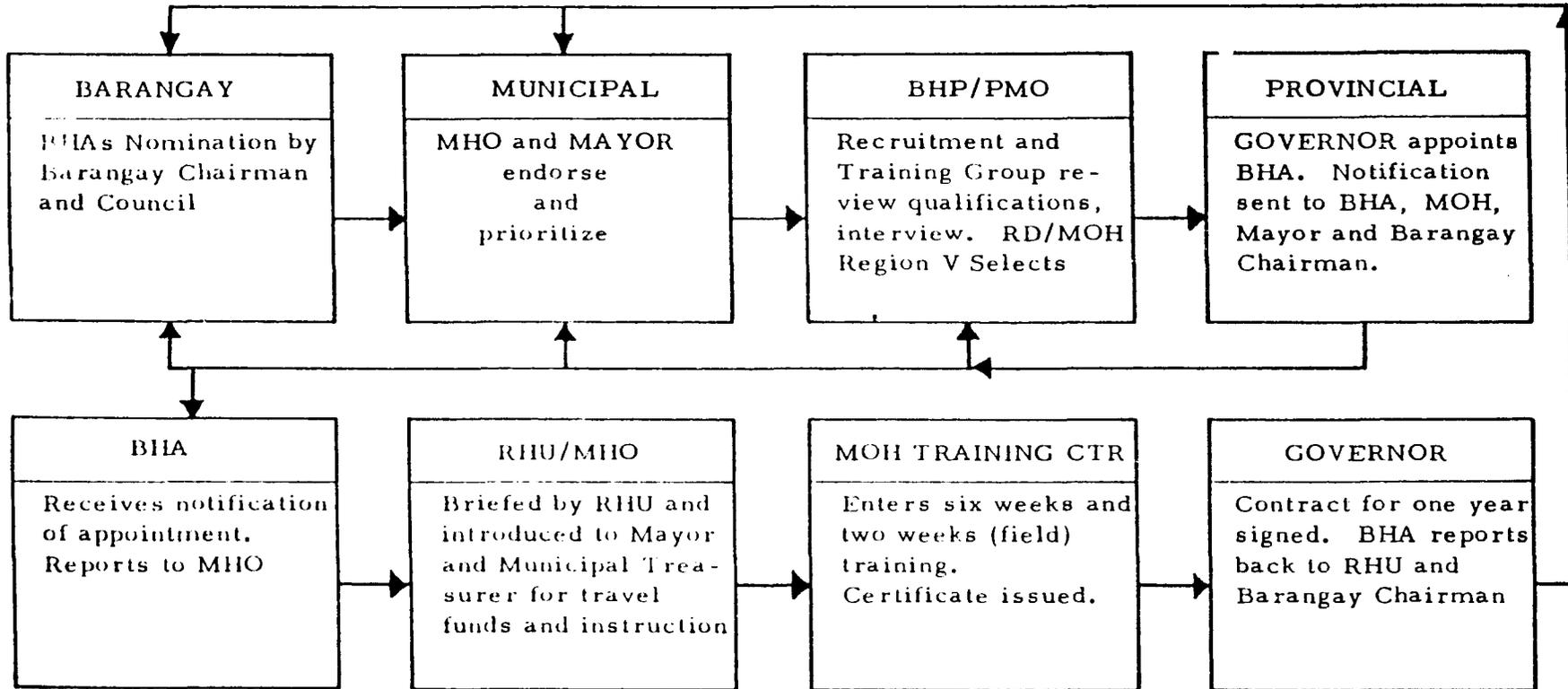
2) The laboratory facilities of Camarines Sur and Albay will be upgraded as soon as project funds are released. Improvements will include facilities to perform bacteriological and chemical analyses of water sources.

## PHASE II

1. Launching of the IECM Campaign. A consumer-oriented Information, Education, Communication and Motivation (IECM) Drive, utilizing a tri-media approach, will precede the environmental sanitation physical infrastructure inputs. Once the physical infrastructure has been provided, IECM will be sustained, through the health education efforts of the line-agencies in coordination with the BHAs, to encourage active community participation.

2. Training and Deployment of BHAs and other Line-Agency Personnel. Training of BHAs will be accomplished in classes of 40. Formal training will be for a period of six weeks followed by two weeks of supervised field training. Upon successful course completion and certification the BHAs will be deployed to their respective barangays. One day monthly training session at the MHC will be required of all BHAs at which time supplies will be replenished and monthly

BHA SLECTION, APPOINTMENT, AND TRAINING FLOW



stipends received from the municipal or city treasurer. Semi-annual refresher courses for the BHAs will be conducted under PMO/RTG direction.

**Schedule of BHA Recruitment and Training:**

<u>Batch</u>	<u>Number of Barangay</u>	<u>Date of Start of Activities</u>
1	40	4th month, year 1
2	40	7th month, year 1
3	40	10th month, year 1
4	40	1st month, year 2
5	40	4th month, year 2
6	40	7th month, year 2
7	40	10th month, year 2
8	40	1st month, year 3
9	40	4th month, year 3
10	40	7th month, year 3

Line-agency personnel participating in the project will be fielded on a schedule deemed appropriate by the PMO and the concerned agencies.

**PHASE III DELIVERY OF SERVICES**

1. BHA Spot-Mapping Activities. Upon deployment, the BHAs will conduct spot-mapping activities in coordination with the Barangay Council. Areas of Barangay health and sanitation need will be identified and priorities for services will be set. The map will include the target population of the immunization activities of the RHU and other relevant information useful in facilitating the implementation of project components.

2. Initiation of Construction of Environmental Sanitation Facilities. With the findings of the Environmental Sanitation Survey as reference, the Barangay Council will determine priorities and file applications for funding through appropriate channels. The Municipal Development Officer of the MLGCD will review all applications in the municipality and, through the mayor, recommend to the PMO the requested loan assistance. The Barangay Captain will initiate the organization of a users' group who will be responsible for compliance to a joint liability contract.

The DPW with assistance from the PE and MOH, Engineering Staff will backstop the BHA in supervising construction activities in coordination with the Sanitary Inspectors of the RHU. Technical assistance will also be provided by the Ministry of Public Works and the Regional Engineer.

3. Initiation of Program Evaluation. Evaluation will be initiated as set forth in the section on Evaluation Arrangements. During the semi-annual in-service training workshops the BHAs will be appraised of the evaluation findings and given direction on appropriate program modifications.

4. Retention of the BHAs by the Barangay. The project will initially fund the BHA stipends and training costs. Barangay, municipal and provincial governments will agree in writing, as a condition of their participation in the project, to fund BHA stipends beyond the first 3 years. The cost sharing by the province, municipality, and barangay will be in the same proportions that they share Property tax revenues: 47.5 percent, 47.5 percent

and 5 percent, respectively. Project support will be phased out gradually after a BHA has been completely funded for 3 years. Thereafter, the local government will shoulder 50 percent of the stipend for two years. By 5 years after the end of the project, all BHAs will be funded completely by the barangay, the municipal or city, and the provincial governments.

#### PHASE IV FULL IMPLEMENTATION OF THE PROGRAM IN 400 BARANGAYS

By the end of the fifth year, all the 400 BHAs will be delivering services and all water and waste disposal systems will have been constructed, repaired, or improved.

#### PHASE V FINALIZATION OF PROJECT EVALUATION BY CONTRACTED THIRD PARTY

When the final evaluation of the project is completed, information will be available for consideration of proposals for the expansion of the BHP and for the implementation of similar projects in other areas of the Philippines.

Contract Arrangements. All purchases and contracts funded under this project will comply with conditions and procedures as set forth in the USAID Handbook 11 Chapter 3, wherein a description of the manner and types of procurement contracts, and the types of institutions, organizations or agencies to whom contracts will be awarded.

#### CONDITIONS, COVENANTS, AND NEGOTIATING STATUS

The following conditions and covenants are planned for the Project Agreement to be signed in FY 78:

##### General Covenants:

1. All GOP Units will participate in the project with commitments as outlined in Annex E. MOH will serve as lead agency.
2. The parties agree to establish an evaluation program as an integral part of the project, as set forth in Section V, Evaluation Plan.

##### Conditions Precedent:

1. A copy of the Philippine Government order designating the Regional Health Office VI (MOH) as the Implementing Agency, responsible to the National Economic and Development Authority (NEDA) for the effective and timely implementation of the Project.
2. A copy of a Letter of Endorsement will be signed by the Provincial Governments of Albay and Camarines Sur agreeing to support the continuation and utilization of the BHA following the completion of the Project (1984).
3. Copies of the letters authorizing the four-man Project Support Staff (PSS) and a certification from NEDA that the PSS will be provided office space, office equipment and other forms of support to become operational.

4. A copy of the Philippine Government order establishing the BHP Regional Trust Fund and a special Provincial Trust Fund in each of the participating provinces of Camarines Sur and Albay.
5. Copy of the Memorandum of Agreement between implementing agencies involved in the project, assuring effective and timely implementation.
6. Copies of the detailed Implementation Plan of the project prepared by the Regional Health Office V, in cooperation with BRBDPO including a projection of the funding requirements to finance the various elements of the project.
7. A detailed evaluation plan for the project will be prepared by the BRBDPO.
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 will be prepared.

#### V. EVALUATION ARRANGEMENTS

A third-party Project Monitoring and Evaluation Group (PMEG) will be selected to monitor critical project activities and conduct a performance evaluation. The PMEG will report its findings to the BRBDP Program Management Department and the BHP Project Management Office.

Baseline demographic, health and nutritional information will be used as indicators of the key project outcomes described in the BHP's framework matrix. Much of the data will be provided by the 1978 Bicol Multipurpose Survey (BMS) — a detailed multi-visit survey of 1900 households and all of the health professionals in the BHP provinces. The BMS is not project-funded. Additional data on the prevalence of tuberculosis, various parasites, and a few other issues will be needed from BMS households to supplement the BMS data. The MOH, Population and Nutrition Centers, and health and demographic researchers were involved in the design of the BMS.

A terminal project joint GOP/USAID evaluation after the fifth year will provide complementary data to the baseline BMS and health survey. Changes in project outcomes will be noted. A sampling frame similar to the 1978 BMS will be followed to provide data on changes in both BHP and non-project barangays.

A second activity will be yearly monitoring of BHA performance and the provision of BHA support services. In-depth anthropological case studies will be used to evaluate the work of the BHAs. Systematic checks of the BHA reports will be made. This monitoring activity will be the major means the PMEG can use to provide feedback to the BHP Project Management Office on the performance of the BHP.

A third activity will be the evaluation of the training program. Each BHA training session will be monitored and evaluated. This training evaluation will be part of the internal project evaluation program. This on-going internal evaluation is a management function; whereas the annual and terminal evaluations are the responsibility of an independent agency.

A project evaluation team will be organized to review the proposed work of the PMEG, to review the PMEG findings, and to make appropriate recommendations. The team will be headed by a USAID evaluation officer and include the Regional Health Officer, the Provincial Health Officers of Albay and Camarines Sur, the director of the BHP Project Management Office, the BRBDP Project Officer. The project evaluation activities will be coordinated and supervised by the Research and Evaluation Officer of the Project Management Officer.

When considered appropriate, the USAID Project Officer may hire foreign or national consultants for specific evaluation and audit tasks.

**BICOL INTEGRATED HEALTH, NUTRITION AND  
POPULATION PROJECT**

**Part II**

**ANNEXES**

**OFFICE OF HEALTH**

**U.S. Agency for International Development**

**January 1979**

## ANNEXES

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ANNEX A

SUPPLEMENTAL TECHNICAL DETAILS

1. TOILET INSTALLATION

1) Water-Seal Toilets

The pit privy, water-seal toilet 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 soil 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 ½ 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 a sufficient container e.g., 4 gallons tin can or crock). A quart container should also be provided. Instructions by the BHA 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 end of the bowl.

In this project, the villagers must provide the pit making sure it 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 a villager meets this requirement he will be furnished an approved bowl and necessary accessories not to exceed P60.00. This slab can be constructed of various materials depending upon the choice of the villager. However, it must meet the approval of the BHA or Sanitary Inspector. See Fig. 1 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:

Aid Counterpart

<u>Materials</u>	P 60.00
a) Water-seal toilet bowl	P35.00
Accessories	<u>25.00</u>
	P60.00
b) Beneficiary counterpart	P30.00
Drum	14.00
Nipa	<u>30.00</u>
	P74.00
c) Labor	<u>P106.00</u>
TOTAL	P166.00

### SKETCH OF WATER-SEALED TOILET

USE VENT PIPE FOR AIR-TIGHT PIT  
PROVIDE SCREEN ON TOP TO PREVENT  
ENTRANCE OF FLIES, MOSQUITOES, ETC.

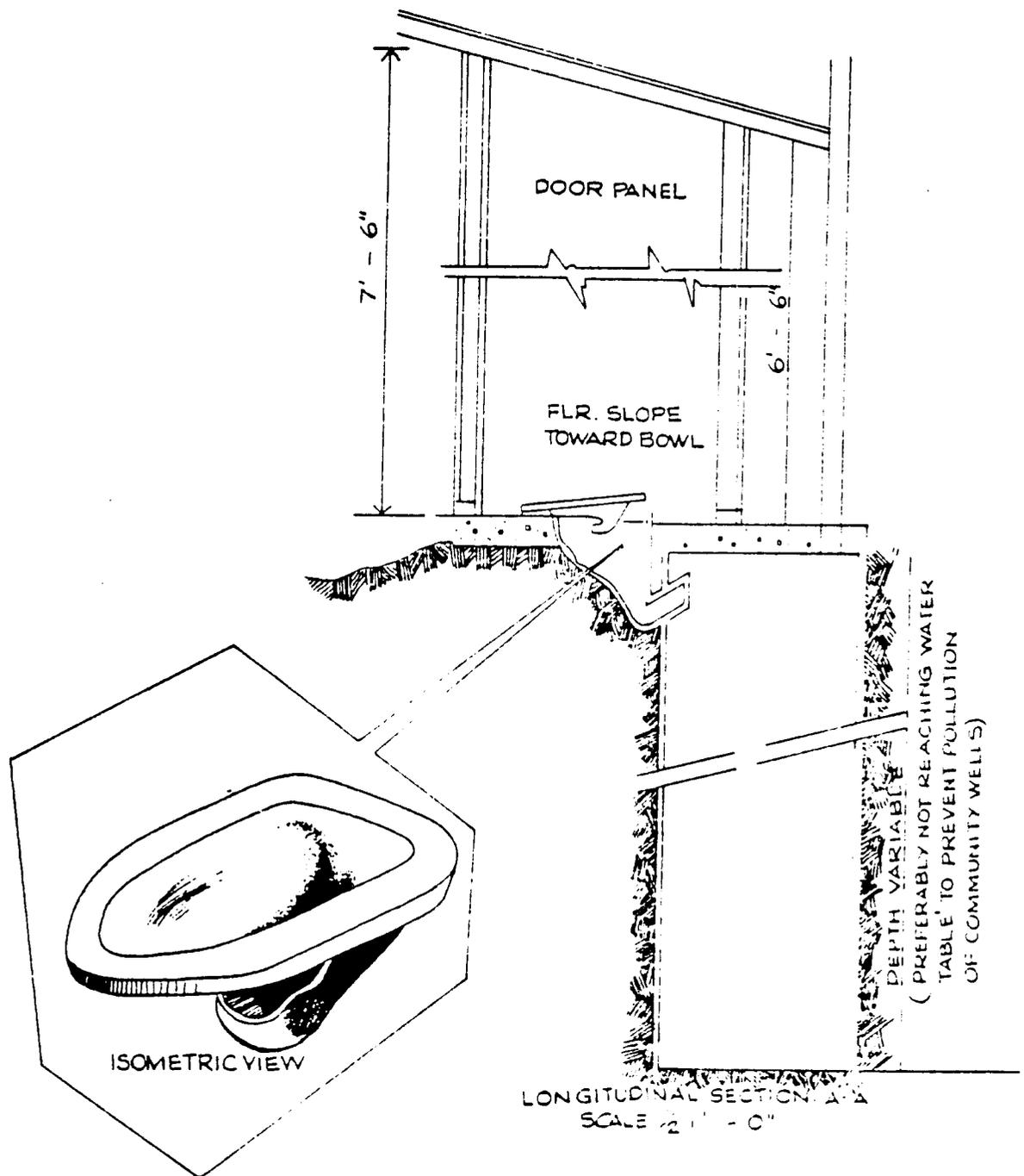


Figure 1

The MPW assumes construction supervision of all sanitary installations with technical direction from the BHAs and Sanitary Inspectors of the RHU. MLGCD will supply materials and reimburse local material purchases at standardized rates depending upon type of installation selected.

**Summary of Toilet Subsidy Plans:**

**a) Ceramic Water-seal toilet**

Subsidy P60.00 for materials

Cost of household:

Labor

Materials - P74.00

(depending on soil stability and source of pit lining and super-structure materials. Conceivably, where most construction materials can be gathered locally rather than purchase, the cost to the household for this recommended installation would not exceed P25.00).

b) Cement-Cast bowl. P60.00 subsidy in most cases would cover total installation requiring no cash outlay by household.

c) Simple non-water-seal pit privy. Cost to project should be less than maximum P60.00 subsidy.

**2) Alternative Toilet Installations**

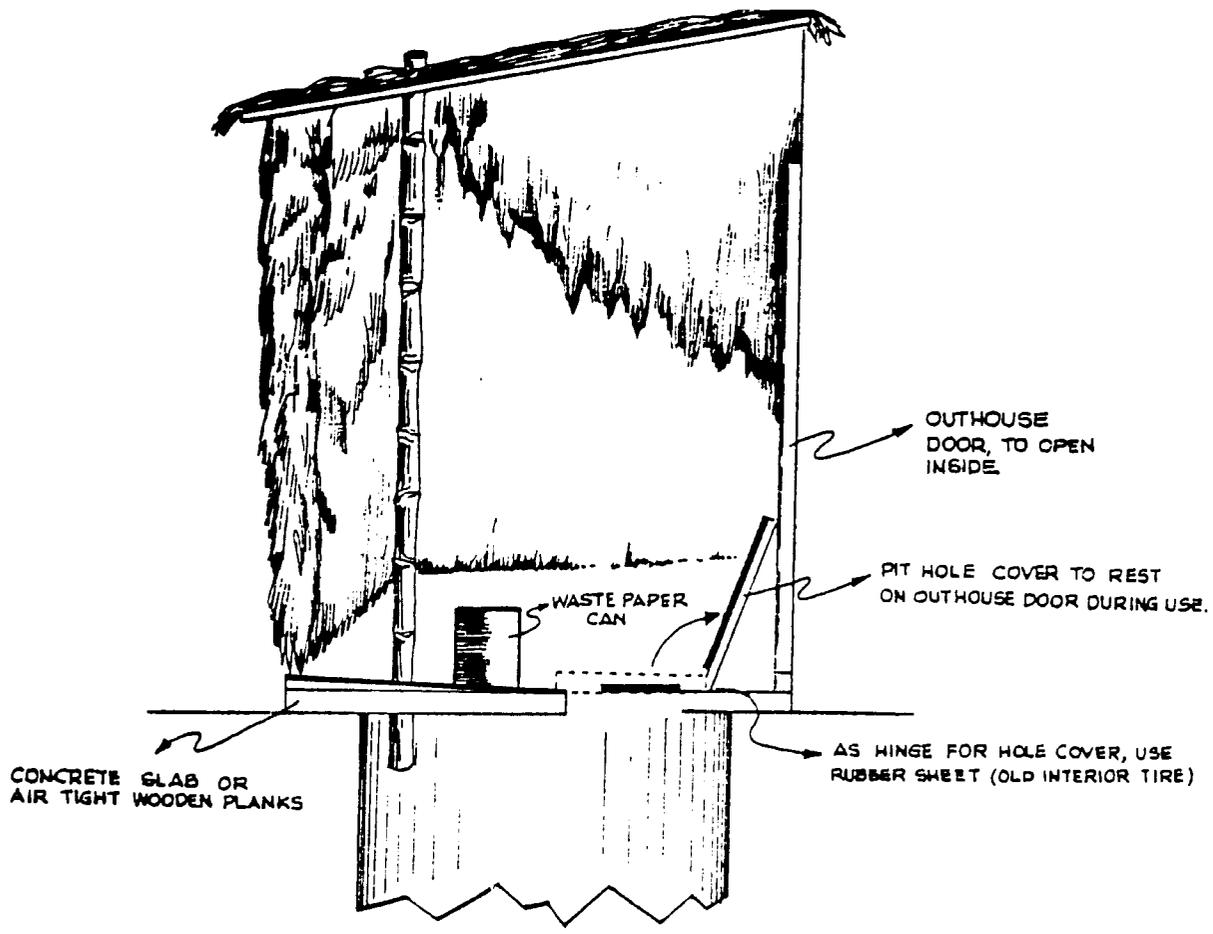
a) Cement-Cast bowl. Where it is determined that some barangay residents wish to cast their own toilet bowls as a community project thereby savings on materials expense, project counterpart funding installation will remain at P60.00. Details of construction are in the Feasibility Study, and available at each RHU. All BHAs and Sanitary Inspectors will be familiarized with the alternative construction costs and techniques. The savings through community production of the cement cast bowls is estimated at P10.00-P15.00 per toilet. It should be noted however, that the recommended ceramic bowls offer greater durability, are easier to clean, and are more attractive in appearance.

b) Simple pit privy. As a third less desirable alternative, a "direct drop" pit may be selected. This type lacks the odor-reducing and esthetic features of a water-seal toilet; but if built over at least six feet deep pit, is considered an acceptable, though inferior, toilet installation. This type should be considered only where water supply is inadequate. Where this type is selected, cost of materials only will be provided not to exceed the maximum subsidy of P60.00. Figure 2a.

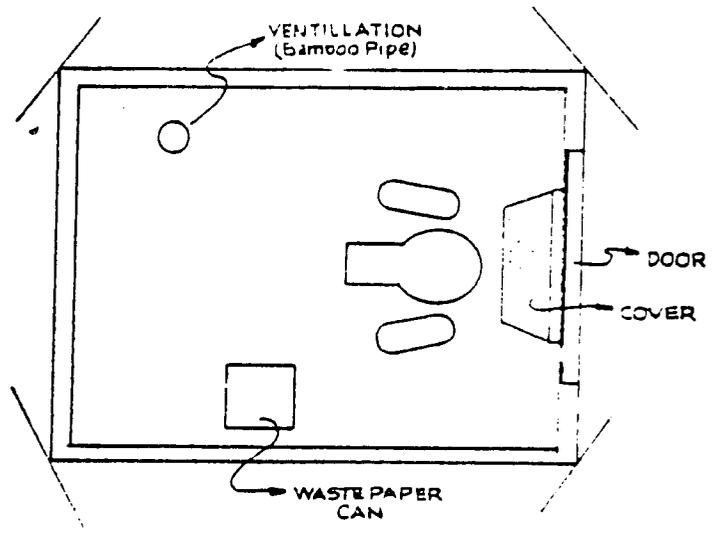
**2. WATER FACILITIES**

**1) Improvement of Existing Dug Wells**

Dug wells are usually hand dug and for that reason, they are shallow,



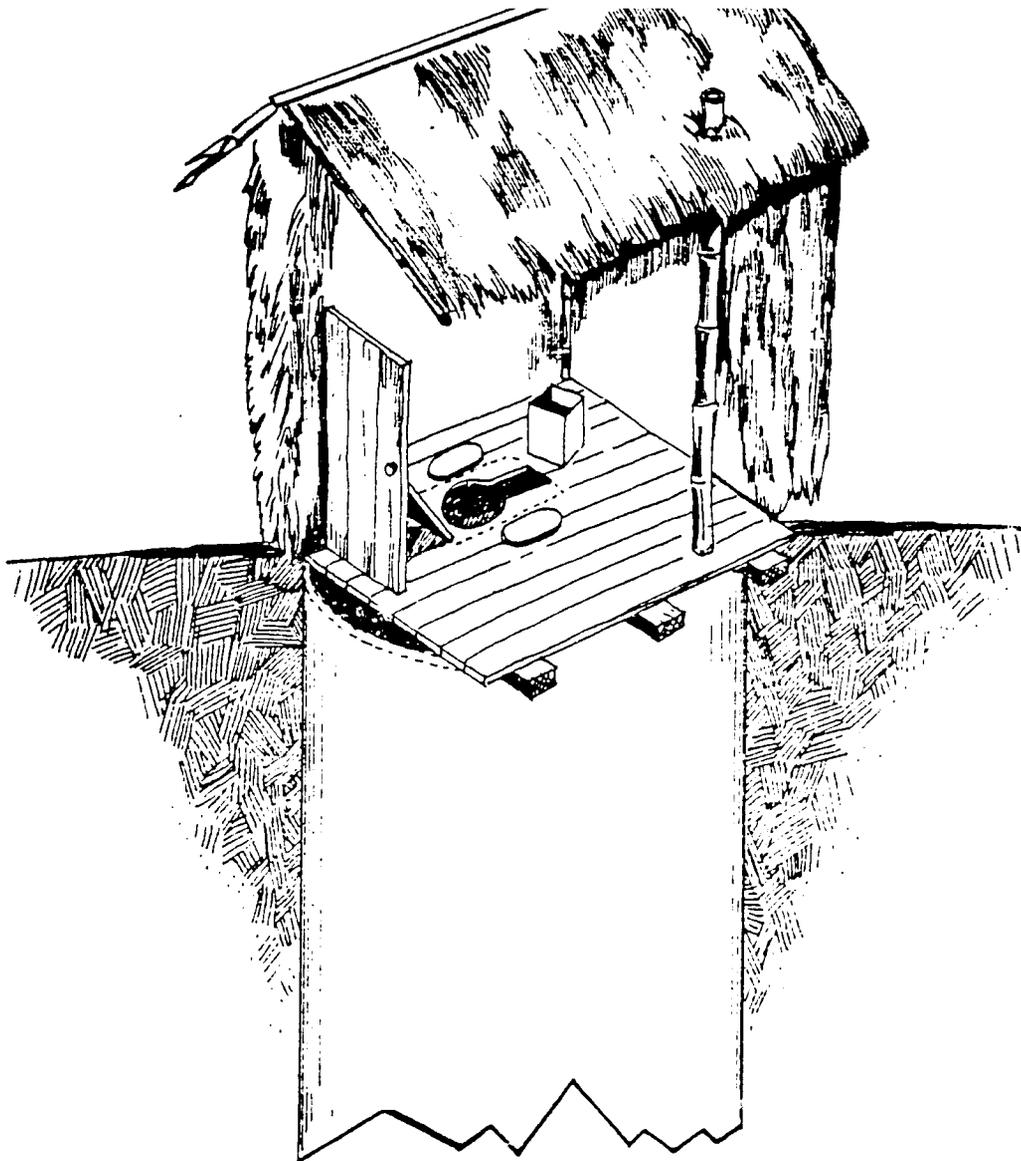
SIDE VIEW



TOP VIEW

DIRECT DROP PIT PRIVY

Figure 2a



CUT-OFF PERSPECTIVE VIEW

DIRECT DROP PIT PRIVY

INTEGRATED HEALTH, NUTRITION AND SANITATION PROJECT  
BICOL RIVER BASIN DEVELOPMENT PROGRAM

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. Figure 3.

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 draw-in of surface water 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 undisturb embankment should be back-filled with the clean materials and cement, should also be placed to a depth of ten feet below the ground 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 draw-down by means of a hand pump, and will last for a considerable time, as long as the aquifer will not dry out.

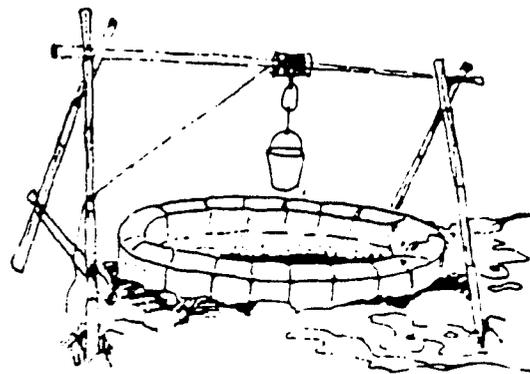
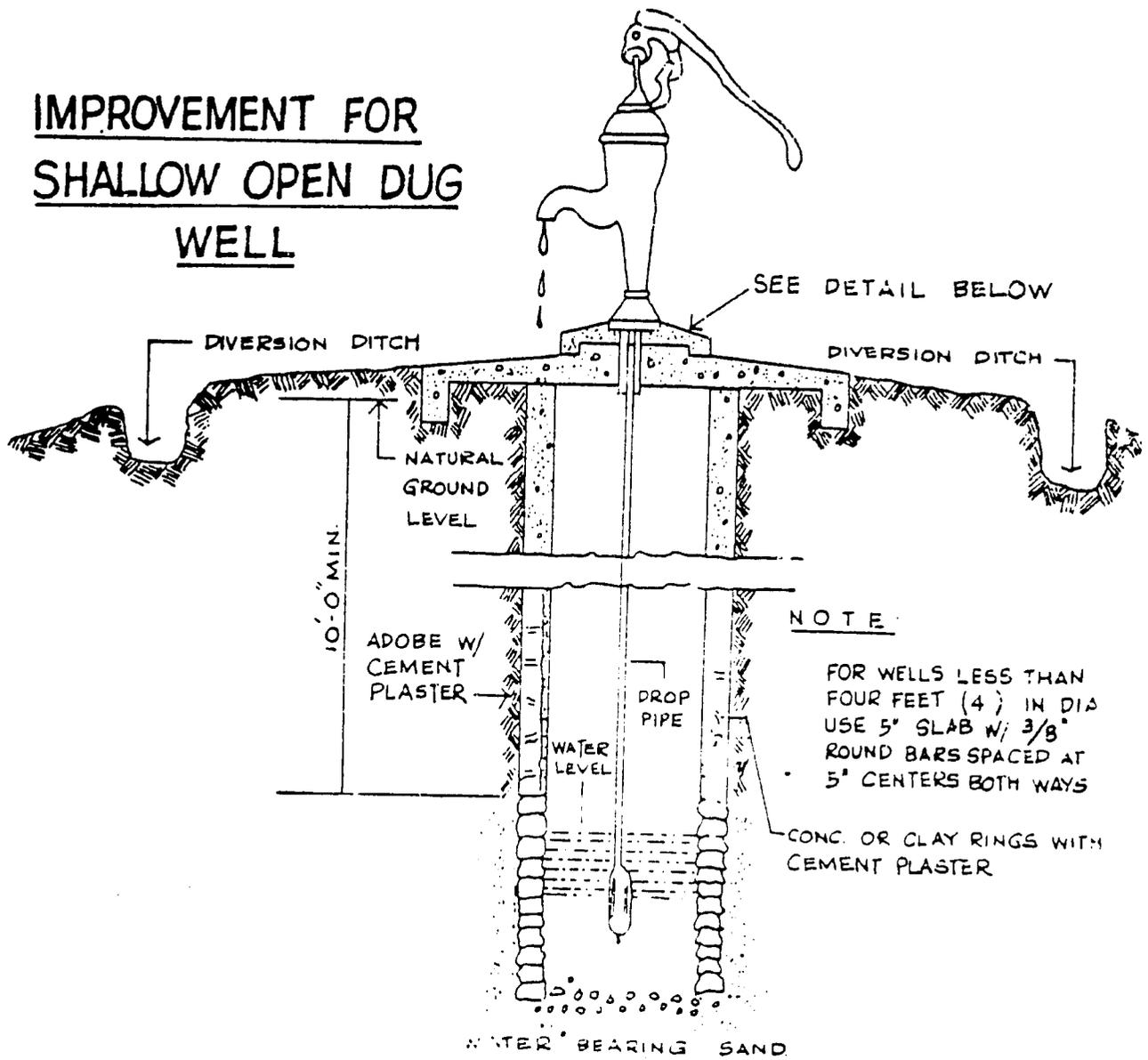
The pump unit (jetmatic hand force pump) as shown (Figure 3), is preferred because it does not need constant priming, which is a source of contamination. It can also pump from an elevated tank when and is locally available.

## 2) Shallow Driven Well - up to 60 feet (Figure 4)

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 point. 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 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.

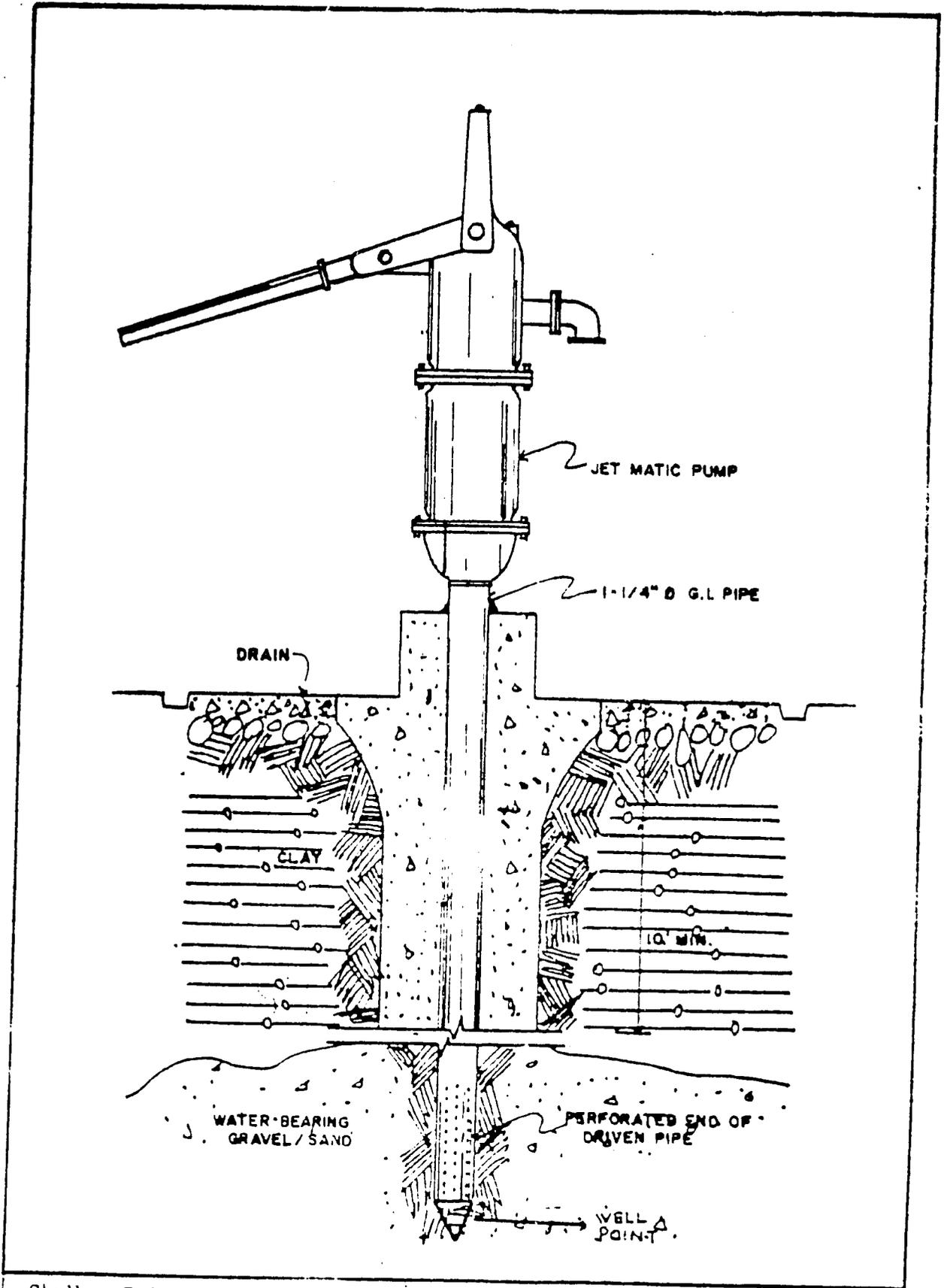
# IMPROVEMENT FOR SHALLOW OPEN DUG WELL



UNIMPROVED OPEN DUG WELL.

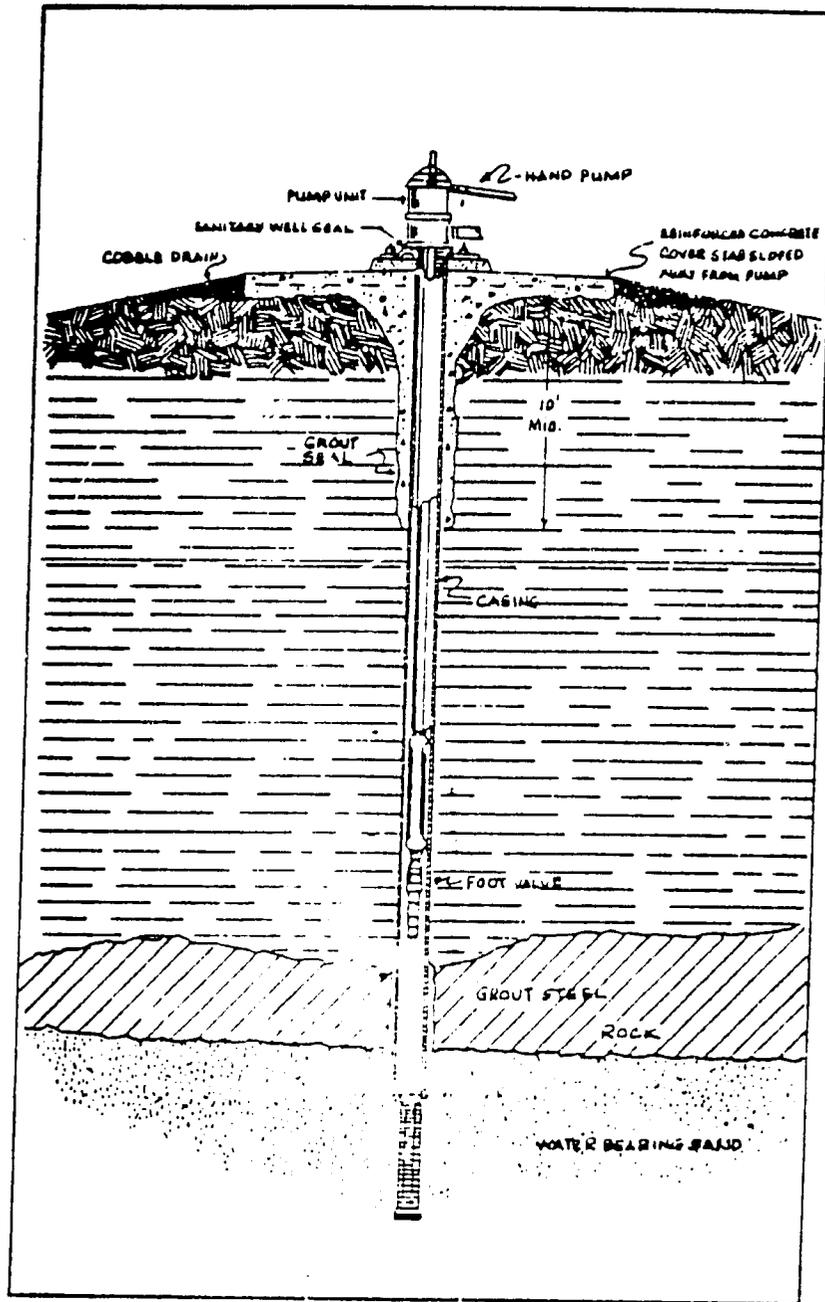
## DETAIL OF CONCRETE TOP FOR DUG WELL

Fig. -



Shallow Driven Well - up to 50'.

FIG. 4



Drilled Deep Well - 60' - 230' or more  
Fig. 5

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The small diameter of the well limits the yield considerable, 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 if the well is sunk 60 feet below the ground surface is shown in Table B11. B.

### 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. Figure 5.

#### 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 dislodge pieces of the formation. The reciprocating motion of the drill tools mixes the drill cutting 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 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 materials as it rotates and advances. The drilling fluid (called mud) pumped down the drill pipe picks up the drill cutting and carries them up the annular space between the rotating pipe and the wall of the hole. The mixture of mud and cutting 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 MPW will undertake as a part of the well-drilling program the installation of Deep Drilled Wells where necessary in the targetted barangay. Material costs are approximately P7000.00. MPW provides labor and incidental costs.

#### 4) Water Storage Tanks

BRBDP Engineering Section has a design developed for providing the collection and storage of rainwater. The recommended storage tank here illustrated is a cylindrical concrete tank built in four layers (one on top of the other). Minimal technical expertise is required. The tank capacity is 4M (1000 gallons). The cost breakdown for this tank is as follows:

Gravel 1.5 M <sup>3</sup>	- P 53
Sand 1 M <sup>3</sup>	- 30
Cement - 6 bags	- 114
GI sheets for gutter	- 160
Fittings and cover	- 70
Labor	- <u>150</u>
TOTAL	- P577

NOTE: First installation will require two sets of concentric cylindrical steel lines in three sections which are reusable. Estimated cost P1200.00

5) Development of Springs

Springs are ground water seepages, reaching daylight when the ground surface drops sharply below the normal ground water table or when an obstruction to flow impounds ground water behind it and forces it to overflow at the surface or when a geologic fault is an impervious stratum permits artesian water to escape from confinement. Thus, springs are most often found on slopes of hills or mountains or a long steep banks of rivers. Pollution or contamination of spring water generally occur at the point of seepage since surface water may join the spring flow at that point. Animals and utensils used for conveying water may also contaminate source. Thus, to prevent pollution and contamination, the spring is encircled by a water-tight, generally concrete chamber penetrating into the aquifer itself and surface run-off is diverted from the immediate spring vicinity by appropriate drainage ditches.

Figure 6 shows a typical installation to protect a spring, the material cost of which amount to about P5000.00 (Table B11, C).

6) Modified Frankel Filter System (Figure 7)

In places where the underground water table is very shallow and sinking, a deep well becomes expensive and prohibitive, such shallow waters can be tapped for domestic use and make it safe by treatment with the Frankel Filter method and chlorination.

Usually, the underground water, even though very shallow, would not contain so much sediments nor would it be very turbid, so that the coconut-husk media is disregarded. The water can be pumped directly through the burnt rice husk media, providing some method of aeration during pumping.

Using fabricated galvanized iron tanks and a "jet-matic" hand pump, as shown in Figure 4, the entire system would cost about P4,400. The treated water reservoir holds about 300 gallons. The sources of water is a simple open dug-well which does not have to be improved or surface water, if that is the only source. (Table B11, D).

7) Blind Drainage or Seepage Pit (Figure 8)

Each household will be encouraged to construct a drainage facility as shown in Figure 8. This will provide sanitary disposal of waste from the bath and the kitchen sink.

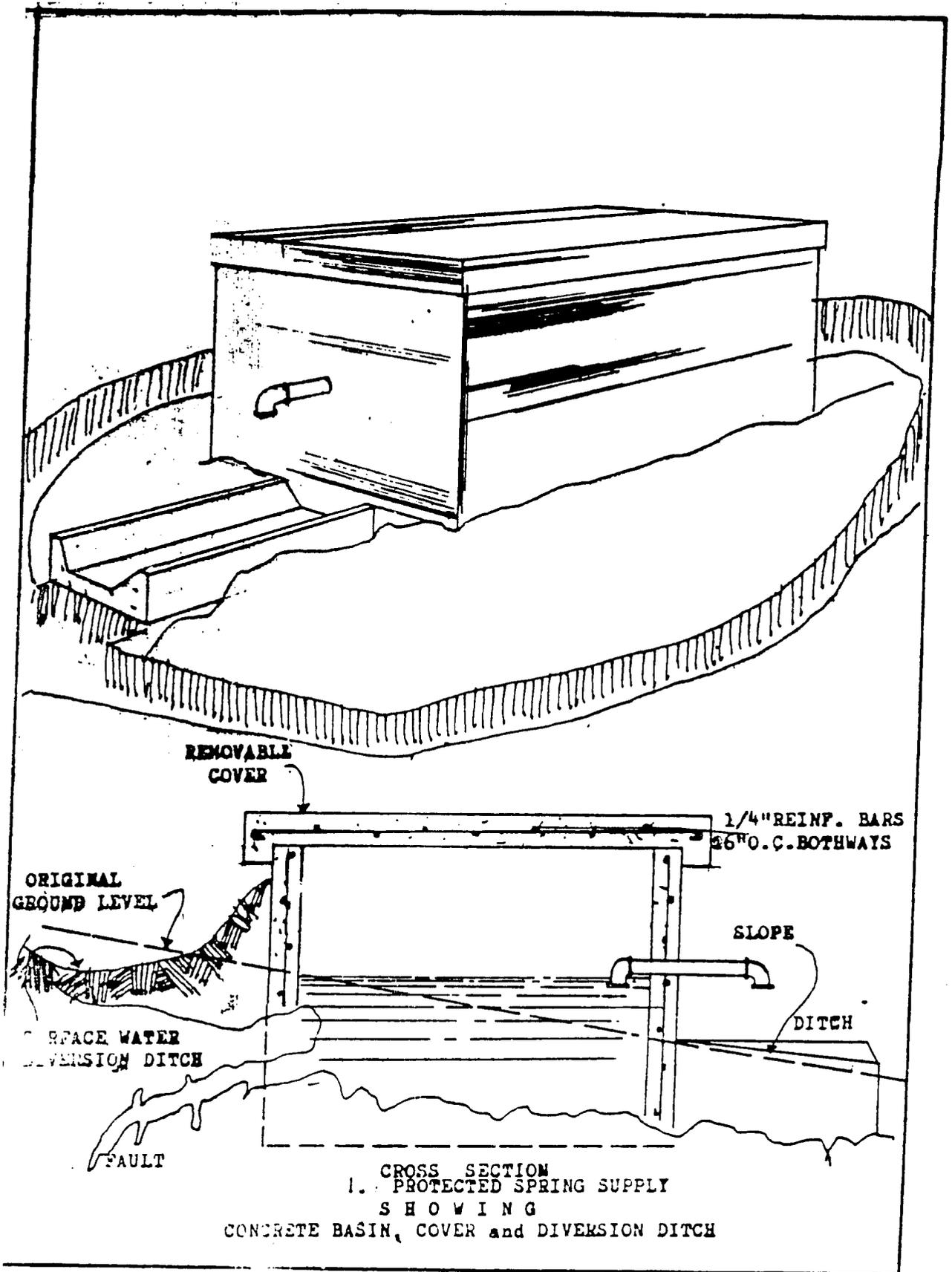


Figure 6

Annex 0-174. **B. R. B. D. P. FILTER SYSTEM**  
 (w/out RESERVOIR)  
 BRBDP Rural Development Waterworks Program

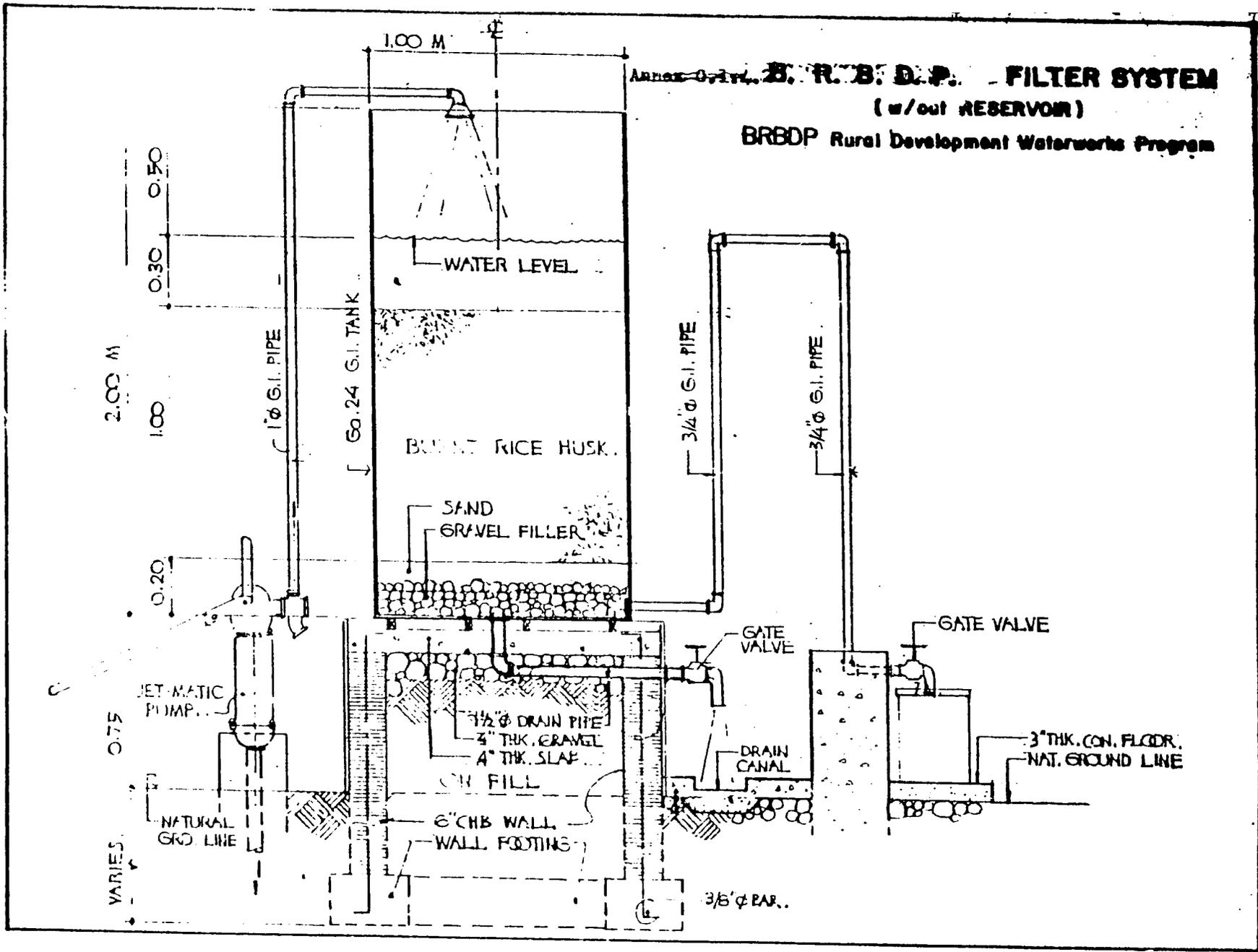


Figure 7

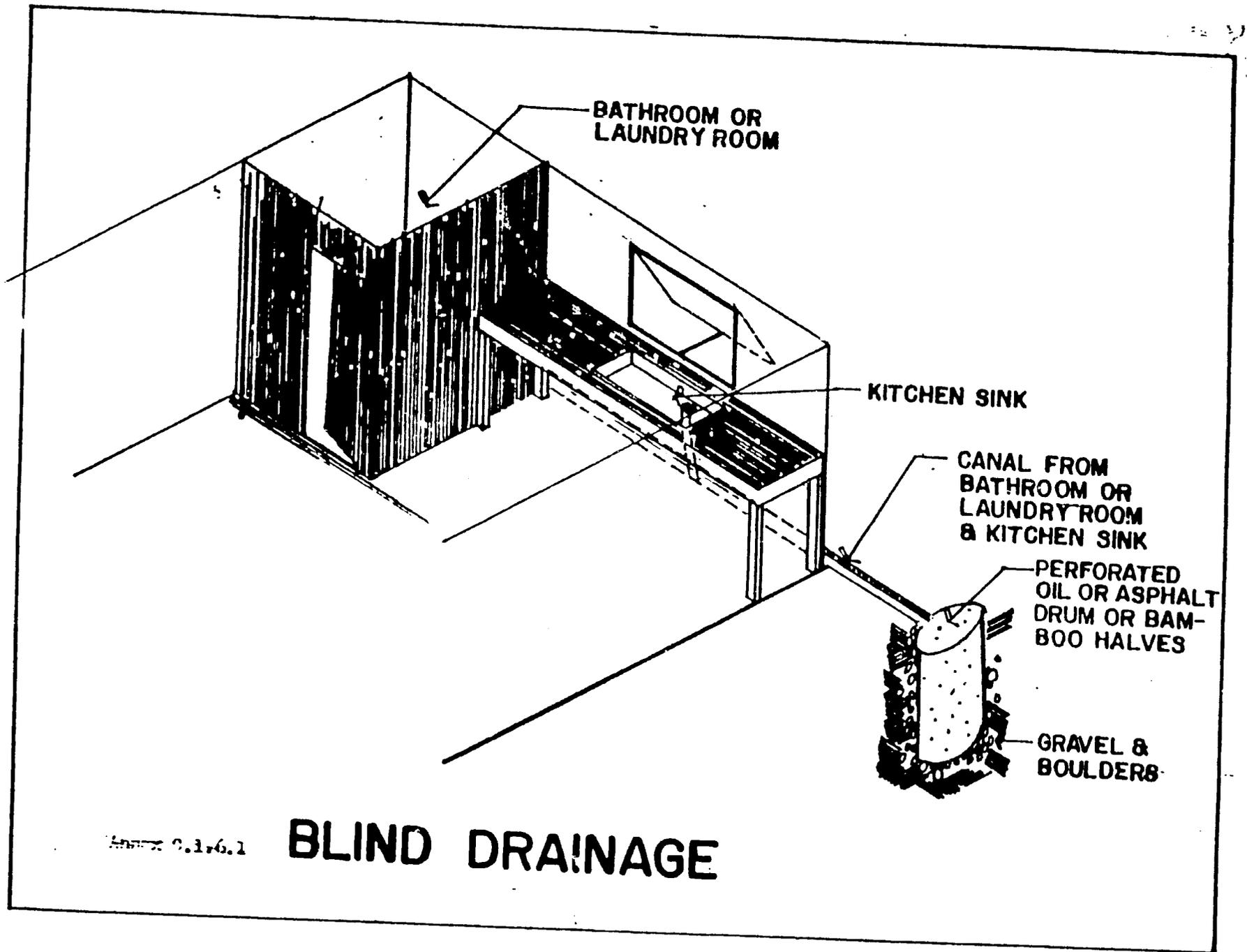


Figure 8

ANNEX B

SUPPLEMENTARY FINANCIAL DETAILS

ESTIMATED PROJECT COST. ANNUAL PESO VALUES

Table B1. Bicol Integrated Health, Nutrition and Population Project (1000 pesos)

<u>PROJECT COMPONENT</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Project Total</u>
I. <u>Institutional Development</u>	<u>995</u>	<u>1727</u>	<u>2348</u>	<u>2073</u>	<u>2073</u>	<u>9217</u>
- BHA Stipends	294	883	1472	1472	1472	5595
- BHA Manuals, Training & Retraining	404	567	599	324	324	2217
- IECM Campaign	257	277	277	277	277	1365
- Microscopist Training	22					22
- Lab Technicians Training	18					18
II. <u>Construction</u>	<u>2354</u>	<u>4039</u>	<u>5447</u>	<u>5509</u>	<u>5504</u>	<u>22853</u>
- Health & Environmental Survey	480					480
- Water Supply Facilities		751	1000	1000	1002	3753
- Water-sealed Toilets		2264	3028	3028	3000	11320
- MHC Renovation (7)	280					280
- BHS Construction (9)	493					493
- MHC & Hospital Extensions	682	382	382	382		1828
- Barangay Development Centers	219	438	438			1095
- Provincial Lab Renovation	200					200
- Annual Maintenance Costs for above		204	599	1099	1502	3404
III. <u>Equipment &amp; Supplies</u>	<u>3160</u>	<u>1056</u>	<u>1337</u>	<u>353</u>	<u>262</u>	<u>6168</u>
- BHA Kits	88	190	218	70	70	636
- Botica sa Barrio Supplies	80	160	160			400
- Vaccines & Storage Equip.	334	150	150	150	150	934
- Chlorine		31	61	61		154
- MHC Nutrition Equipment	115	30	30	30		205
- MHC Microscopy Equipment	354	42	42	42	42	521
- Barangay Dev. Center Equip.	227	453	453			1133
- Provincial & Reg. Lab. Equip.	516		223			739
- IECM Equip. & Supplies	201					201
- Training Equip. & Supplies	41					41
- PMO Equip. & Supplies	104					104
- Vehicles & Parts	1100					1100
IV. <u>Project Management &amp; Coordination</u>	<u>1740</u>	<u>900</u>	<u>900</u>	<u>900</u>	<u>1250</u>	<u>5190</u>
- Project Management Office	460	460	460	460	460	2300
- BAEx	120	120	120	120	120	599
- MSSD	7	7	7	7	7	33
- CRS/SAC	139	139	139	139	139	694
- Lab Technicians	74	74	74	74	74	370
- Project Monitoring & Evaluation	450	100	100	100	450	1200
	-----	-----	-----	-----	-----	-----
<u>Subtotal</u>	<u>7759</u>	<u>7722</u>	<u>10032</u>	<u>8835</u>	<u>9089</u>	<u>43434</u>
Cost Escalation	-	625	1691	2092	2940	7348
15% Contingency	<u>1163</u>	<u>1253</u>	<u>1759</u>	<u>1639</u>	<u>1804</u>	<u>7621</u>
TOTAL	8922	9600	13482	12566	13836	58403
(U.S. PL 480 Title II Food Commod.)	(345)	(1500)	(2310)	(2310)	(2310)	(8775)

Note: Columns and lines may not add exactly to total due to rounding.

Table Blb. Estimated Project Cost, Annual Peso Equivalent by Funding Source  
Bicol Integrated Health, Nutrition and Population Project (P1000)

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<u>Project Component by Funding Source</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Project Total</u>
<b><u>AID Loan FX:</u></b>						
<u>Equipment &amp; Supplies</u>	<u>2912</u>	<u>756</u>	<u>1037</u>	<u>242</u>	<u>181</u>	<u>5129</u>
BHA Kits	88	190	218	70	70	636
Botica sa Barrio Supplies	80	160	160			400
Vaccines & Storage Equip.	259	75	75	75	75	559
Chlorine	0	31	61	61	0	154
MHC Nutrition Equip.	86					86
MHC Microscopy Equip.	348	36	36	36	36	492
Barangay Devel. Center Equip.	132	264	264			660
Provincial & Reg. Lab. Equip.	516	-	223	-	-	739
IECM Equip. & Supplies	195					195
Training Equip. & Supplies	31					31
PMO Equip. & Supplies	77					77
Vehicles & Parts	1100					1100
<u>Sub-Total</u>	<u>2912</u>	<u>756</u>	<u>1037</u>	<u>242</u>	<u>181</u>	<u>5129</u>
Cost Escalation	-	113	334	126	136	709
15% Contingency	437	130	206	55	48	876
<b>TOTAL</b>	<b>3349</b>	<b>999</b>	<b>1577</b>	<b>423</b>	<b>365</b>	<b>6714</b>
<b><u>AID Loan LC:</u></b>						
<u>Institutional Development</u>	<u>294</u>	<u>883</u>	<u>1472</u>	<u>1325</u>	<u>-</u>	<u>3974</u>
BHA Stipends	294	883	1472	1325	-	3974
<u>Construction</u>	<u>480</u>	<u>956</u>	<u>1207</u>	<u>1114</u>	<u>1018</u>	<u>4775</u>
Health & Environmental Survey	480					480
Water Supply Facilities		492	586	494	403	1975
Water-Sealed Toilets		464	621	620	615	2320
<u>Equipment &amp; Supplies</u>	<u>75</u>	<u>75</u>	<u>75</u>	<u>75</u>	<u>75</u>	<u>375</u>
Vaccines	75	75	75	75	75	375
<u>Sub-Total</u>	<u>549</u>	<u>1914</u>	<u>2754</u>	<u>2514</u>	<u>1093</u>	<u>9124</u>
Cost Escalation	-	140	412	588	173*	1313
15% Contingency	127	308	475	465	223	1599
<b>TOTAL</b>	<b>976</b>	<b>2362</b>	<b>3641</b>	<b>3567</b>	<b>1489</b>	<b>12036</b>
<b><u>AID Loan Total:</u></b>						
<u>Sub-Total</u>	<u>3761</u>	<u>2670</u>	<u>3791</u>	<u>2756</u>	<u>1274</u>	<u>14253</u>
Cost Escalation	-	253	746	714	409	2022
15% Contingency	564	438	631	520	271	2475
<b>TOTAL</b>	<b>4325</b>	<b>3361</b>	<b>5218</b>	<b>3990</b>	<b>1854</b>	<b>18750</b>

Table Blb. (cont.) p. 2  
 Project Component  
 by Funding Source

	Year 1	Year 2	Year 3	Year 4	Year 5	Project Total
(U.S. PL 480 Title II Food Comnod.)	(345)	(1500)	(2310)	(2310)	(2310)	(8775)
<u>PL 480 Generations of LC:</u>						
<u>Construction</u>	<u>682</u>	<u>462</u>	<u>512</u>	<u>565</u>	<u>183</u>	<u>2404</u>
MHC & Hospital Extensions	682	382	382	382		1828
Annual Maintenance Costs		80	130	183	183	576
<u>Equipment &amp; Supplies</u>	<u>125</u>	<u>219</u>	<u>219</u>	<u>30</u>	<u>-</u>	<u>592</u>
MHC Nutrition Equip.	30	30	30	30	-	119
Barangay Devel. Center Equip.	95	189	189			473
<u>Project Management &amp; Coordination</u>	<u>259</u>	<u>259</u>	<u>259</u>	<u>259</u>	<u>259</u>	<u>1293</u>
BAEx	120	120	120	120	120	599
CRS/SAC	139	139	139	139	139	694
<u>Sub-Total</u>	<u>1066</u>	<u>940</u>	<u>990</u>	<u>854</u>	<u>442</u>	<u>4289</u>
Cost Escalation	-	84	182	201	137	604
15% Contingency	160	154	175	158	87	734
<b>TOTAL</b>	<b>1225</b>	<b>1178</b>	<b>1348</b>	<b>1213</b>	<b>666</b>	<b>5627</b>

Table B1b. (cont.) p. 3

<u>Project Component by Funding Source</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Project Total</u>
<b><u>GOP Local Currency:</u></b>						
<u>Institutional Development</u>	<u>701</u>	<u>844</u>	<u>876</u>	<u>601</u>	<u>1632</u>	<u>4654</u>
BHA Stipends					1031	1031
BHA Manuals, Training & Retraining	404	567	599	324	324	2217
IECM Campaign	257	277	277	277	277	1365
Microscopist Training	22					22
Lab Technician Training	18					18
<u>Construction</u>	<u>973</u>	<u>566</u>	<u>722</u>	<u>723</u>	<u>717</u>	<u>3701</u>
Water-Sealed Toilets		464	620	621	615	2320
MHC Renovation (7)	280					280
BHS Construction (9)	493					493
Provincial Lab Renovation	200					200
Annual Maintenance Costs		102	102	102	102	408
<u>Equipment &amp; Supplies</u>	<u>49</u>	<u>6</u>	<u>6</u>	<u>6</u>	<u>6</u>	<u>72</u>
MHC Microscopy Equip.	6	6	6	6	6	29
IECM Equip. & Supplies	6					6
Training Equip. & Supplies	10					10
PMO Equip. & Supplies	27					27
<u>Project Management &amp; Coordination</u>	<u>991</u>	<u>641</u>	<u>641</u>	<u>641</u>	<u>991</u>	<u>3203</u>
Project Management Office	460	460	460	460	460	2300
MSSD	7	7	7	7	7	33
Lab Technicians	74	74	74	74	74	370
Project Monitoring & Evaluation	450	100	100	100	450	1200
<u>Sub-Total</u>	<u>2714</u>	<u>2057</u>	<u>2245</u>	<u>1971</u>	<u>3346</u>	<u>12330</u>
Cost Escalation	-	144	326	445	1243*	2158
15% Contingency	407	330	386	362	559	2143
<b>TOTAL</b>	<b>3121</b>	<b>2531</b>	<b>2957</b>	<b>2778</b>	<b>5248</b>	<b>16631</b>
<b><u>Local Government LC:</u></b>						
<u>Institutional Development</u>				<u>147</u>	<u>442</u>	<u>589</u>
BHA Stipends				147	442	589
<u>Construction</u>	<u>162</u>	<u>340</u>	<u>373</u>	<u>81</u>	<u>81</u>	<u>1039</u>
Taguay Development Centers	162	324	324			811
Annual Maintenance Costs		16	49	81	81	228
<u>Sub-Total</u>	<u>162</u>	<u>340</u>	<u>373</u>	<u>228</u>	<u>523</u>	<u>1628</u>
Cost Escalation	-	24	54	51	163	292
15% Contingency	24	55	64	42	103	238
<b>TOTAL</b>	<b>186</b>	<b>419</b>	<b>491</b>	<b>321</b>	<b>739</b>	<b>2208</b>

Table Blb. (cont.) p. 4

<u>Project Component by Funding Source</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Project Total</u>
<b><u>Beneficiaries LC:</u></b>						
<u>Construction</u>	474	891	1236	1575		4176
Water Supply Facilities		69	161	252		482
Water-Sealed Toilets	474	633	633	628		2368
Annual Maintenance Costs		189	442	695		1326
<u>Sub-Total</u>	474	891	1236	1575		4176
Cost Escalation	33	129	278	490		930
15% Contingency	76	153	227	310		766
<b>TOTAL</b>	<b>583</b>	<b>1173</b>	<b>1741</b>	<b>2375</b>		<b>5872</b>
<b><u>Beneficiaries Labor:</u></b>						
<u>Construction</u>	57	1241	1741	1789	1930	6758
Water Supply Facilities		259	345	345	346	1295
Water-Sealed Toilets		862	1153	1153	1143	4312
Barangay Development Centers	57	114	114			284
Annual Maintenance Costs		6	129	291	441	866
<u>Sub-Total</u>	57	1241	1741	1789	1930	6758
Cost Escalation	-	87	252	403	600	1342
15% Contingency	9	199	299	329	380	1215
<b>TOTAL</b>	<b>66</b>	<b>1527</b>	<b>2292</b>	<b>2521</b>	<b>2910</b>	<b>9315</b>
<b><u>Host Country Total:</u></b>						
Institutional Development	701	844	876	748	2074	5243
Construction	1192	2621	3727	3829	4303	15674
Equipment & Supplies	49	6	6	6	6	72
Project Management & Coordination	991	641	641	641	991	3903
<u>Sub-Total</u>	2933	4112	5250	5224	7374	24892
Cost-Escalation	-	288	762	1177	2495	4722
15% Contingency	440	660	902	960	1451	4412
<b>TOTAL</b>	<b>3373</b>	<b>5060</b>	<b>6914</b>	<b>7361</b>	<b>11320</b>	<b>34026</b>

\* In order to round off the AID Loan to \$2.5 million (\$18,750,000), \$200,000 of cost escalation attributable to AID-financed local cost components will be funded by the GOP.

Table B2

Estimated Project Cost by Source of Funds (Financial Plan)  
Bicol Integrated Health, Nutrition and Population Project (1000 Pesos)

Project Component	Total Cost	United States Contribution			PL 480 Commod.	PL 480 Generations of LC	Host Country Contribution				Host Co. Total	
		Approp. AID Loan		PL 480			GOP LC	Local Govt. LC	Beneficiaries			Host Co.
		Total	FX						LC	LC		
<b>I. Institutional Development</b>	<b>9,217</b>	<b>3,974</b>		<b>3,974</b>								
BHA Stipends	5,595	3,974		3,974		4,654	589				5,243	
BHA Manuals, Training & Retraining	2,217					1,032	589				1,621	
IECM Campaign	1,365					2,217					2,217	
Microscopist Training	22					1,365					1,365	
Lab Technician Training	18					22					22	
						18					18	
<b>II. Construction</b>	<b>22,853</b>	<b>4,775</b>		<b>4,775</b>		<b>2,404</b>	<b>3,701</b>	<b>1,039</b>	<b>4,176</b>	<b>6,758</b>	<b>15,674</b>	
Health & Environmental Survey	480	480		480			0				0	
Water Supply Facilities	3,753	1,975		1,975			0					
Water-Sealed Toilets	11,320	2,320		2,320			2,320		482	1,296	1,778	
MCH Renovation (7)	280						280		2,368	4,312	9,000	
BHS Construction (9)	493						493				280	
MCH & Hospital Extensions	1,828					1,828	0				493	
Barangay Development Centers	1,095						0	811		284	0	
Provincial Lab Renovation	200						200				1,095	
Annual Maintenance Costs	3,404					576	408	228	1,326	866	200	
											2,828	
<b>III. Equipment &amp; Supplies</b>	<b>6,168</b>	<b>5,504</b>	<b>5,129</b>	<b>375</b>		<b>592</b>	<b>72</b>				<b>72</b>	
BHA Kits	636	636	636				0				0	
Botica sa Barrio Supplies	400	400	400				0				0	
Vaccines & Storage Equip.	934	934	559	375			0				0	
Chlorine	154	154	154				0				0	
MHC Nutrition Equip.	205	86	86				0				0	
MHC Microscopy Equip.	521	492	492		119		0				0	
Barangay Dev. Center Equip.	1,133	660	660				29				29	
Provincial & Reg. Lab. Equip.	739	739	739		473		0				0	
IECM Equip. & Supplies	201	195	195				0				0	
Training Equip. & Supplies	41	31	31				6				6	
PMO Equip. & Supplies	104	77	77				10				10	
Vehicles & Parts	1,100	1,100	1,100				27				27	
							0				0	

Project Component	Total Cost	United States Contribution			PL 480 Commod.	PL 480 Generations of LC	Host Country Contribution				
		Approp. Total	AID FX	Loan LC			GOP LC	Local Govt. LC	Beneficiaries LC	Labor	Host Co. Total
IV. <u>Project Management &amp; Coordination</u>	<u>5,196</u>					<u>1,293</u>	<u>3,903</u>			<u>3,903</u>	
Project Management Office	2,300						2,300			2,300	
BAEx	599					599	0			0	
MSSD	33						33			33	
CRS/SAC	694					694	0			0	
Lab Technicians	370						370			370	
Project Monitoring & Evaluation	1,200						1,200			1,200	
<u>SUB-TOTAL</u>	<u>43,434</u>	<u>14,253</u>	<u>5,129</u>	<u>9,124</u>		<u>4,289</u>	<u>12,330</u>	<u>1,628</u>	<u>4,176</u>	<u>6,758</u>	<u>24,892</u>
Cost Escalation	7,348	2,022	709	1,313		604	2,158	292	930	1,342	4,722
15% Contingency	<u>7,621</u>	<u>2,475</u>	<u>876</u>	<u>1,599</u>		<u>734</u>	<u>2,143</u>	<u>288</u>	<u>766</u>	<u>1,215</u>	<u>4,412</u>
TOTAL	58,403	18,750	6,714	12,036		5,627	16,631	2,208	5,872	9,315	34,026
(U.S. PL 480 Title II Food Commod.)	(8,775)					(8,775)					

Footnotes:

3/ Assumes 5-year amortization schedule and an average 70% repayment rate.

1/ Project-funded requirements for first 4 years.

2/ Project-funded requirement for 5th year.

Note: Some columns or lines may not add exactly to totals due to rounding.

Table B3. Cost of Project Outputs by Source of Input Funding (P1000)  
Bicol Integrated Health, Nutrition and Population Project

Project Outputs	Magnitude of Output (units)	Total Cost of Output (P1000)	United States Contribution		PL 480 Generations of Local Currency	Host Country Contribution				
			Appropriated AID	PL 480 Commodities		Host Co. Total	Local Gov't. LC	Local Gov't. Labor	Beneficiaries	
<b>I. Rural Institutional Development</b>		<u>15,436</u>	<u>7902</u>		<u>1167</u>					
a. BIAs trained and fielded	400	7974 <sup>1/</sup>	4300			6366	4682	1400		284
b. BINPTs organized	400					3674	3085	589		
c. BIA Manuals distributed	400	174								
d. BIA Kits distributed	400	636 <sup>1/</sup>	636			174	174			
e. Regional Training Team organized	1									
f. Barangays covered by IECM	400	1853	480			1372	1372			
g. Bgys. w/ functional Rural Clubs	400									
h. Diocesan Nutritionists trnd. & fielded	5	347			347					
i. Food-for-Work Coord. trnd. & fielded	2	139			139					
j. Community Organizers trnd. & Fielded	3	208			208					
k. Bgy. Dev't. Centers operationalized	400	2228	660		473	1095				
l. Village drugstores established	400	400	400					811 <sup>2/</sup>		284
m. 1) School entrants immunized w/ BCG	32480									
2) Infants immunized w/ BCG	29120									
3) Persons immunized w/ CTPa	784000									
4) Infants immunized w/ DPT	29120									
5) Pre-natal cases immunized with Tetanus Toxoid	22400									
6) School entrants immunized w/ TOPV	14560									
Total immunization cost		934	934							
n. Microscopy Centers established	38	543	492			51	51			
<b>II. Physical Health Infrastructure &amp; Sanitation Development</b>		<u>23244</u>	<u>5754</u>		<u>2523</u>	<u>14967</u>	<u>4089</u>	<u>288</u>	<u>4176</u>	<u>6474</u>
a. Laboratories upgraded	3	1327	739			588	588			
b. MHCs renovated	7	280				280	280			
c. BHSs constructed	9	493				493	493			
d. City Health Center extensions	3	300								
e. MHC extensions constructed	52	1733	86							
f. Barangays surveyed for health and sanitation status	1370	480	480							
g. Community Water Supply Facilities constructed	1266	2825	1422			1403			347	1056

Table B3 (Cont.)

Project Outputs	Magnitude of Output (units)	Total Cost of Output (P1000)	United States Contribution		PL 480 Generations of Local Currency	Host Country Contribution				
			Appropriated AID	Loan		Host Co. Total	Local	Beneficiaries		
						Commodities	Gov't	LC	Labor	
h. Individual Household Water Supply Facilities constructed	2000	928	553			375		135	240	
i. Households chlorinating drinking water	64000	154	154							
j. Households w/ satisfactory toilets	32000	7680	960			6720	960	2368	3392	
k. Bgy. Schools w/ communal toilets	400	3640	1360			2280	1360		920	
l. Maintenance of facilities constructed or improved	n.a.	3404			576	2828	408	228	1326	866
111. <u>Project Management &amp; Coordination</u> (Not included above) (years)		<u>6255</u>	<u>- 597</u>		<u>599</u>	<u>3560</u>	<u>3560</u>			
PMO & HSSD	5	2826	467			2360	2360			
BAEx	-	729	130		599					
Monitoring & Evaluation	5	1200				1200	1200			
<u>SUB-TOTAL</u>		<u>43434</u>	<u>14253</u>		<u>4289</u>	<u>24892</u>	<u>12330</u>	<u>1628</u>	<u>4176</u>	<u>6758</u>
Cost Escalation		7348	2022		604	4722	2158	292	930	1342
15% Contingency		7621	2475		734	4412	2113	288	766	1215
TOTAL		58403	18750		5627	34026	16631	2208	5872	9315

(Food Commodities Distributed to Malnourished Children and in Food for Work Projects) (tons)

(8775)

1/ Included in Project Management and Coordination

2/ Estimated value of local building materials and construction labor to be provided in kind or procured by each Barangay, or, alternatively, the value of existing building space to be made available to house project-related activities.

Note: Some columns and lines may not add exactly to totals due to rounding.

ORD; CSCallison, 10/19/78

**Table B4.** GOP Annual Budget Counterpart Requirement, 1/  
Bicol Integrated Health, Nutrition & Population Project  
(P1000)

<u>Project Component</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Total</u>
<b>I. Institutional Development</b>	<u>995</u>	<u>1,727</u>	<u>2,348</u>	<u>1,926</u>	<u>1,632</u>	<u>8,628</u>
BHA Stipends	294	883	1,472	1,325	1,031	5,006
BHA Manuals & Training	404	567	599	324	324	2,217
IECM Campaign	257	277	277	277	277	1,365
Health Training Consultant	22					22
Microscopist Training	18					18
<b>II. Construction</b>	<u>1,455</u>	<u>1,522</u>	<u>1,929</u>	<u>1,837</u>	<u>1,735</u>	<u>8,476</u>
Health Environ. Survey	480					480
Water Supply Facilities		492	586	494	403	1,975
Water-sealed Toilets		928	1,241	1,241	1,230	4,640
MHC Renovation(7)	280					280
BHS Construction (9)	493					493
MHC & Hospital Extension						0
Barangay Development Centers						0
Provincial Lab Renovation	200					200
Annual Maintenance for above		102	102	102	102	408
<b>III. Equipment &amp; Supplies</b>	<u>124</u>	<u>81</u>	<u>81</u>	<u>81</u>	<u>81</u>	<u>447</u>
BHA Kits						0
Botica sa Barrio Supplies						0
Vaccines	75	75	75	75	75	375
Chlorine						0
MHC Nutrition Equip.						0
MHC Microscopy Equip.	6	6	6	6	6	29
Barangay Dev. Center Equip.						0
Povincial Lab Equip.						0
IECM Equip. & Supplies	6					6
Training Equip. & Supplies	10					10
PMO Equip. & Supplies	27					27
Vehicles & Parts						0
<b>IV. Project Mgt. &amp; Coord.</b>	<u>1,991</u>	<u>641</u>	<u>641</u>	<u>641</u>	<u>991</u>	<u>3,903</u>
Project Mgt. Office	460	460	460	460	460	2,300
BAEx						0
MSSD	7	7	7	7	7	33
CRS/SAC						0
Lab Technicians	74	74	74	74	74	370
Project Monitoring & Eval.	450	100	100	100	450	1,200
<b>SUB-TOTAL</b>	<u>3,563</u>	<u>3,971</u>	<u>4,999</u>	<u>4,485</u>	<u>4,439</u>	<u>21,454</u>
Cost Escalation	0	284	738	1,033	1,410	3,471
15% Contingency	534	638	861	327	882	3,742
<b>TOTAL</b>	<u>4,097</u>	<u>4,893</u>	<u>6,598</u>	<u>6,345</u>	<u>6,737</u>	<u>28,667</u>

1/ Includes peso counterpart requirement for reimbursable local currency AID loan contribution plus GOP local currency contribution to project costs. Excludes AID-funded foreign exchange components, local government and beneficiary contributions and PL 480 components.

Note: Columns and lines may not add exactly to totals due to rounding.

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Table B5

Annual Cost of BHA Stipends by Source of Funds  
(P1000)

	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL <sup>1/</sup>
MOH Project Budget	294	883	1472	1325	1031	5006
Local Government				147	442	589
TOTAL COST	294	883	1472	1472	1472	5595

<sup>1/</sup> Totals do not add exactly due to rounding.

Note: 80 BHAs at P306.75 per month each in year 1, 240 in year 2 and 400 thereafter. Project share is 100% of stipends for the first three years following the fielding of a BHA and 50% of the stipends for the next two years. The other 50% shall be contributed by the local government units. After five years from the date of fielding or from the date of the start of the project, BHA stipends shall come from the local government units entirely. Includes P300/mo. plus an additional 2.25% for fixed charges.

Table B6

<u>Item</u>	<u>Manual Preparation</u> (P1000)					<u>Total</u>
	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	
<u>Personal Services:</u>	<u>4.8</u>					<u>4.8</u>
Artist Illustrator/Draftsman <sup>1/</sup>	2.8					2.8
Clerk Typist <sup>2/</sup>	1.6					1.6
Fixed Charges <sup>3/</sup>	0.4					0.4
<u>Operations and Maintenance:</u>	<u>55.0</u>	<u>28.5</u>	<u>28.5</u>	<u>28.5</u>	<u>28.5</u>	<u>169.0</u>
Incentive Allowance <sup>4/</sup>	6.0	1.5	1.5	1.5	1.5	12.0
Supplies and materials preparation <sup>5/</sup>	10.0					10.0
Printing <sup>6/</sup>	36.0					36.0
Upgrading <sup>7/</sup>		24.0	24.0	24.0	24.0	96.0
Sundries <sup>8/</sup>	3.0	3.0	3.0	3.0	3.0	15.0
<u>TOTAL</u>	<u>59.8</u>	<u>28.5</u>	<u>28.5</u>	<u>28.5</u>	<u>28.5</u>	<u>173.8</u>

1/ P700 per month for 4 months

2/ P400 per month for 4 months

3/ 9.5% of basic salaries

4/ P300 per member per month; 4 months for year 1, one month per year for years 2 to 5. for 5 members

5/ P2,500 per month for 4 months

6/ P60 per copy for 600 copies

7/ Supplementary materials, additional operational handbooks; revisions at P2,000 per month

8/ P1000 per month for 3 months each year

Table B7 Training Staff and Other Training Costs (P1000)

<u>Item</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Total</u>
<u>Personal Services:</u>	<u>71.0</u>	<u>71.0</u>	<u>71.0</u>	<u>71.0</u>	<u>71.0</u>	<u>354.8</u>
Training Supervisor/Coordinator <sup>1/</sup>	14.4	14.4	14.4	14.4	14.4	72.0
Training Specialist (2) <sup>2/</sup>	21.6	21.6	21.6	21.6	21.6	108.0
Clerk/Typist I (2) <sup>3/</sup>	9.6	9.6	9.6	9.6	9.6	48.0
Duplicating Machine Operator (1) <sup>4/</sup>	4.8	4.8	4.8	4.8	4.8	24.0
Driver/Utilityman (3) <sup>5/</sup>	14.4	14.4	14.4	14.4	14.4	72.0
Total Basic Salaries	64.8	64.8	64.8	64.8	64.8	324.0
Fixed charges <sup>6/</sup>	6.2	6.2	6.2	6.2	6.2	30.8
<u>Operations and Maintenance:</u>	<u>273.6</u>	<u>467.4</u>	<u>499.4</u>	<u>224.0</u>	<u>224.0</u>	<u>1688.4</u> ✓
Travel <sup>7/</sup>	18.0	18.0	18.0	18.0	18.0	90.0
Incentive Allowance <sup>8/</sup>	3.8	7.7	7.7			19.2
BHA Training <sup>9/</sup>	147.8	295.7	295.7			739.2
BHA Refresher Courses <sup>10/</sup>	14.0	56.0	112.0	140.0	140.0	462.0
Supplies & Materials <sup>11/</sup>	36.0	36.0	12.0	12.0	12.0	108.0
Fuels & Lubricants & Vehicle Maintenance <sup>12/</sup>	36.0	36.0	36.0	36.0	36.0	180.0
Sundries <sup>13/</sup>	18.0	18.0	18.0	18.0	18.0	90.0
<u>Vehicles<sup>14/</sup></u>	<u>295.0</u>					<u>295.0</u>
<u>Equipment</u>	<u>40.9</u>					<u>40.9</u>
18" carriage manual typewriters (2) <sup>15/</sup>	11.0					11.0
Electric fans (4) <sup>16/</sup>	2.4					2.4
Filing cabinets (3) <sup>17/</sup>	2.1					2.1
Office tables with chairs (5) <sup>18/</sup>	3.0					3.0
Mimeo Machine (1)	18.0					18.0
Typing Tables (2) <sup>19/</sup>	0.2					0.2
Working tables (2) <sup>20/</sup>	2.0					2.0
Chairs (12) <sup>21/</sup>	1.2					1.2
Drafting table (1)	1.0					1.0
<u>TOTAL</u>	<u>680.5</u>	<u>538.4</u>	<u>570.4</u>	<u>295.0</u>	<u>295.0</u>	<u>2379.1</u>

- 1/ ₱1,200 per month
- 2/ ₱900 per month each
- 3/ ₱400 per month each
- 4/ ₱400 per month each
- 5/ ₱400 per month each
- 6/ 9.5% of basic salaries
- 7/ ₱25 per day for 10 days for 6 persons per month
- 8/ ₱20 per lecturer, per hour, 12 lecturers, 8 hours each, 10 training sessions (2 training sessions in year 1, 4 in year 4, and 4 in year 3)
- 9/ ₱25 for board and lodging and ₱5 pocket money per BHA per day, 56 days, 440 trainees, training in batches of 44, 2 batches in year 1, 4 batches in year 2, 4 batches in year 3.
- 10/ One week refresher course every six months: 80 BHA's in year 1 once; 80 BHAs in year 2 twice and 160 BHA's in year 2 once; 240 BHA's in year 3 twice and 160 BHA's once; and 400 BHA's twice a year in year 4 and 5 at ₱25 for board and lodging and . pocket money and transportation per BHA per day.
- 11/ ₱3000 per month for year 1 and 2, and ₱1000 per month for year 3 and 5.
- 12/ ₱50 per day for 20 days per month per vehicle
- 13/ ₱1,500 per month
- 14/ 2 jeeps at ₱65,000 each and one coaster at ₱165,000, including spare parts
- 15/ ₱5,500 each
- 16/ ₱600 each
- 17/ ₱700 each
- 18/ ₱600 each
- 19/ ₱100 each
- 20/ ₱1,000 each
- 21/ ₱100

Annex B8. Table Information, Education, Communication and Motivation Campaign Costs (in thousand pesos)

<u>Item</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Total</u>
<u>Personal Services</u>	<u>59.1</u>	<u>59.1</u>	<u>59.1</u>	<u>59.1</u>	<u>59.1</u>	<u>295.7</u>
Writer <sup>1/</sup>	9.6	9.6	9.6	9.6	9.6	48.0
Artist illustrator/draftsman <sup>2/</sup>	8.4	8.4	8.4	8.4	8.4	42.0
Photographer <sup>3/</sup>	6.0	6.0	6.0	6.0	6.0	30.0
Photolab technician/ Projector Operator <sup>4/</sup>	6.0	6.0	6.0	6.0	6.0	30.0
Projector Operator/Driver (2) <sup>5/</sup>	12.0	12.0	12.0	12.0	12.0	60.0
Steno-typist <sup>6/</sup>	7.2	7.2	7.2	7.2	7.2	36.0
Driver <sup>7/</sup>	4.8	4.8	4.8	4.8	4.8	24.0
Total Basic salaries	54.0	54.0	54.0	54.0	54.0	270.0
Fixed charges <sup>8/</sup>	5.1	5.1	5.1	5.1	5.1	25.7
<u>Operations and Maintenance</u>	<u>198.0</u>	<u>218.1</u>	<u>218.1</u>	<u>218.1</u>	<u>218.1</u>	<u>1070.6</u>
Travel allowance <sup>9/</sup>	30.0	30.0	30.0	30.0	30.0	150.0
Incentive allowance <sup>10/</sup>	24.0	24.0	24.0	24.0	24.0	120.0
Photographic & VTR supplies <sup>11/</sup>	36.0	36.0	36.0	36.0	36.0	180.0
Office supplies & materials <sup>12/</sup>	36.0	36.0	36.0	36.0	36.0	180.0
Fuels & lubricants maintenance for equipment <sup>13/</sup>	36.0	56.1	56.1	56.1	56.1	260.6
Sundries <sup>14/</sup>	36.0	36.0	36.0	36.0	36.0	180.0
<u>Vehicles</u>	<u>285.0</u>					<u>285.0</u>
Jeep (1) <sup>15/</sup>	65.0					65.0
Audio-visual Vans (2) <sup>16/</sup>	220.0					220.0
<u>Equipment</u>	<u>201.4</u>					<u>201.4</u>
Sound movie projector (1) <sup>17/</sup>	16.0					16.0
Overhead projector (7) <sup>18/</sup>	42.0					42.0
Video-tape recorder (1) <sup>19/</sup>	20.0					20.0
Camera (2) <sup>20/</sup>	20.0					20.0
Movie camera (1) <sup>21/</sup>	22.0					22.0
Tape Recorder (3) <sup>22/</sup>	12.0					12.0
Electric typewriter (1) <sup>23/</sup>	8.0					8.0
Electric fan (1) <sup>24/</sup>	0.6					0.6
Sound system (1) <sup>25/</sup>	12.0					12.0
Dark room equipment (1 set) <sup>26/</sup>	20.0					20.0
Air conditioner (1/2 HP) <sup>27/</sup>	6.0					6.0
Refrigerator (1) <sup>28/</sup>	6.0					6.0
Generator (1) <sup>29/</sup>	6.0					6.0
Screen (1) <sup>30/</sup>	2.0					2.0
Office tables w/ chairs (4) <sup>31/</sup>	2.4					2.4
Working tables (2) <sup>32/</sup>	2.0					2.0
Chair (12) <sup>33/</sup>	1.2					1.2
Drafting table (1) <sup>34/</sup>	1.0					1.0
Filing cabinets (3) <sup>35/</sup>	2.1					2.1
Typing table (1) <sup>36/</sup>	0.1					0.1
<b>TOTAL</b>	<b>743.5</b>	<b>277.3</b>	<b>277.3</b>	<b>277.3</b>	<b>277.3</b>	<b>1852.6</b>

- 1/ @ ₱800 per month
- 2/ @ ₱700 per month
- 3/ @ ₱500 per month
- 4/ @ ₱500 per month
- 5/ 2 @ ₱500 per month each
- 6/ @ ₱600 per month
- 7/ @ ₱400 per month
- 8/ 9.5% of basic salaries
- 9/ ₱25 day per day for 20 days per month for 5 personnel
- 10/ (For Public Information Officers of 10 major participating agencies at ₱50 per meeting each not to exceed ₱200 per month per person)
- 11/ ₱3,000 per month
- 12/ ₱2,000 a month for IECM group proper, ₱1,000 a month for MEC Health Education materials
- 13/ ₱50 per day per vehicle for 20 days per month, 10% of all other equipment costs from year 2 to year 5
- 14/ ₱3,000 per month
- 15/ ₱65,000 including spare parts
- 16/ ₱110,000 each, including spare parts
- 17/ ₱16,000  
each
- 18/ ₱6,000/ 1 for IECM proper, 1 for MEC regional office and 1 each for the 5 MEC (Divisions in the Project area)
- 19/ ₱20,000                      25/ @ ₱12,000                      31/ @ ₱600
- 20/ ₱10,000 each                      26/ @ ₱20,000                      32/ @ ₱1,000
- 21/ ₱22,000                      27/ @ ₱6,000                      33/ @ ₱100
- 22/ @ ₱4,000                      28/ @ ₱6,000                      34/ @ ₱1,000
- 23/ @ ₱8,000                      29/ @ ₱6,000                      35/ @ ₱700
- 24/ @ ₱600                      30/ @ ₱2,000                      36/ @ ₱100

Table B9. Health and Environmental Sanitation Survey Costs  
(6 months)

	<u>Monthly Expense</u>	<u>Total</u>
<u>Personal Services</u>		<u>P213,810</u> ✓
Research Supervisor	P 1,000	6,000
Researchers (50)	30,000	180,000
Clerk-Typists (3)	1,500	9,000
Fixed Charges	3,135	18,810
Cost of Living Allowance		
<u>Operations and Maintenance</u>		<u>P265,000</u> ✓
Incentive Allowance for Health and Environmental Sanitation		
Consultant	P 500	P 3,000
Travel Allowance	17,000	102,000
Supplies and Materials	10,000	60,000
Computer Processing		100,000
<u>Calculators (3) (@ P250)</u>		<u>750</u>
TOTAL		P479,560 ✓

Table B10. Estimated Number of Households Requiring Improved Water Facilities and their Cost in Target 400 Barangays, Bicol Integrated Health, Nutrition and Population Project

	<u>Present Unsatisfactory Facilities</u>				<u>Ave. # of Households served per new facility</u>	<u>No. of new or improved facilities required</u>	<u>Est. cost per Unit (₱)</u>	<u>Est. Project Cost (₱1000) ✓</u>
	<u>Private (Pitcher) Hand Pumps</u>	<u>Shallow Hand Open Dug Wells</u>	<u>Unimproved Springs</u>	<u>TOTAL</u>				
<u>% of All Households</u> <sup>1/</sup>	33.5	21.4	12.3	67.2				
<u>Number of Households Targetted</u>	<u>21,440</u>	<u>13,700</u>	<u>7,870</u>	<u>43,010</u>				
<b>Est. No. of Households Requiring:</b>								
Improved Springs			7870	7870	30	262	987	258.6
Improved Dug Wells		6900		6900	30	230	2689	618.5
Public Deep Well Pumps	8440			8440	30	281	2506	704.2
Public Shallow Pumps & BRBDP Filter	8000	6800		14800	30	493	2522	1243.3
Private Hand Pumps	5000			5000	2.5	2000	464	928.0
<b>TOTALS</b>	<b>21,440</b>	<b>13,700</b>	<b>7,870</b>	<b>43,010</b>		<b>3266</b>		<b>3752.6</b>

<sup>1/</sup> Estimated total number of households is 160 per barangay x 400 targetted barangays = 64,000. Percentages are derived from 1978 BRBDP Environmental Sanitation Survey (See Table B12.)

Table B11. Cost Estimates for Materials and Labor for Alternative Designs of Community-type and Household Water Supply Facilities

A. Shallow Dug Well

<u>Item</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Cost</u>
Gravel	2.5	cu.m.	₱ 46	₱ 100
Sand	2.0	cu.m.	30	60
Boulder	0.5	cu.m.	35	18
Portland Cement	12	bag	18	216
3/8"Ø x 20' reinf. bars	2	pc.	9	18
#16 Tie Wire	1	kilo	5	5
1m x .9m R.C. Pipe	6	pc.	200	1,200
Jet-matic pump (Dragon or Sanyo)	1	pc.	250	250
1½"Ø G.I. Pipe 20' long	1	pc.	100	100
1½"Ø Foot Valve with Screen	1	pc.	25	25
Cost of Materials				₱1,992
Labor Cost, 35%				697
<b>TOTAL COST</b>				<b>₱2,689</b>

B. Driven Deep Wells

<u>Item</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Cost</u>
Gravel	1.0	cu.m.	₱ 40	₱ 40
Sand	0.5	cu.m.	30	15
Boulder	0.3	cu.m.	35	11
Portland Cement	5	bags	18	90
Jet-matic pump (Dragon or Sanyo)	1	pc.	250	250
1½"Ø x 20' G.I. Pipe	3	pc.	100	300
Total Materials Cost				₱ 706
Labor Cost (@ ₱30 per foot of pipe driven x 60 feet)				1,800
<b>TOTAL COST</b>				<b>₱2,506</b>

C. Deep Drilled Well - 230 foot average depth

a) 23 pcs. drive pipe @ ₱125 (4" - 4-1/2" diameter x 10)	₱ 2,875
b) 1 pc. drive shoe (4" x 4-1/2") @ ₱650.00	650
c) 1 set deep well pump with accessories	2,800
d) Local materials	728
12 bags cement @ ₱18/bag	216
6 reinforcing steel bars 3/8" dia x 20' @ ₱14	84
4m <sup>3</sup> sand @ ₱30	120
8m <sup>3</sup> gravel @ ₱35	280
1 Yakal 2 x 5 x 8"	28
<b>Total</b>	<b>₱ 7,053</b>

This relatively expensive alternative is not presently expected to be required for a significant number (if any) of Bicol barangays, since the water table is generally higher than this and/or cheaper sources of satisfactory water are available.

C. Protected Spring

<u>Item</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Cost</u>
Gravel	2.5	cu.m.	₱ 35	₱ 88
Sand	1.0	cu.m.	30	30
Boulder, 5" max. Ø	0.2	cu.m.	30	6
Portland Cement	15	bag	18	277
3/8"Ø Dif. Bar	28	pc.	9	252
2"Ø 90" Elbow	2	pc.	15	30
2"Ø G.I. Pipe 1½" long	1	pc.	24	24
#16 Tie Wire	4	kilo	6	24
<b>Total Materials Cost</b>				<b>₱ 731</b>
<b>Labor Cost, 35%</b>				<b>256</b>
<b>Total Cost (Spring Intake Alone)</b>				<b>₱ 987</b>
If the point of distribution is 500 feet downstream of the spring, cost of additional pipe (25 pcs. - 1½" @ ₱150.00 is				<u>3,750</u>
<b>TOTAL</b>				<b>₱ 4,737</b>

D. Modified Frankel Filter System (Without Reservoir)

<u>Item</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Cost</u>
Fabricated G.I. Pipe	1	pc.	₱500	500
Jet-matic Hand Pump	1	pc.	250	250
1½"Ø x 20' G.I. Pipe	1	pc.	100	100
1"Ø x 20' G.I. Pipe	1	pc.	80	80
¾" x 20' G.I. Pipe	1	pc.	60	60
1½"Ø x 24" G.I. Nipple	1	pc.	15	15
1½"Ø Gate Valve	1	pc.	30	30
1½"Ø Street Elbow	1	pc.	12	12
1"Ø Elbow	1	pc.	5	5
1"Ø Street Elbow	1	pc.	5	5
¾"Ø Elbow	4	pc.	4	16
¾"Ø Gate Valve	1	pc.	15	15
¾"Ø Street Elbow	1	pc.	4	4
5" boewer, G.I.	1	pc.	25	25
3/8" x 20' Reinf. Bars	5	pc.	9	45
#14 Tie Wire	1	kilo	5	5
6" CHB	45	pc.	1	63
Portland Cement	16	bag	18	288
Gravel	4	cu.m.	40	160
Sand	3	cu.m.	30	90
Paint	2	gallon	50	100
<b>Total Materials Cost</b>				<b>₱ 1,868</b>
<b>Labor Cost, 35%</b>				<b>654</b>
<b>Total Materials and Labor Cost</b>				<b>₱ 2,522</b>

E. Modified Frankel Filter System  
(with Reservoir) for Surface Water treatment

<u>Item</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Cost</u>
Fabricated G.I. Tank with cover	1	pc.	₱ 650	₱ 650
1½"Ø Gate Valve	1	pc.	30	30
1½"Ø x 24" Nipple	1	pc.	15	15
¾"Ø x 20' G.I. Pipe	1	pc.	60	60
¾"Ø G.I. Tee	4	pc.	6	24
¾"Ø Faucet (Brass)	4	pc.	10	40
¾"Ø x 20' Reinf. Bars	5	pc.	9	45
6" CHB	30	pc.	1	42
Gravel	3	cu.m.	40	120
Sand	2	cu.m.	30	60
Portland Cement	10	bag	18	180
#14 Tie Wire	1	kilo	5	5
Paint	2	gallon	50	<u>100</u>
Materials Cost of Reservoir				₱1,371
Materials Cost of Filter				<u>1,868</u>
Materials Cost				₱3,239
Labor Cost, 35%				<u>1,134</u>
Total Materials and Labor Cost				₱4,373

F. Individual Household Water Supply Facilities

Cost of Improvement of Existing Pitcher Pumps

<u>Item</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Cost</u>
Gravel	0.40	cu.m.	₱ 40	₱ 16
Sand	0.20	cu.m.	30	6
Portland Cement	4	bag	18	72
Jet-matic Pump (Dragon or Sanyo)	1	pc.	250	<u>250</u>
Total Materials Cost				₱ 344
Labor Cost, 35%				<u>120</u>
Total Cost				₱ 464

Footnote to Item E -

Filter treatment of surface water will be used only where absolutely necessary. Based on the recent BRBDP Sanitation Survey this system is not expected to be required for a significant number of barangays, since shallow well filter systems (D, above) are usually possible, cheaper and preferable.

Table B12. Results of BRBDP Environmental Sanitation Survey, 1978  
 Conducted in 94 Rural Barangays of Albay & Camarines Sur Provinces

<u>Type of Water Facility</u>	<u>No. of Facilities</u>	<u>No. of Households Served</u>	<u>% of all Households</u>	<u>No. of Households served per facility</u>
<b>I. <u>Probably satisfactory</u></b>	<u>329</u>	<u>4340</u>	<u>32.8</u>	<u>13.2</u>
Public hand pumps	80	1227	9.3	15.3
Artesian wells	10	204	1.5	20.4
Dug wells improved	169	517	3.9	3.1
Springs, improved	41	1153	8.7	28.1
Springs, piped	13	836	6.3	64.3
BRBDP filter	3	99	0.7	33.0
Others	13	304	2.3	23.4
<b>II. <u>Probably unsatisfactory</u></b>	<u>2641</u>	<u>8872</u>	<u>67.2</u>	<u>3.4</u>
Private hand pumps (shallow)	1783	4430	33.5	2.5
Dug wells, unimproved	656	2822	21.4	4.3
Springs, unimproved	202	1620	12.3	8.0
<b>TOTALS</b>	<b>2970</b>	<b>13212</b>	<b>100.0</b>	<b>4.4</b>

Table B13 - Toilet Cost Estimates

I. Barangay School Toilets

1. <u>Superstructure materials</u>	<u>P5,200</u>
Masonry.....	1,600
Lumber.....	1,400
Hardware.....	2,200
2. <u>Septic Vault materials</u>	<u>1,300</u>
Masonry.....	546
Hardware.....	156
Form Lumber.....	234
Vault.....	364
3. <u>Labor</u>	<u>2,300</u>
4. <u>Supervision</u>	<u>300</u>
TOTAL EACH TOILET	P9,100

Total Cost of School Toilets for 400 barangays: P3.64 Million

II. Household Water-Sealed Toilet

A.1. Squat-type water-sealed bowl, fabricated <u>en masse</u> in barangay.....	P 20
2. Round concrete slab.....	<u>40</u>
TOTAL Project-funded materials.....	P 60
3. Pit-lining materials (if required by type of sub-soil)	
Drum.....	30
Bamboo.....	14
Nipa.....	<u>30</u>
TOTAL value of materials to be procured by household	P 74
4. Labor value to be contributed by household: P106	
TOTAL cost/value per toilet:	P240

A targetted 80 households per barangay will be provided project-funded concrete and bowl materials. The funds for each barangay will be required the year following the fielding of each BHA. Total government cost will be P60 x 80 = P4,800 per barangay, while total household toilet cost will be about 80 x P240 = P19,200 per barangay.

Households will be offered a nicer "Silangan" bowl, pre-manufactured for which they will pay an additional P15 and the project will pay P20 as above. Other costs remain the same.

III. Annual Toilet Budget Requirements (P1000)

<u>Toilet</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Total</u>
School Toilets	-	728	974	974	965	3640
Household Toilets	-	<u>1536</u>	<u>2054</u>	<u>2054</u>	<u>2035</u>	<u>7680</u>
TOTAL		2264	3028	3028	3000	11320

<u>Source of Funds</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Total</u>
MOH (materials and supervision)	-	928	1241	1241	1230	4640
Beneficiaries (materials)	-	474	633	633	628	2368
Beneficiaries (labor)	-	<u>862</u>	<u>1153</u>	<u>1153</u>	<u>1143</u>	<u>4312</u>
TOTAL		2264	3028	3028	3000	11320

Note: Figures may not add exactly to totals due to rounding. This budget assumes 80 barangays completed in year 2, 107 in year 3, 107 in year 4 and 106 in year 5.

Addedum: Cost Estimate of Blind Drainage (For Individual Households)\*

10 pcs. - 4" Ø x 10' bamboo @ P 5.00.....	P50.00
2 cu.m. - Gravel or boulders @ P40.00.....	80.00
50 pcs. - 4" CHB..... @ P 1.00.....	<u>50.00</u>
TOTAL P180.00	

Note:

- 1) Labor are supplied by the household owner.
- 2) The concrete hollow blocks (CHB) might not be necessary for other households. An open ditch might be satisfactory.
- 3) In most Barangays, where bamboo is abundant, its cost will be considerably less and might be free. Besides any other kind of materials can be used as the pit lining.
- 4) The gravel and boulders is also available in some barangays without cost.

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\*Although all households will be encouraged to construct a blind drainage facility (see figure 8, annex A), its cost has not been included in project cost summary tables. The labor and materials for this construction will be provided by the households themselves and none of it is to be project funded.

**Table B14. Cost of Renovation of Municipal Health Centers**

7 Municipal Health Centers at ₱40,000 each = ₱280,000

Maintenance Cost: ₱4,000 per MHC per year starting in year 2, or a total of ₱28,000/year.

**Table B15. Summary Estimates per Barangay Health Station**

<b>1. Materials</b>		<b>₱ 37,855</b>
Foundation and Concrete Work	₱13,935	
Roof-Framing and Roofing	8,223	
Ceiling	1,908	
Doors and Windows	2,348	
Partitions and Cabinets	1,094	
Toilet, Septic Vault and Plumbing	5,033	
Painting	1,728	
R.C. Water Tank	1,068	
Fencing (Partial)	2,518	
<b>2. Labor</b>		<b>13,922</b>
Wages	10,978	
Leaves	914	
GSIS	1,043	
Medicare	878	
State Insurance Fund	109	
<b>3. Transportation of workers &amp; materials</b>		<b>1,430</b>
<b>4. Material Testing</b>		<b>1,516</b>
<b>TOTAL</b>		<b><u>₱ 54,723</u></b>

The construction of 9 BHS's will cost a total of ₱492,507.

Maintenance Cost: ₱6,000 per BHS per year starting year after construction, or a total of ₱54,000/year.

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Table B16. Cost of 52 Municipal Health Center Extensions  
and Expansion of 3 Hospital Nutrition Malwards

<b>I. <u>Construction</u></b>		(pesos)	
<b>A. <u>MHC Extension</u></b>			
Masonry		5850	
Lumber		3960	
Hardware		8800	
Septic Vault		2530	
Total Cost of Materials		<u>21,120</u>	
Labor		7392	
Supervision		<u>880</u>	
TOTAL EACH		<u>₱29,392</u>	
TOTAL FOR 52		₱1,528,384	
<b>B. Three Hospital Malwards</b>			
at ₱100,000 each <sup>1/</sup>		<u>300,000</u>	
<b>C. Total Construction Costs</b>			
		₱1,828,384	
<b>II. <u>Equipment</u></b>	<b><u>Quantity</u></b>	<b><u>Unit Cost</u></b>	<b><u>Total Cost</u></b>
Bed	2	300	600
Plates	10	5	50
Forks	1 doz.	30	30
Spoons	1 doz.	30	30
Frying Pan	1	20	20
Cauldron	2	20	40
Basin	2	30	60
Water Tank	1	30	30
Drinking Water Tank	1	20	20
Kitchen Knife	2	6	12
Glasses	1 doz.	6	6
Stove	1	20	20
Sifter	1	5	5
Table	1	500	500
Chair	10	50	500
Bolo	1	10	10
Hand Grinder	1	350	350
Clinical Scale	1	1650	<u>1650</u>
TOTAL EACH CENTER			₱3,933
TOTAL FOR 52 CENTERS			₱204,516

**III. Maintenance**

Estimated as 10% of above, beginning in year after construction.

Note: It is planned that the 3 City malwards will be constructed the first year and 13 MHC extensions will be constructed each year for 4 years. All imported clinical scales will be ordered in year one, however.

<sup>1/</sup> One each in the Cities of Naga, Iriga and Legazpi.

Table B17 Barangay Development Center Cost Per Unit

A. Building					
	<u>Item</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Cost</u>
<b>Lumber Materials</b>					
a) Posts, chairs, kitchen, counter, feeding table and cabinet					
	1" x 12" x 14' Apitong (out lumber)	6	pc.	₱1.60/bd.ft.	₱134.40
	1" x 12" x 8' Apitong (out lumber)	6	pc.	1.60/bd.ft.	76.80
	2" x 3" x 12' Apitong (out lumber)	2	pc.	1.60/bd.ft.	19.20
	2" x 2" x 14' Apitong (out lumber)	2	pc.	1.60/bd.ft.	14.95
	2" x 2" x 10' Apitong (out lumber)	3	pc.	1.60/bd.ft.	16.00
	3" or 4" Ø x 16' Bamboo	59	pc.	8.00/pc.	<u>472.00</u>
Total					₱ 733.35
b) Walling and Windows					
	2" Ø x 8' Ipil-ipil wood	14	pc.	₱0.60/pc.	8.40
	3" or 4" Ø x 16' Bamboo	40	pc.	8.00/pc.	<u>320.00</u>
Total					₱328.40
c) Roofing Materials					
	4'8" Nipa Roofing	1,600	pc.	₱24.00/100 pcs.	₱ 384.00
	Rattan	600	pc.	4.00/50 pcs.	48.00
	3" or 4" Ø x 16' Bamboo Rafter	.18	pc.	8.00/pc.	144.00
	3" or 4" Ø x 16' Bamboo Peerlins	27	pc.	8.00/pc.	216.00
	3" or 4" Ø x 16' Bamboo Peerlins	11	pc.	8.00/pc.	88.00
	3" or 4" Ø x 16' Bamboo Girts	6	pc.	8.00/pc.	<u>48.00</u>
Total					₱928.00
d) Hardware Materials					
	1½" c.w. nails	2	kg.	₱10.00/kg.	₱ 20.00
	2" c.w. nails	1	kg.	9.00/kg.	9.00
	3" c.w. nails	1	kg.	9.00/kg.	<u>9.00</u>
Total					₱ 38.00
Total Cost of Materials					₱ 2,027.75
Labor Cost					<u>709.71</u>
Total Cost Per Center					₱ 2,737.46

Total cost of 400 centers = ₱1,094,984. Annual maintenance requirements = 10% of cost. Alternatively existing facilities will be utilized for this purpose.

Table B18. Annual Maintenance Costs of Facilities Constructed

	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Total</u>
Water Supply Facilities			75	175	275	525
Toilets			226	529	832	1587
7 MHC's		28	28	28	28	112
9 BHS's		54	54	54	54	216
52 MHC & 3 Hospital extensions		80	130	183	183	576
400 Barangay Dev. Centers		22	66	110	110	308
2 Provincial Labs		<u>20</u>	<u>20</u>	<u>20</u>	<u>20</u>	<u>80</u>
TOTAL		204	599	1099	1502	3404

Table B19 - Annual Maintenance Costs by Source of Funding  
(P 1000)

<u>Facility</u>	<u>GOP</u>	<u>Local Govt.</u>	<u>Beneficiaries</u>		<u>Host Country</u>	<u>PL 480</u>
			<u>LC</u>	<u>Labor</u>	<u>TOTAL</u>	<u>Currency Generations</u>
Water Supply			344	181	525	
Toilets			982	605	1587	
7 MHC's	112				112	
9 BHS's	216				216	
52 MHC and 3 Hospital Exts.						576
400 Barangay Dev. Centers		228		80	308	
2 Provincial Labs	<u>80</u>				<u>80</u>	
TOTAL	<u>408</u>	<u>228</u>	<u>1326</u>	<u>800</u>	<u>2828</u>	<u>576</u>

Table B20 BHA Kit Costs

<u>Item</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price/Total Cost</u>
<b>A. Equipment</b>			<u>₱825</u>
1. Stethoscope	1	pc.	100
2. Scissors	1	pc.	45
3. Straight forceps	1	pc.	35
4. Mosquito forceps	1	pc.	20
5. Blood pressure apparatus	1	pc.	400
6. Thermometer	1	pc.	3
7. 5 c.c. syringe	1	pc.	10
8. 2 c.c. syringe	1	pc.	2
9. Bag	1	pc.	60
10. Weighing scale for infants	1	pc.	150
<b>B. Supplies (good for one year)</b>			<u>₱175</u>
1. Gauze Bandage 2" x 2"	1	roll	3
2. Adhesive plaster 1" x 1"	1	roll	2
3. Alcohol	1	bottle (250 cc)	3
4. Merthiolate	1	bottle (100 cc)	3
5. Tincture of Iodine	1	bottle (100 cc)	3
6. Tincture of arnica	1	bottle (100 cc)	3
7. Toothache drops	1	bottle (10 cc)	3
8. Spirit of ammonia	1	bottle (50 cc)	3
9. Aspirin	1	bottle (100 tablets)	5
10. Sodium bicarbonate	1	bottle (100 tablets)	5
11. Spastrin	1	bottle (100 tablets)	35
12. Pentid	1	bottle	25
13. Ophthalmic ointment	1	tube	65
14. Contraceptives (pills and condoms from POPCOM)			
15. Miscellaneous supplies			76
		<b>Total</b>	<u><u>₱1000</u></u>

Total Cost

<u>Year</u>	<u>Equipment</u>	<u>Supplies</u>	<u>Total Cost</u>
1	₱77,600 <sup>a/</sup>	₱15,400 <sup>a/</sup>	₱88,000
2	145,200 <sup>b/</sup>	44,800 <sup>d/</sup>	190,000
3	145,200 <sup>c/</sup>	72,800 <sup>e/</sup>	218,000
4	-	70,000 <sup>f/</sup>	70,000
5	-	70,000 <sup>f/</sup>	70,000
<b>Total</b>	<b>₱363,000</b>	<b>₱273,000</b>	<b>₱636,000</b>

- a/ 80 BHAs plus 10% to allow for breakage and loss.
- b/ 160 BHAs plus 10% to allow for breakage and loss.
- c/ 160 BHAs plus 10% to allow for breakage and loss.
- d/ 245 BHAs plus 10% of 160 for breakage and loss.
- e/ 400 BHAs plus 10% of 160 for breakage and loss.
- f/ 400 BHAs

Table B21 Botika sa Barangay Cost

<u>Item</u>	<u>Quantity</u>	<u>Unit Price</u>	<u>Total Cost</u>
1. Aspirin tablet	1,000	.05	P 50.00
2. Aspirin with caffeine tablet	630	.10	63.00
3. Bitter drops, 15cc btl.	100	.50	50.00
4. Castoria, 30cc btl.	10	2.50	25.00
5. Cod liver oil emulsion	10	5.00	50.00
6. Esensia Maravillosa, 15cc btl.	20	.50	10.00
7. Extract of Tiki-Tiki, 30cc btl.	10	2.50	25.00
8. Quinine sulphate tablet	100	.25	25.00
9. Sodium Bicarbonate tablet	1,000	.05	50.00
10. Cortal tablet	100	.10	10.00
11. Aciete de Mansanilla, 15cc btl.	20	.50	10.00
12. Adhesive plaster, 1" x 1"	10	1.50	15.00
13. Alcohol, 250cc	10	3.00	30.00
14. Aromatic Spirit of Ammonia, 15cc	20	.50	10.00
15. Bandage, 2" x 2"	10	3.00	30.00
16. Boric Acid, 15cc btl.	20	.50	10.00
17. Camphor liniment, 15cc btl.	10	1.50	15.00
18. Camphorated oil, 15cc btl.	20	.50	10.00
19. Cotton, 1/2 lb.	10	7.00	70.00
20. Creolin, 30cc btl.	20	1.00	20.00
21. Glycerin, 30cc btl.	10	1.50	15.00
22. Hydrogen Peroxide Solution, 120cc	10	2.00	20.00
23. Iodoform, 10 grams	20	1.00	20.00
24. Medicated plaster	10	2.70	27.00
25. Menthol, 10 grams	10	1.00	10.00
26. Mercurochrome, 20% 15cc	20	.50	10.00
27. Oil of eucalyptus, 15cc	20	1.50	30.00
28. Oil of cloves, 15cc	10	1.50	15.00
29. Plain or medicated gauze	10	2.50	25.00
30. Vaseline, 10 grams	10	1.00	10.00
31. Salicylic Acid Solution, 10% 15cc	20	.50	10.00
32. Sulfur ointment, 10 grams	10	1.00	10.00
33. Tincture of Arnica, 15cc	20	1.00	20.00
34. Tincture of Iodine, 15cc	20	.50	10.00
35. Zinc Oxide ointment, 10 gms.	20	.50	10.00
36. Zinc Sulfate solution, 0.5% 15cc	10	1.00	10.00
37. Guanamycin, 100cc	10	8.00	80.00
38. Benadryl capsule, 20 mg.	200	.45	90.00
Total			<u>P1,000.00</u>

Botikas will be established as each BHA is fielded: 30 in Year 1, ✓  
 160 in Year 2, and 160 in Year 3 for a total of 400.

Table B22 - Vaccines and Storage Equipment

To strengthen MOH Extended Vaccination Program, P150,000 is funded annually for biologicals. The vaccines are BCG, DPT, Polio (TOPV), and Tetanus Toxoid. An additional amount of P184,000 during the first year is to provide essential refrigeration equipment storage and supplies for the vaccination program.

Table B23 - Chlorination Costs

The project will provide chemicals for all households in the target 400 barangays for one year following construction or renovation of water facilities. Thereafter, chlorination will be at household or at barangay expense if considered necessary. An average of 160 households per barangays is assumed. Chlorination will consist of mixing the stock solution with the drinking water stored in 5-gallon crockery pots or plastic containers commonly used in Bicol. The BHA will prepare the stock solution using high test hypochloride (HTH) powder. Average consumption is estimated at 5 grams of HTH powder per household per month at P.04 gram or P2.40 per household for one year (P384 per barangay).

The cost schedule is as follows:

<u>Year</u>	<u>No. of Barangays</u>	<u>Project Funded</u>
1	-	-
2	80	P30,720
3	160	61,440
4	160	61,440
5	-	-
<b>Total</b>	<b>400</b>	<b>P153,600</b>

Table B24. Microscopy Center Equipment, Supplies and Training

<u>Item</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Cost</u>
<b>I <u>Equipment per Center</u></b>				<b>₱8,200</b>
Microscope	1	pc.	₱7,000	7,000
Slides	10	box of 100's	120	1,200
<b>II <u>Reagents (Annual Requirement per Center)</u></b>				<b>₱ 804</b>
Ethyl Alcohol	1	gallon	80	80
Immersion oil	25	mg.	3.28	82
Methyl blue crystals	25	mg.	7.80	195
Xylol	2	liters	20.00	40
Potassium Hydroxide Pellets	500	grams	.20	100
Carbol Fuchsin	25	mg.	7.80	195
Cotton	4	lbs.	14.50	58
Denatured alcohol	3	gallons	18.00	54

**III Training**

₱30/day x 14 days = ₱420 per microscopist

**Annual Budgetary Requirements (₱1000)**

<u>Item</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Total</u>
Equipment (38 centers)	312					312
Reagents (52 centers)	42	42	42	42	42	209
Training (52 microscopists)	22					22
<b>Total</b>	<b>376</b>	<b>42</b>	<b>42</b>	<b>42</b>	<b>42</b>	<b>543</b>

Table B25. Cost of Barangay Development Center Equipment

<u>Item</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Cost</u>
14"Ø x 8" light aluminum kettles	2	pc.	35	70
16"Ø x 14" carahay	1	pc.	22	22
Cooking spoons, aluminum	2	pc.	7	14
Service platters, oblong enamel	6	pc.	3	18
Water tank, heavy plastic with faucet	1	pc.	20	20
Aluminum trays	3	pc.	21	63
Kitchen knife	3	pc.	6	18
Spoons	4	doz.	30	120
Forks	4	doz.	30	120
4½ x 2" soup bowls, heavy plastic	4	doz.	84	336
Service bowls	8	pc.	10	80
Service soup ladle	8	pc.	5	40
Medium glasses, heavy plastic	4	doz.	6	24
Enamel basin, 12"Ø x 7"	3	pc.	10	30
Pitchers, heavy plastic	8	pc.	8	64
Pails, heavy plastic 8"Ø x 12"	2	pc.	12	24
Clinical weighing scale	1	pc.	1650	1650
Hand grinder	1	pc.	70	70
Stove	2	pc.	20	40
Bolo	1	pc.	10	10
			<b>TOTAL</b>	<b><u>₱2,833</u></b>

<u>Year</u>	<u>Total Cost</u>
1	₱ 226,640
2	453,280
3	453,280
4	-
5	-
<b>Total</b>	<b><u>₱1,133,200</u></b>

Table B26. Project Management Office Costs  
(P000)

<u>Item</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Total</u>
1. <u>Personal Services</u>	<u>209.9</u>	<u>209.9</u>	<u>209.9</u>	<u>209.9</u>	<u>209.9</u>	<u>1049.5</u>
Project Manager <sup>1/</sup>	30	30	30	30	30	150
Asst. Proj. Mgr (2) <sup>2/</sup>	24	24	24	24	24	120
Accountant <sup>3/</sup>	12	12	12	12	12	60
Accounting Clerk <sup>4/</sup>	7.2	7.2	7.2	7.2	7.2	36
Steno typist <sup>5/</sup>	7.2	7.2	7.2	7.2	7.2	36
Clerk typist (12) <sup>6/</sup>	72	72	72	72	72	360
Drivers (5) <sup>7/</sup>	30	30	30	30	30	150
Fixed Charges <sup>8/</sup>	17.3	17.3	17.3	17.3	17.3	86.6
Cost of Living Allowance <sup>9/</sup>	10.2	10.2	10.2	10.2	10.2	51
2. <u>Operations &amp; Maintenance</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>1250</u>
Travel Allowances <sup>10/</sup>	42	42	42	42	42	210
Incentive Allowances <sup>11/</sup>	100	100	100	100	100	500
Office Supplies <sup>12/</sup>	12	12	12	12	12	60
Fuels & Lubricants <sup>13/</sup>	60	60	60	60	60	300
Sundries <sup>14/</sup>	36	36	36	36	36	180
3. <u>Project Monitoring &amp; Eval.</u> <sup>15/</sup>	<u>450</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>450</u>	<u>1200</u>
4. <u>Equipment</u>	<u>103.8</u>					<u>103.8</u>
Office Tables & Chairs (26) <sup>16/</sup>	13					13
Typewriters (14) <sup>17/</sup>	70					70
Conference Tables (2) <sup>18/</sup>	4					4
Chairs (24) <sup>19/</sup>	1.2					1.2
Electric Fans (12) <sup>20/</sup>	6					6
Filing Cabinets (12) <sup>21/</sup>	7.2					7.2
Typing Tables (14) <sup>22/</sup>	1.4					1.4
Calculators (4) <sup>23/</sup>	1					1
5. <u>Vehicles</u>	<u>390</u>					<u>390</u>
Jeeps (2) <sup>24/</sup>	120					120
Pickup Trucks (3) <sup>25/</sup>	270					270
<b>TOTAL</b>	<u>1403.7</u>	<u>559.9</u>	<u>559.9</u>	<u>559.9</u>	<u>909.9</u>	<u>3993.3</u>

- 1/ Monthly salary: ₱2,500.00
- 2/ Monthly salary: ₱1,000 each (2)
- 3/ Monthly salary: ₱1,000.00
- 4/ Monthly salary: ₱600.00
- 5/ Monthly salary: ₱600.00
- 6/ Monthly salary: ₱500.00 each
- 7/ Monthly salary: ₱500.00 each
- 8/ 9.5 percent of basic salaries
- 9/ ₱50 per month for 17 personnel with salaries less than ₱600 per month.
- 10/ ₱25 per day for 20 days per month for 7 personnel.
- 11/ ₱50 each per meeting not to exceed ₱200 a month per person for members of the Project Management Coordinating Committee composed of the following:
- |     |       |  |
|-----|-------|--|
| MOH | MLGCD | Provincial Government of Camarines Sur |
| MPI | BAEx  | Provincial Government of Albay         |
| NNC | NMYC  | POPCOM                                 |
| MEC | MSSD  | BRBDP                                  |
- ₱200 each per month for the two Provincial Health Officers;  
 ₱100 each per month for the 52 Municipal Health Officers  
 and 3 City Health Officers.
- 12/ ₱1,000 per month.
- 13/ ₱50 per day per vehicle for 20 days per month.
- 14/ Rental for office space - ₱2,000.00 a month; others - ₱1,000 a month.
- 15/ A third party will be contracted and will be given ₱100,000 per year for years 2-4, and ₱450,000 per year in years 1 and 5.
- |                         |   |
|-------------------------|---|
| <u>15/</u> ₱500.00 each | <u>21/</u> ₱600.00 each                         |
| <u>17/</u> ₱5,000 each  | <u>22/</u> ₱100.00 each                         |
| <u>18/</u> ₱2,000 each  | <u>23/</u> ₱250.00 each                         |
| <u>19/</u> ₱50.00       | <u>24/</u> ₱60,000 each (including spare parts) |
| <u>20/</u> ₱500.00 each | <u>25/</u> ₱90,000 each (including spare parts) |

Table B27. Cost of Assistance to BAEx  
(in thousand pesos)

<u>Item</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Total</u>
<u>Personal Services, Ops. &amp; Maintenance</u>	<u>119.7</u>	<u>119.7</u>	<u>119.7</u>	<u>119.7</u>	<u>119.7</u>	<u>598.6</u>
Drivers for jeeps of Provincial Home Management Technician and Rural Youth Development Officer Supervisor (2) <sup>1/</sup>	9.6	9.6	9.6	9.6	9.6	48.0
Fixed Charges <sup>2/</sup>	.9	.9	.9	.9	.9	4.6
Travel Allowances:						
Regional HMT Supervisor (1) <sup>3/</sup>	1.2	1.2	1.2	1.2	1.2	6.0
Regional RYDO Supervisor (1) <sup>4/</sup>	1.2	1.2	1.2	1.2	1.2	6.0
Provincial HMT Supervisor (2) <sup>5/</sup>	2.4	2.4	2.4	2.4	2.4	12.0
Provincial RYDO Supervisor (2) <sup>6/</sup>	2.4	2.4	2.4	2.4	2.4	12.0
Municipal/City HMTs (55) <sup>7/</sup>	33.0	33.0	33.0	33.0	33.0	165.0
Municipal/City RYDOs (55) <sup>8/</sup>	33.0	33.0	33.0	33.0	33.0	165.0
Office Supplies and Materials <sup>9/</sup>	12.0	12.0	12.0	12.0	12.0	60.0
Fuels and Lubricants, Vehicle Maintenance <sup>10/</sup>	24.0	24.0	24.0	24.0	24.0	120.0
<u>Vehicles<sup>11/</sup></u>	<u>130.0</u>					<u>130.0</u>
<b>TOTAL</b>	<b>249.7</b>	<b>119.7</b>	<b>119.7</b>	<b>119.7</b>	<b>119.7</b>	<b><u>728.6</u></b>

<sup>1/</sup> @ ₱400 per month.

<sup>2/</sup> 9.5 percent of basic salaries.

<sup>3/</sup> @ ₱100 per month.

<sup>4/</sup> @ ₱100 per month.

<sup>5/</sup> @ ₱100 per month.

<sup>6/</sup> @ ₱100 per month.

<sup>7/</sup> @ ₱50 per month.

<sup>8/</sup> @ ₱50 per month.

<sup>9/</sup> ₱1000 per month.

<sup>10/</sup> ₱50 per day per jeep for 20 days per month.

<sup>11/</sup> 2 jeeps at ₱65,000 each including spare parts.

Table B28. Cost of Assistance to MSSD  
(in thousand pesos)

<u>Item</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Total</u>
Travelling Allowances <sup>1/</sup>	6.6	6.6	6.6	6.6	6.6	33.0

<sup>1/</sup> ₱50 per month per worker for 11 youth development workers.

Table B29. Cost of Assistance to Catholic Relief Services/  
Social Action Center  
(in thousand pesos)

<u>Item</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Total</u>
Personal Services						
Diocesan Nutritionist (5) <sup>1/</sup>	36.0	36.0	36.0	36.0	36.0	180.0
Food-for-Work Coordinator (2) <sup>2/</sup>	14.4	14.4	14.4	14.4	14.4	72.0
Community Organizer (3) <sup>3/</sup>	21.6	21.6	21.6	21.6	21.6	108.0
<u>Total basic salaries</u>	<u>72.0</u>	<u>72.0</u>	<u>72.0</u>	<u>72.0</u>	<u>72.0</u>	<u>360.0</u>
Fixed charges <sup>4/</sup>	6.8	6.8	6.8	6.8	6.8	34.2
Travel Allowance <sup>5/</sup>	60.0	60.0	60.0	60.0	60.0	300.0
<b>TOTAL</b>	<b>138.8</b>	<b>138.8</b>	<b>138.8</b>	<b>138.8</b>	<b>138.8</b>	<b>694.2</b>

<sup>1/</sup> ₱600 each per month.

<sup>2/</sup> ₱600 each per month.

<sup>3/</sup> ₱600 each per month.

<sup>4/</sup> 9.5 percent of basic salaries.

<sup>5/</sup> ₱25 per day for 20 days per month for each of the above-mentioned personnel.

**Table B30. Provincial & Regional Laboratory Technicians, Equipment & Renovation  
Bicol Integrated Health, Nutrition and Population Project  
(P1000)**

	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Total</u>
<b>I. <u>Regional MOH Lab</u><sup>1/</sup></b>						
<b>A. <u>Personnel</u></b>	<u>36.0</u>	<u>36.0</u>	<u>36.0</u>	<u>36.0</u>	<u>36.0</u>	<u>180.0</u>
Senior Lab Technician <sup>2/</sup>	12.8	12.8	12.8	12.8	12.8	64.0
Senior Chemist <sup>3/</sup>	11.0	11.0	11.0	11.0	11.0	55.0
Field Technician <sup>4/</sup>	9.1	9.1	9.1	9.1	9.1	45.5
Fixed Charges <sup>5/</sup>	3.1	3.1	3.1	3.1	3.1	15.5
<b>B. <u>Training Allowances</u><sup>6/</sup></b>	<u>9.0</u>					<u>9.0</u>
<b>C. <u>Equipment and supplies</u><sup>7/</sup></b>	<u>280.0</u>		<u>106.5</u>			<u>386.5</u>
<b>II. <u>Camarines Sur Prov. Hosp. Lab</u><sup>8/</sup></b>						
<b>A. <u>Personnel</u></b>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>120.0</u>
Senior Lab Technician <sup>9/</sup>	12.8	12.8	12.8	12.8	12.8	64.0
Field Technician <sup>10/</sup>	9.1	9.1	9.1	9.1	9.1	45.5
Fixed Charges <sup>11/</sup>	2.1	2.1	2.1	2.1	2.1	10.5
<b>B. <u>Training Allowances</u><sup>12/</sup></b>	<u>6.0</u>					<u>6.0</u>
<b>C. <u>Equipment</u><sup>13/</sup></b>	<u>187.5</u>		<u>97.5</u>			<u>285.0</u>
<b>D. <u>Lab Renovation</u><sup>14/</sup></b>	<u>100.0</u>					<u>100.0</u>
<b>III. <u>Albay Prov. Hosp. Lab</u><sup>15/</sup></b>						
<b>A. <u>Personnel</u></b>	<u>14.0</u>	<u>14.0</u>	<u>14.0</u>	<u>14.0</u>	<u>14.0</u>	<u>70.0</u>
Senior Lab Technician <sup>16/</sup>	12.8	12.8	12.8	12.8	12.8	64.0
Fixed Charges <sup>17/</sup>	1.2	1.2	1.2	1.2	1.2	6.0
<b>B. <u>Training Allowances</u><sup>18/</sup></b>	<u>3.0</u>					<u>3.0</u>
<b>C. <u>Equipment</u><sup>19/</sup></b>	<u>48.8</u>		<u>18.8</u>			<u>67.6</u>
<b>D. <u>Lab Renovation</u><sup>20/</sup></b>	<u>100.0</u>					<u>100.0</u>
TOTAL Personnel	74.0	74.0	74.0	74.0	74.0	370.0
TOTAL Training	18.0					18.0
TOTAL Equipment	516.3		222.8			739.1
TOTAL Lab Renovation	200.0					200.0
<b>GRAND TOTAL</b>	<b>808.3</b>	<b>74.0</b>	<b>296.8</b>	<b>74.0</b>	<b>74.0</b>	<b>1327.1</b> ✓

FOOTNOTES FOR LABORATORY TABLE

- 1) (I Regional MOH Lab.) Services to focus upon Water Analysis, parasitic diseases and tuberculosis diagnosis. Salary scales determined by income class of professional categories.
- 2) Monthly salary P1060.00.
- 3) Monthly salary P 916.00.
- 4) Monthly salary P 758.00.
- 5) 9.5% of basic salaries.
- 6) Training for the Laboratory personnel at the U.P. P.G.H. Medical Center in Manila with allowances of P500.00 per month each for six months:
  - a) Senior Lab Technician - to train in Water Analysis and parasitology.
  - b) Senior Chemist - to train in Water Analysis.
  - c) Field Technician - to train in Water Analysis, Clinical Microscopy and Parasitology.

Total Training Cost - P9000.00.

7) Total cost : P135,850; includes the following equipment:

<u>Items</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Cost</u>
Horizontal autoclave	1	pc.	P40,000.00	P 40,000.00
Incubator	1	pc.	27,000.00	27,000.00
Colony Counter	1	pc.	4,000.00	4,000.00
Platform Balance	1	pc.	6,000.00	6,000.00
Erlenmeyer Flash (2.1)	6	pc.	30.00	180.00
Screw Cap Test Tubes	500	pc.	5.00	2,500.00
Fermentation Tubes	500	pc.	4.50	2,250.00
Agar Plate	200	pc.	8.00	1,600.00
Centrifuge (24 holes)	1	pc.	12,000.00	12,000.00
Serological Pipettes (1 ml.)	1	doz.	336.00	2,016.00
Serological Pipettes (5 ml.)	3	doz.	336.00	1,008.00
Serological Pipettes (10 ml.)	3	doz.	432.00	1,296.00
Teaching Microscope "OA"	1	pc.	26,000.00	26,000.00
Air conditioners	2	pc.	5,000.00	10,000.00

Total Cost : P46,998.10 (one year supply) includes the following:

a) Minor Bacteriology -

<u>Items</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Cost</u>
Escherichia Coli medium	10	lb.	P 767.00	P 7,670.00
Peptone	10	lb.	462.50	4,625.00
Beef Extract	10	lb.	491.60	4,916.00

<u>Items</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Cost</u>
Brilliant Green Lactose Broth	10	lb.	P 680.00	P 6,800.00
Eosin Methyline Blue Agar	10	lb.	697.50	6,975.00
Triple sugar iron agar	5	lb.	480.00	2,400.00
Trypton broth	3	lb.	337.00	1,011.00
Simmon citrate agar	3	lb.	680.00	2,040.00
Methyl Red-Voges Prosleaver medium	4	lb.	327.00	1,308.00
Surgical gauge, 24x28 mech. 36x100 yards	6	roll	250.00 <sup>*/</sup>	1,500.00
<b>TOTAL</b>				<b><u>P 39,245.00</u></b>

b) Chemical Analysis

<u>Items</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Cost</u>
Potassium chromate indicator	½	lb.	P 150.00 <sup>*/</sup>	P 75.00
Silver Nitrate	6	lb.	127.50	765.00
Sodium Chloride	6	lb.	98.25	589.50
Potassium or ammonium alum	6	lb.	30.00	180.00
Ammonium hydroxide	6	lb.	27.05	162.30
Phenol Red	½	lb.	26.00	13.00
Sodium hydroxide	6	lb.	48.95	293.70
Debasic sodium phosphate dihydrate	6	lb.	69.40	416.40
Menobasic potassium	6	lb.	27.00	162.00
Ammonium Chloride	6	lb.	22.25	133.50
Conc. Ammonium Hydroxide	6	lb.	27.05	162.30
Disodium salt of ethylene-diamine Tetracetic Acid dihydrate	6	lb.	150.00 <sup>*/</sup>	900.00
Eriochrome Black T (indicator)	½	lb.	150.00 <sup>*/</sup>	75.00
Ethylenediamine disodium Tetracetate dihydrate	10	lb.	150.00 <sup>*/</sup>	1,500.00
Anhydrous Calcium Carbonate	3	lb.	33.30	99.90
Murexide (Ammonium purpurate indicator)	½	lb.	150.00 <sup>*/</sup>	75.00
Anhydrous Sodium Floride	3	lb.	30.00 <sup>*/</sup>	90.00
Alizarin Red-S (3-Alizarin Sulfonic acid sodium salt)	½	lb.	200.00 <sup>*/</sup>	100.00
Zirconyl Chloride Octahydrate	3	lb.	150.00 <sup>*/</sup>	450.00
Con. sulfuric acid	15	ltr.	41.00	615.00
Sodium Arsenite	6	lb.	30.00 <sup>*/</sup>	180.00
Conc. Hydrochloric Acid	15	ltr.	19.50	292.50
Hydroxylamine hydrochloride	6	lb.	50.00 <sup>*/</sup>	300.00
Ammonium acetate	6	lb.	8.00	48.00
Ferrous Ammonium Sulfate	3	lb.	25.00	75.00
<b>TOTAL</b>				<b><u>P 7,753.10</u></b>

Annual Cost of Supplies - P46,998.10 x 2 years = P93,996.00

P135,850  
93,996  
 229,846  
50,154 - Refrigeration equipment and miscellaneous lab upgrading.  
 P280,000

Replenishment of supplies in third year

P 93,996 - in two years' supplies  
12,504 - supplies to be identified  
 P106,500

- 8) Upgrading in Water Analysis, parasitology and tuberculosis diagnosis to meet Project needs.
- 9) Monthly salary - P1,060.00.
- 10) Monthly salary - P758.00.
- 11) 9.5% of basic salaries.
- 12) Six months training program (see G.N. 6) for two technicians with allowance of P500.00 monthly. Total Training Cost: P6,000.00.
- 13) P135,850 This represents equipments - see footnote no. 7 for details.  
46,998 (adequate for 2 years in C.S.) This represents supplies, see footnote no. 7.  
 P182,848  
4,652 Miscellaneous supplies  
 P187,500
- 14) Estimated cost of laboratory renovation to accommodate new equipment and services.
- 15) Upgrading in Water Analysis, parasitology and tuberculosis diagnosis to meet Project needs.
- 16) Monthly salary - P1,060.00.
- 17) 9.5% of basic salary.
- 18) Six months' training program (see footnote no. 6) for one technician with allowance of P500.00 monthly. Total training cost - P3,000.00.
- 19) P46,998.00 see footnote no. 7. Year 1  
1,800.00 miscellaneous supplies  
 P48,800.00  
18,800.00 estimated replenishment of supplies. Year 3  
 P67,600.00
- 20) Estimated cost of laboratory renovation to accommodate new equipment and services.

Table B31. Projected Increase in Real Property Tax (RPT) Collections and Comparison with BHA Stipends, Camarines Sur and Albay Provinces (₱1000)

	Camarines		
	Sur	Albay	Total
1. FY 76 RPT Collections, including Provincial, Municipal and Barangay shares	2872 <sup>3/</sup>	1008	3880
2. % Increase Projected <sup>1/</sup>	467	331	429
3. Projected CY 84 RPT Collections (in 76 prices)	16284	4344	20525
4. Projected CY 84 RPT Increase over FY 76	13412	3336	16645
5. Line 4 in 1978 prices <sup>2/</sup>	16658	4143	20673
6. CY 84 400 BHA Stipends in 1978 prices	883	589	1472
7. 400 BHA Stipends as % of RPT Increment	5.3	14.2	7.1
8. 1200 BHA Stipends (for total coverage of follow-on project)	2650	1767	4417
9. 1200 BHA Stipends as % of RPT Increment	15.9	42.7	21.4

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

	Cam.Sur	Albay	Total
a. % of Collections to Collectibles FY 75	29	36	31
b. % of Collections to Collectibles expected CY 84	75	75	75
c. % Increase of Collections to Collectibles Expected	159	97	142
d. % Increase due to Corrections for Underdeclared Improvements	50	50	50
e. % Increase due to Corrections for Underdeclared Land Area	25	25	25
f. % Increase due to Corrections for Undeclared Property Identified	25	25	25
g. Total % Increase in RPT Collections Projected <sup>4/</sup>	467	331	429

<sup>2/</sup> Inflated by Consumer Price Index for all income households in the Bicol Region: where the 1975-76 average = 1.000, mid-1978 = 1.242.  
--National Census and Statistics Bureau

<sup>3/</sup> Camarines Sur Provincial RPT receipts for FY 76 were assumed equal to those of its Municipalities (₱1364 thousand), which they should be. Provincial records were lost in a June 1976 fire. Barangay RPT collections were recorded as ₱144,000.

<sup>4/</sup> For Camarines Sur:  $2.59 \times (1.50 + .25) \times 1.25 - 1 = 4.67$   
For Albay:  $1.97 \times (1.50 + .25) \times 1.25 - 1 = 3.31$

**Table B32. Economic Cost-Benefit Analysis**  
**Bicol Integrated Health, Nutrition and Population Project**  
**(P1000, 1978 prices)**

<u>Year</u>	<u>Total Economic Project Costs</u> <sup>1/</sup>	<u>Total Economic Benefits</u> <sup>2/</sup>	<u>Present Value at 15% Discount Rate</u>		<u>Net Un- discounted Benefits</u>	<u>P.V. of Net Benefits at 30.3% Discount</u>
			<u>Costs</u>	<u>Benefits</u>		
1979	10,907		10,907		- 10,907	- 10,907
1980	10,162		8,837		- 10,162	- 7,799
1981	12,083		9,136		- 12,083	- 7,117
1982	10,468	1,945	6,883	1,279	- 8,523	- 3,853
1983	10,615	7,604	6,069	4,348	- 3,011	- 1,045
1984	4,015	16,463	1,996	8,185	12,448	3,314
1985	4,015	24,006	1,736	10,378	19,991	4,085
1986	4,015	31,544	1,509	11,859	27,529	4,317
1987	4,015	35,475	1,313	11,597	31,460	3,786
1988	4,015	38,443	1,141	10,928	34,428	3,180
1989	4,015	39,773	992	9,831	35,758	2,535
1990	4,015	41,043	863	8,822	37,028	2,014
1991	4,015	42,365	750	7,918	38,350	1,601
1992	4,015	44,777	653	7,278	40,762	1,306
1993	4,015	47,492	567	6,712	43,477	1,069
1994	4,015	50,054	493	6,151	46,039	869
1995	4,015	52,720	429	5,634	48,705	705
1996	4,015	55,425	373	5,150	51,410	571
1997	4,015	58,289	324	4,710	54,274	463
1998	4,015	61,337	282	4,310	57,322	375
1999	4,015	95,257	245	5,820	91,242	458
<b>TOTALS</b>	<b>118,475</b>	<b>744,012</b>	<b>55,498</b>	<b>130,910</b>	<b>625,537</b>	<b>- 73</b>

Benefit/Cost Ratio at 15% rate of discount = 2.36

Net Present Value of Project at 15% discount = P75.4 million (\$10.1 million)

Internal Rate of Return (IRR) = 30.3%

<sup>1/</sup> 1979-83 project costs have been adjusted by adding 20% to the identified foreign exchange costs to represent the shadow value of foreign exchange and by subtracting beneficiary labor contributions to represent their zero opportunity cost to the labor surplus society. The 15% contingency fund and the estimated value of PL 480 food commodities are included, but not the cost escalation figures, thus abstracting from inflation. Projected recurring cost (in P1000) after 1983 include BHA stipends and retraining (P1502), 10% of construction costs as annual maintenance requirements of new facilities (except for the renovated MHC's and new BHS's, which are considered part of the regular Ministry of Health budget) less free beneficiary labor inputs (P1230), ongoing supply requirements for BHA kits, training, microscopy centers and immunization biologicals, plus 20% of imported items (P189), and personnel costs of continued project-related support services from MOH, BAEx, MSSD and IECM activities (P570), plus 15% for contingencies (P524).

<sup>2/</sup> See Table B34.

Note to Table B32:

Shadow Prices

Shadow prices have been used to reflect more accurately the true value of costs to the Philippine economy:

- 1) Price of Rice. The current price of rice is less than its true economic value due to price controls, support and production subsidies, and an over valuation of the peso vis-a-vis other currencies. The long-run average CIP price of imported rice is likely to be about \$316/MT. Considering present increases in domestic rice production, the Philippines may 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 exchange rate of ₱9.0/\$, the resulting shadow price for milled rice in peso terms is ₱2.70/kg. (\$0.30/kg.).
- 2) NEDA suggests the use of a shadow foreign exchange rate 20 percent higher than the current official rate, or about ₱9.00/US\$. This is appropriate since the current exchange rate is maintained only through a high level of foreign exchange borrowing and the use of import controls (through tariffs). The conversion of the foreign exchange component of project costs and the peso world market value of rice follows this shadow exchange rate.
- 3) A shadow wage rate of ₱6.00 per day is used to measure the marginal value of workdays lost due to illness. A zero value is assigned beneficiary labor required in the construction of household water facilities and toilets, and for their subsequent maintenance, to reflect the zero opportunity cost of such labor in a labor-surplus society.
- 4) The discount rate applied to derive the present value of costs and benefits is 15 percent. This rate has normally been used to represent the social time preference of present over future consumption in the Philippines (the shadow price of capital). NEDA has recently issued guidelines on project analysis suggesting that a 20% discount rate be used. While this seems rather high for constant price projections, as opposed to escalated nominal price projections, the 20% rate is included in the sensitivity analysis of Table B33.

**Table B33. Cost-Benefit Sensitivity Analysis**  
**Bicol Integrated Health, Nutrition and Population Project (P1000, 1978 prices)**

Year	Present Value at 20% Discount Rate		Economic Costs+20%	Economic Benefits-20%	Adjusted Present Value at 15% Discount Rate		Adjusted Present Value at 20% Discount Rate		Adjusted Net Benefits	
	Costs	Benefits			Costs	Benefits	Costs	Benefits	Undis-counted	P.V. at-22.6% Discount
1979	10,907	-	13,088	-	13,088	-	13,088	-	- 13,088	- 13,088
1980	8,468	-	12,194	-	10,603	-	10,162	-	- 12,194	- 9,946
1981	8,391	-	14,500	-	10,964	-	10,069	-	- 14,500	- 9,647
1982	6,058	1,126	12,562	1,556	8,260	1,023	7,270	900	- 11,006	- 5,973
1983	5,119	3,667	12,738	6,083	7,283	3,478	6,143	2,934	- 6,655	- 2,946
1984	1,614	6,616	4,818	13,170	2,395	6,548	1,936	5,293	8,352	3,015
1985	1,345	8,040	4,818	19,205	2,083	8,303	1,614	6,432	14,387	4,237
1986	1,121	8,803	4,818	25,235	1,811	9,487	1,345	7,043	20,417	4,904
1987	934	8,250	4,818	28,380	1,575	9,277	1,121	6,600	23,562	4,616
1988	778	7,451	4,818	30,754	1,370	8,742	934	5,960	25,936	4,145
1989	648	6,424	4,818	31,818	1,191	7,865	778	5,139	27,000	3,519
1990	540	5,524	4,818	32,834	1,036	7,057	648	4,419	28,016	2,979
1991	450	4,752	4,818	33,892	901	6,335	540	3,810	29,074	2,521
1992	375	4,185	4,818	35,822	783	5,822	450	3,348	31,004	2,193
1993	313	3,699	4,818	37,994	681	5,370	375	2,959	33,176	1,914
1994	261	3,249	4,818	40,043	592	4,921	313	2,599	35,225	1,658
1995	217	2,852	4,818	42,176	515	4,507	261	2,281	37,358	1,434
1996	181	2,498	4,818	44,340	448	4,120	217	1,999	39,522	1,237
1997	151	2,189	4,818	46,631	389	3,768	181	1,752	41,813	1,068
1998	126	1,920	4,818	49,070	339	3,448	151	1,536	44,252	922
1999	105	2,485	4,818	76,206	294	4,656	126	1,988	71,388	1,213
TOTALS	48,102	83,730	142,170	595,209	66,601	104,727	57,722	66,983	452,939	- 25

Benefit/Cost Ratio at 20% rate of discount = 1.74

Net Present Value of Project at 20% discount = P35.6 million (\$4.8 million)

Adjusted Benefit/Cost Ratio at 15% discount = 1.57, at 20% discount = 1.16

Adjusted Net Present Value at 15% discount = P38.1 million (\$5.1 million), at 20% discount = P9.3 million (\$1.2 million)

Adjusted Internal Rate of Return (IRR) = 22.6%

ORD-Naga: CSCallison,vbp 11/24/78

Table B34. Projected Economic Benefits, Bicol Integrated Health, Nutrition and Population Project  
(Population, 1000's; benefits, ₱1000's)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
Year	Estimated Population Freed of Intestinal Parasites through Environmental Sanitation	Value of Carbo-hydrate Loss to Parasites Averted by Project	Value of Food Losses from Intestinal Malab-sorption Averted by Project	Value of Workdays Lost to Morbidity Saved by Reduction in Enteric Diseases	Treatment Costs Saved by Reduction in Enteric Diseases	Value of Workdays Lost to Morbidity Saved by Reduction in TB and pulmonary diseases	Treatment Costs Saved by Reduction in TB and pulmonary diseases	Value of Caloric Loss Saved by Reduction in Tuberculosis	Projected Increase in Worker Productivity due to Improved Health	Nutrition	Projected Increased Returns to Education due to Improved Health & Nutrition	Total Economic Benefits	
1979	430												
1980	437												
1981	445												
1982	453	16	27										
1983	461	62	105	1229	1	6	17	42	17	561			
1984	470	134	228	4761	4	24	69	168	66	2226	45	1945	
1985	478	194	330	10290	8	53	152	373	145	4803	181	7604	
1986	487	254	417	14897	12	78	240	563	220	7020	411	16463	
1987	495	282	479	19505	15	100	315	741	289	9277	646	24006	
1988	504	302	513	21655	18	119	386	908	354	10427	885	31544	
1989	513	308	524	23191	21	136	453	1064	415	11274	1129	35475	
1990	523	313	532	24035	23	151	515	1210	472	11599	1376	38443	
1991	532	319	542	24496	26	165	593	1348	526	11933	1628	39773	
1992	542	324	551	24880	28	177	650	1478	577	12271	1885	41043	
1993	551	330	561	25341	29	186	697	1585	618	12507	2146	42365	
1994	561	336	571	25801	30	193	727	1652	645	12978	2412	44777	
1995	572	342	581	26262	31	196	740	1682	656	13320	2683	47492	
1996	582	348	592	26723	32	200	764	1712	668	13685	2959	50054	
1997	592	355	603	27260	33	203	777	1742	680	14050	3239	52720	
1998	603	362	615	27798	33	207	791	1774	692	14424	3525	55425	
1999	614	368	626	28259	34	211	807	1808	706	14920	3816	58289	
					34	215	821	1841	718	15305	4112	61337	
TOTALS		8397	380034		411	2619	9515	21691	8463	192580	51814	68486	744012

footnotes for Table B34.

Notes by Column: (1) According to the 1975 Census the average population per barangay in the Bicol was about 1000, and the annual population growth rate is 1.8%, after out-migration. This project targets 400 barangays.

(2) In a 1975 survey 90% of the Bicol population were found to have intestinal parasites.<sup>1/</sup> For purposes of this analysis it is assumed that project activities will cause this percentage to be reduced gradually to 30%, beginning after the third year.

(3) A person infested with intestinal parasites (Ascaris sp.) with a load of 20 adult worms is said to lose 2.8 grams of carbohydrate per day.<sup>2/</sup> Assuming the average loss per infested person is one half of this, or 1.4 grams per day, and converting to its milled rice equivalent (the carbohydrate content of which is 80.8%), the average loss equals 1.73 grams of rice daily or 0.63 kilograms per year. At the shadow price of rice per kilogram of ₱2.70 such a loss equals ₱1.70 per infested person per year. ₱1.70 times col. (2) equals col. (3).

(4) The proportion of food intake lost due to malabsorption of nutrients from the intestinal tract is assumed to average 10% for those suffering from intestinal diseases.<sup>3/</sup> The 1975 Family Income and Expenditures Survey<sup>4/</sup> found annual food expenditures in Albay and Camarines Sur Provinces averaging ₱3654 per family. Inflating this to mid-1978 prices (30.3% higher than 1975) and dividing by the average Bicol family size of 6.2 gives a per capita food expense of ₱768. The 10% estimated food-value lost per person due to intestinal malabsorption then equals ₱76.80, and this times col. (2) equals col. (4).

(5) Based on BRBDP calculations as to average proportion of employed project beneficiaries afflicted with enteric diseases, the average number of workdays lost per year (7) by such persons due to enteric illness, and the shadow marginal wage rate of ₱6 per day. The proportionate reduction in such losses due to project activities is projected to proceed gradually over a period of ten years, as the incidence of enteric disease is reduced to more acceptable levels (from 600 per 100,000 population to 100).<sup>5/</sup>

(6) The average cost of medical treatment for gastro-enteritis in the Bicol is ₱70 per person (1978 prices).

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- <sup>1/</sup> Dr. Patricia McGreedy, "Health Assessment of the Bicol Region," USAID Discussion Paper, December 1975, p. 3.
- <sup>2/</sup> Nutrition Center of the Philippines and Institute of Public Health, University of the Philippines, Manila
- <sup>3/</sup> Dr. Lee Howard, Key Problems Impeding Modernization of Developing Countries, The Health Issues, Office of Health, TAB, AID/W, December 1970, p. 29. Dr. Howard reports that such losses are "at least 10 to 15%" of food intake for those constantly exposed to an unsanitary environment.
- <sup>4/</sup> National Census and Statistics Office, Manila.
- <sup>5/</sup> For more details see BRBDP, Bicol Integrated Health, Nutrition and Population Project Feasibility Study, Pili, Camarines Sur, Dec. 1977, Annex G.2., pp. 3-5.

Notes to Table B34 continued

(7) The project is expected to reduce the incidence of TB and pulmonary disease among the working population from 1500 per 100,000 to 500 over a 10-year period. It is assumed that each febrile episode will cause the afflicted worker to miss work for an average of 12 weeks, which is valued at the shadow wage rate of ₱6 per day.

(8) The average cost of medical treatment per case of TB and pulmonary disease in the Bicol is ₱300 (1978 prices).

(9) The average caloric loss per case of febrile tuberculosis is 173,400 calories.<sup>6/</sup> Since the average kilogram of milled rice provides about 4,000 calories, this is equivalent to a loss of 43.35 kg. of rice. At the shadow price of ₱2.70 per kg., this equals a value loss of ₱117.05 per case.

(10) Average productivity per rural worker in the Bicol is estimated as ₱2407 (in 1978 prices) and is assumed to grow by 1% annually. This times the number of workers in the target barangays expected to enjoy improved health is then assumed to increase by 4% due to better health.<sup>7/</sup>

(11) The estimated number of new workers benefitting from the project entering the workforce each year (cumulatively) beginning 13 years after the beginning of the project (lagged because of the nutrition components of the project primarily target pre-schoolers) times the average productivity per rural worker provides the productivity base, which is then assumed to increase by 6% due to improved nutritional status.<sup>7/</sup>

(12) The average economic rate of return to educational expenditure in the Philippines has been estimated as around 5%.<sup>8/</sup> Applying this percentage annually to per capita public and private expenditures on education (in 1978 prices) of ₱100 (representing direct costs only, excluding opportunity costs associated with higher education), provides an estimate of the value of eventual returns to educational expenditure made each year. A study conducted by the UPSE<sup>9/</sup> indicated a very positive relationship between nutrition and learning and suggested a similar relationship between learning increases and increased future income levels. This PP analysis assumes a 10% increase in

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6/ P.O. Woolley, Syncretism: The Dynamics of Health, IV: The Philippines, U.S. Dept. of Health, Education and Welfare, Washington, D.C., 1972, p. 60.

7/ Barry M. Popkin, Luz E. Dullin and Susana J. de Jesus, "The Effect of Anemia on Road Construction Workers' Productivity," School of Economics, University of the Philippines, Feb. 1976; S.S. Basta and A. Churchill, "Iron Deficiency Anemia and the Productivity of Adult Males in Indonesia," Staff Working Paper No. 175, IBRD, Washington, D.C., 1974; and Darwin Karhadi and Samir Basta, "Nutrition and Health of Indonesia Construction Workers: Endurance and Anemia," Staff Working Paper No. 152, IBRD, Washington, D.C., 1973. These studies indicate that work output for healthy workers might be as much as 15 to 20% higher than for similar workers suffering from nutritional deficiencies due to insufficient food intake or a high wormload or a combination of both. Comparatively, the 10% increase used in this PP analysis is a conservative estimate.

8/ ILO, Sharing in Development: A Program of Employment, Equity, and Growth for the Philippines, Manila, 1974, Special Paper No. 17, "Manpower Forecasts and Cost-Benefit Analysis."

9/ 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, Aug. 1975.

Notes to Table B34 cont.

returns to education resulting from improved health and nutrition, beginning with expenditures attributable to the first 80 barangays during the third year of the project. Returns for all educational expenditures attributable to project beneficiaries made during the 20-year period of analysis are projected for another 20 years and discounted back to 1999 at 15% compounded annually, representing the "salvage value" of the human capital created by educational investments enhanced by the project as of 1999.

ANNEX C

BHA RETRAINING PROGRAM AND PROPOSAL

### BHA RETRAINING PROPOSAL

The retraining component of the project is designed to include the following objectives:

1. Inform and prepare the BHA for specialized tasks or new responsibilities.
2. Review and upgrade skills learned during basic training.
3. Assist in problem solving and give an opportunity for questions and discussion with faculty and other BHAs.
4. Provide an opportunity for evaluation of BHA's competency.
5. Provide basis for review and revision of BHA training and of the BHP implementation plans. Give BHA feedback to project staff.

### RETRAINING PROGRAM

There are three aspects or approaches to Retraining, each with a specific purpose:

1. Monthly Structured Consultation:

This session consists of a full day at the MHC where, with members of the RHU, the MHO gives instruction to the BHA, reviews cases and projects, answers questions, and presents specific instructional materials prepared by the PMO.

Main Purpose: Keep close rapport with RHU and identify and remedy problems of the BHA.

2. Formal Retraining Program (at six months intervals):

(a) One Week Barangay Based Workshop (once a year).

Faculty will present lectures and lead discussions, followed by Barangay project study in each BHA's Barangay within a specific municipality. Should a municipality have six BHAs, a different Barangay would be visited by the RHU group (including the six BHAs) each day giving all the group an exposure to the work of fellow BHAs.

Main Purpose: Problem solving and instruction, "on job training".

(b) One Week at the Regional Health Training Center.

Alternatively with (a) above all BHA's by batches of 40 will be brought to the training center for a one week intensive refresher course.

12/2

**Main Purpose : Upgrading, review, learning new skills; Feedback  
for Training Center.**

**POST EDUCATIONAL CONSULTANT**

The proposed Educational Consultant would be attached to the PMO and responsible for liaison with the Project Officer USAID, MOH Regional Director and participating agencies in respect to the program requirements of the educational components. The consultant would be expected to maintain a resident office at PMO and be available for consultation as arranged and directed by the Project Implementation Officer. Monthly progress reports and recommendations would be submitted to the USAID Project Officer and the RHO. Field activities of the consultant will be planned through the PMO under direction of the PIO. Upon request, the consultant will assist in faculty seminars and course evaluation and such other appropriate activities as may be deemed advisable to the enhancement of the learning process of the BHAs and the overall success of the project.

ANNEX D

INITIAL ENVIRONMENTAL EXAMINATION (IEE)

INITIAL ENVIRONMENTAL EXAMINATION  
(IEE)

Project Location : Bicol River Basin, Provinces of Camarines Sur and Albay, Republic of the Philippines

Project Title : Bicol Integrated Health, Nutrition and Population Project

Funding : FY 79 - \$2.5 Million Loan

Life of Project : FY 79 - FY 84 (5 years)

IEE Prepared by : Charles H. Witten  
Public Health Advisor (Environmental)  
Health Division, HRD/AID/Manila

Environmental  
Action  
Recommended : Positive Determination

Concurrence : Date:

\_\_\_\_\_  
Peter M. C. \_\_\_\_\_  
Director

Approved: \_\_\_\_\_ Disapproved: \_\_\_\_\_

IMPACT IDENTIFICATION AND EVALUATION FORM

Impact Identification and Evaluation 2/

Impact Areas and Sub-areas 1/

A. LAND USE

1. Changing the character of the land through:

- a. Increasing the population ----- N
- b. Extracting natural resources ----- N
- c. Land clearing ----- N
- d. Changing soil character ----- N

- 2. Altering natural defenses ----- N
- 3. Foreclosing important uses ----- N
- 4. Jeopardizing man or his works ----- N
- 5. Other factors

----- N

-----

B. WATER QUALITY

- 1. Physical state of water ----- H
- 2. Chemical and biological states ----- M
- 3. Ecological balance ----- L
- 4. Other factors

----- L

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1/ See Explanatory Notes for this form.

2/ Use the following symbols: N - No environmental impact  
 L - Little environmental impact  
 M - Moderate environmental impact  
 H - High environmental impact  
 U - Unknown environmental impact

C. ATMOSPHERIC

- 1. Air additives -----           L
- 2. Air pollution -----           L
- 3. Noise pollution -----           N
- 4. Other factors
- \_\_\_\_\_           N
- \_\_\_\_\_

D. NATURAL RESOURCES

- 1. Diversion, altered use of water -----           M
- 2. Irreversible, inefficient commitments -----           N
- 3. Other factors
- \_\_\_\_\_           N
- \_\_\_\_\_

E. CULTURAL

- 1. Altering physical symbols -----           M
- 2. Dilution of cultural traditions -----           M
- 3. Other factors
- \_\_\_\_\_
- \_\_\_\_\_

F. SOCIOECONOMIC

- 1. Changes in economic/employment patterns -----           L
- 2. Changes in population -----           L
- 3. Changes in cultural patterns -----           L
- 4. Other factors
- \_\_\_\_\_           L
- \_\_\_\_\_

IMPACT IDENTIFICATION AND EVALUATION FORM

G. HEALTH

- 1. Changing a natural environment \_\_\_\_\_ L
- 2. Eliminating an ecosystem element \_\_\_\_\_ N
- 3. Other factors \_\_\_\_\_
- \_\_\_\_\_ N
- \_\_\_\_\_

H. GENERAL

- 1. International impacts \_\_\_\_\_ L
- 2. Controversial impacts \_\_\_\_\_ L
- 3. Larger program impacts \_\_\_\_\_ L
- 4. Other factors \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

I. OTHER POSSIBLE IMPACTS (not listed above)

- Improving overall environmental conditions. \_\_\_\_\_ H(+)
- \_\_\_\_\_
- \_\_\_\_\_

See attached Discussion of Impacts.

I. Examination of Scope and Magnitude of Environmental Impacts

A. Description

The Bicol Integrated Health, Nutrition and Population Program will target 400 barangays in Camarines Sur and Albay provinces. This project will attempt, for the first time, to provide health services at the barangay level. The major thrust of this project is prevention of disease and will rely heavily on improving environmental sanitation. This will be accomplished through providing more water and sanitary waste disposal systems, thus, preventing many communicable disease that are responsible for the majorities of illness and death in the Bicol River Basin.

The Bicol Health 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 safe, potable water, adequate waste disposal, drainage and promoting basic health principles to the population is a pre-requisite 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 improvement in the total environment.

The overall impact of this project will have on the general environment is favorable, as it will actually enhance the environment of the Bicol River Basin.

B. Identification and Evaluation of Environmental Impacts

In light of the following observations, the Impact Identification and Evaluation Form has been completed for inclusion in this IEE.

This project has to be viewed in perspective with other Bicol Integrated Area Development Projects. These projects interact with each other on key environmental facets -- land, water, health, habitation, and socio-economic effects.

It is extremely difficult to pinpoint any single element of this project that may adversely impact on man's environment. This project was included in the environmental assessment of the Bicol area. This allowed each of the programs to be viewed in relation with the others and to be addressed in a single sense those problems that are common. This individual project impact, although it will be beneficial, can be addressed as such even though the assessment is focused on the overall development of the Bicol River Basin. It is not anticipated that this project, in itself, will produce any environmental hazards, but will aid in eliminating some of those present.

ANNEX E

RESPONSIBILITIES OF PROJECT PROPONENTS AND  
IMPLEMENTING/PARTICIPATING UNITS

## **Annex E**

### **Responsibilities of Project Proponents and Implementing/ Participating Units**

#### **National Level**

##### **A. NEDA (National Economic and Development Authority)**

- 1) Approve the Project Paper and negotiate the loan agreement with the financing institution.
- 2) Provide the BHP and local government units with advance fund releases for the training of BHAs, operational expenditures of the Project Management Office, the construction of environmental sanitation facilities, and other scheduled activities.
- 3) Assure the establishment of required fiscal procedures with the Ministry of Finance and the Commission on Audit.

##### **B. MOH (Ministry of Health)**

- 1) Recommend Project Paper for approval to NEDA.
- 2) Direct the Regional Health Office to provide necessary support to the project as called for in the project design.
- 3) Provide technical assistance as deemed necessary.
- 4) Approve appropriations for MOH-funded project activities, and provide funding for partial maintenance of infrastructure and activities when the project phases out.

##### **C. Ministry of Finance**

- 1) Direct the establishment of a special Regional Trust Fund for the BHP and a special Provincial/City Trust Funds in each of the two participating provinces and the three participating cities.

##### **D. Commission on Audit**

- 1) Direct its regional and provincial/city auditors to periodically audit the funds of the Regional and Provincial/City Trust Funds following standard GOP auditing procedures.

##### **E. Financing Institution (USAID)**

- 1) Prepare Project Agreement and establish provision for funding support.

- 2) Make a representative available for BHA Training consultancy with the Project Management Office.
- 3) Review the list of targetted barangays recommended for coverage by the BHP.
- 4) Execute commodity procurement and technical service contracts with loan funds as required by the Project Agreement.

**F. MLGCD (Ministry of Local Government and Community Development)**

- 1) Direct its regional, provincial/city and municipal offices to perform their roles and functions as called for in the implementation plan of this project. Specifically, organization for cooperatives for installations of sanitary, water, and drainage facilities.
- 2) Approve appropriations for incentive allowances for its employees actively participating in the project.
- 3) Re-orient its Grants-in-Aid program in the two provinces to fit into the environmental sanitation component of the BHP.

**G. NMYC (National Manpower and Youth Council)**

- 1) Direct its Regional Manpower Development Office (RMDO) No. 5 to make available staff and lecturers exclusively for BHA Training.
- 2) Approve appropriation for partial provision of incentive allowance for lecturers in the training programs.
- 3) Direct its RMDO No. 5 to assist in the preparation of the training modules.

**H. MPI (Ministry of Public Information)**

- 1) Direct its regional and provincial offices to take the lead role in the IECM Campaign.

**I. MSSD (Ministry of Social Services and Development)**

- 1) Direct its regional and provincial offices to reorient and intensify its social services programs to the targetted barangays.

**J. Ministry of Agriculture**

- 1) Direct the BAEx to fill up vacant HMT and RYDO positions in the two provinces.

- 2) Direct the BPI and BAI to assist in the nutrition programs through intensified crop and animal production activities in the target barangays.

**K. Ministry of Natural Resources**

- 1) Direct the BFAR to assist in the nutrition programs through intensified fish production activities.

**L. MEC (Ministry of Education and Culture)**

- 1) Insure balanced emphasis in the primary and secondary curricula of health, nutrition and population education subjects.
- 2) Direct the regional, division and district offices to assist in the IECM Campaign.

**M. Ministry of Public Works, Transportation and Communication**

- 1) Direct the Bureau of Public Works Regional and District Offices to provide technical assistance in the development of physical health infrastructure.

**N. NNC and POPCOM (National Nutrition Council and Commission on Population)**

- 1) Direct the Regional, Provincial, District and Municipal Offices to provide backstop support to the BHA and to provide technical assistance when necessary.

**MOH, Region V**

**A. Project Management Office**

- 1) Prepare detailed operations manual and organize appropriate support staff.
- 2) Together with the representative of the local government units approve the list of targetted barangays.
- 3) Assume responsibility for overall planning, coordination and implementation of the project.
- 4) Assist in the establishment of organizational linkages among the different participating agencies.
- 5) Develop and install a fiscal management system for project funds and serve as funding channel to implementing groups.

6) Supervise the development and installation of a project monitoring and evaluation system and see to it that project targets are accomplished within reasonable time periods.

7) Prepare periodic reports on project accomplishments.

**B. Regional Health Office**

1) Appoint Project Management Staff and make available appropriate facilities.

2) Direct the provincial/city health offices to provide necessary support to the projects called for in the project design.

3) Submit periodic reports to the PMO regarding project-related accomplishments of the PHOs and RHUs.

4) Undertake training of the RHUs for project related case handling and microscopy.

5) Make available adequate space and faculty to meet the BHA training requirements of the project including classroom, dormitory, and office space at the MOH Regional Training Center, Legazpi City.

**C. MLGCD Regional Office**

1) Provide technical assistance to the PMO in reviewing the list of projects in the annual implementation plan submitted by the provinces and cities.

2) Mobilize its Provincial/City 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 PMO regarding project-related accomplishments of PDOs and MDOs.

**D. BAEx (Bureau of Agricultural Extension)**

1) Direct its HMTs and RYDOs to focus their efforts on the target barangays.

2) Submit periodic reports to the PMO regarding accomplishments of HMTs and RYDOs.

**E. MPI (Ministry of Public Information)**

1) Assume overall responsibility for IECM Campaign.

**F. BPW (Bureau of Public Works)**

- 1) Prepare programs for physical construction.
- 2) Conduct topographical and geological survey and investigations of proposed sites of water supply facilities.
- 3) Provide technical assistance in the design, specifications and cost estimates of MHCs, BHSs, water supply facilities, toilets, drainage canals and other infrastructure.
- 4) Prepare work plans for major physical infrastructure such as the MHC and the BHS.

**G. MSSD (Ministry of Social Services and Development)**

- 1) Direct YDW to focus extra efforts on target barangays and to assist the BAEx RYDOs in youth development projects.

**Provincial Level****A. Provincial Governor's Office/Provincial Development Staff/PMO**

- 1) Coordinate project implementation activities in the province.
- 2) Receive and allocate project funds.
- 3) Make appointment and assure timely payment of BHAs.
- 4) Procure commodities required for the implementation of barangay health projects and ensure the delivery of the same to the barangay.
- 5) Prepare the provincial annual implementation plan for health.
- 6) Prepare and submit to the PMO quarterly performance reports.
- 7) Conduct an inspection of completed projects.

**B. PHO (Provincial Health Office)**

- 1) Assist in the technical supervision on the field training and retraining of BHAs.
- 2) Implement expanded immunization program in target barangays.
- 3) Supervise provision of services for malnutrition cases.
- 4) Prepare and submit periodic reports to the Regional Health Office regarding project-related accomplishments of RHUs.

**C. Provincial Engineer's 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 annual implementation plans.
- 3) Provide assistance in the procurement and delivery of commodities needed in the implementation of barangay projects.
- 4) With MLGCD provide technical assistance/supervision during the implementation of barangay construction projects.

**D. Provincial Office of the Bureau of Public Works**

- 1) Provide technical assistance to barangays and municipalities in project identification and development.
- 2) Coordinate current water and waste disposal projects contained in the annual implementation plans.

**E. Catholic Relief Services/Social Action Center**

- 1) Train and supervise activities of project-hired additional Diocesan Nutritionists, Food-for-Work Coordinators and Community Organizers.

**Integrated Development Area Level (Area Managers/ADTs)**

- A. Prepare annual implementation plans of the IDA for health.
- B. Assist the project manager in the implementation of the project in their respective IDAs.

**Municipal Level**

**A. Office of the Mayor/Municipal Development Staff/Municipal Coordinator.**

- 1) Coordinate implementation of the project at the municipal level.
- 2) Together with the Municipal Development Officer and the RHU, hold barangay assemblies in target barangays to explain the BHP and BHA recruitment and selection process.

- 3) Together with the MHNPC, prepare annual municipal implementation plans for health for submission to the province and inclusion in the provincial annual implementation plan.
- 4) Administer the payment of salaries of BHAs through the Municipal Treasurer and ensure counterpart funding upon phase out of project support.

#### B. Rural Health Units

- 1) Assist in the BHA recruitment process.
- 2) Provide technical supervision over the BHAs including assignment of a supervising Rural Health Midwife for each BHA.
- 3) Provide technical assistance to the BHAs in the identification and development of barangay projects.
- 4) Provide the BHAs with the necessary logistic support required to perform his/her roles and functions in the barangay health care system.
- 5) Assist in the development of the barangay into a social organization that will be receptive to and supportive of the functions of the BHA
- 6) Periodically inspect Botika sa Barangay.
- 7) Manage the municipal malnutrition facilities.

#### C. Municipal Development Officer/MHNPC

- 1) Assist in the holding of barangay assemblies to explain the project concept and the BHA recruitment and selection process.
- 2) Provide assistance in barangay project identification and development and in the preparation of the annual municipal implementation plans for health.
- 3) Conduct final inspection of completed small projects.
- 4) Provide assistance in barangay organization development.

#### Barangay Level

##### A. Barangay Council/BHNPT

- 1) Spearhead the BHA 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 BHAs to perform their expected functions.
- 4) Coordinate with BHAs in the identification, development and implementation of barangay health projects.

#### B. Barangay Health Aide

Under the technical and administrative supervision of the RHU, the BHA will undertake task-specific activities in the barangay as mentioned in the Project Paper promoting:

- a) Water supply facilities
- b) Waste Disposal facilities
- c) Drainage facilities
- d) Basic health services
- e) Nutrition
- f) Family Planning
- g) Other health-related projects identified by the BHP or the the barangay residents.

BHA handbooks/manuals will be prepared to guide the BHA in the performance of his/her duties and responsibilities.

#### 2. Fiscal Administration System

A systems and procedures manual for the fiscal administration of funds shall be developed by the PMO. In general terms, however, the BHP fiscal administration system will follow fiscal administration principles which have been established in Camarines Sur and Albay by the Provincial Development Assistance Program (PDAP).

A memorandum of agreement will be signed between the National Economic and Development Authority, the Ministry of Finance, the Commission on Audit, the BRBDP and the Ministry of Health to formalize the fiscal administration systems and procedures to be followed in the implementation of the BIHNPP. The basis of this agreement will be the Manual of Procedures which will have been developed by the BHP PMO.

Under the agreement, the Ministry of Finance will direct the establishment of the special BHP Regional Trust Fund and a Provincial Trust Fund in each of the two provinces. The Regional Trust Fund will serve as the regional depository of

funds for the implementation of the project and will be under the administration of the BHP Accountant. Funds in the Regional Trust Fund can only be withdrawn exclusively for BHP expenditures with the following as the recommended signatories: the BRSDP Program Director, the BHP Project Manager, the BHP Accountant and the Regional Health Director. The Regional Trust Fund will derive its major inputs from fund releases coming from the National Economic and Development Authority. Funds which are in direct support of participating agencies' activities will be transferred to them as the need arises to assure PMO control over project expenditures.

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 environmental sanitation facilities construction materials, with the following as recommended signatories: the Provincial Governor, the Provincial Treasurer and the Provincial Health Officer. 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 payment of BHA salaries.

### 3. BHP Funds Flow

(See PP page 23).

### 4. Logistic System

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 for barangay projects under implementation. The suppliers will be required to deliver the materials to the construction sites. In areas that are inaccessible to motor vehicles and where commodities can only be delivered by the suppliers to the poblacion, the BHA will mobilize people in his/her barangay to move the commodities from the poblacion to the construction site.

Medical supplies that will be needed by the BHA, the initial stock of the Botica sa Barangay and the RHUs will be channeled through the existing system of procurement of the MOH in the region.

BMA salaries will be administered by the municipal treasurers. The BMA will get his pay on the 15th and 30th of each month.

The incentive allowances of the line agency workers will be administered by their own accounting departments.

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

ANNEX F

ENDORSEMENT OF PARTICIPATING ORGANIZATIONS

U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT  
Manila, Philippines

Ramon Magsaysay Center  
1680 Roxas Boulevard

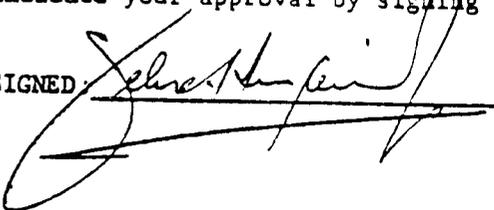
Telephone: 59-80-11

RE: APPROVAL OF THE STATEMENT OF PARTICIPATION, PROJECT PAPER DRAFT,  
BICOL INTEGRATED HEALTH, NUTRITION & POPULATION PROJECT

DATE: Sept. 4, 1978

The interest and support of all the proposed participants in the project have increased the probability of its early funding and implementation.

To assist in the finalization of the Project Paper you are kindly requested to review the attached statement of participation and indicate your approval by signing below.

SIGNED:  TITLE: GOVERNOR, ALBAY PROVINCE

Thank you.

  
Wilbur K. Nelson, Ph.D., Dr.P.H.

Consultant

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**GOVERNOR'S OFFICE--Provincial Development Staff/PMO**

- 1) Coordinate project implementation activities in the province.
- 2) Receive and allocate project funds.
- 3) Make appointment and assure timely payment of BHAs.
- 4) Procure commodities required for the implementation of barangay health projects and ensure the delivery of the same to the barangay.
- 5) Prepare the provincial annual implementation plan for health.
- 6) Prepare and submit to the PMO quarterly performance reports.
- 7) Conduct an inspection of completed projects.

A handwritten signature in black ink, consisting of a large, stylized loop followed by a horizontal line extending to the right.

U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT  
Manila, Philippines

Ramon Magsaysay Center  
1680 Roxas Boulevard

Telephone: 59-80-11

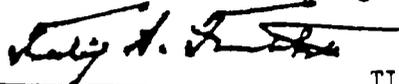
RE: APPROVAL OF THE STATEMENT OF PARTICIPATION, PROJECT PAPER DRAFT,  
BICOL INTEGRATED HEALTH, NUTRITION & POPULATION PROJECT

DATE: Sept. 4, 1978

The interest and support of all the proposed participants in the project have increased the probability of its early funding and implementation.

To assist in the finalization of the Project Paper you are kindly requested to review the attached statement of participation and indicate your approval by signing below.

SIGNED:



TITLE:

PROV. GOVERNOR, COA. SUR

Thank you.



Wilbur K. Nelson, Ph.D., Dr.P.H.  
Consultant

GOVERNOR'S OFFICE--Provincial Development Staff/PMO

- 1) Coordinate project implementation activities in the province.
- 2) Receive and allocate project funds.
- 3) Make appointment and assure timely payment of BHAs.
- 4) Procure commodities required for the implementation of barangay health projects and ensure the delivery of the same to the barangay.
- 5) Prepare the provincial annual implementation plan for health.
- 6) Prepare and submit to the PMO quarterly performance reports.
- 7) Conduct an inspection of completed projects.

*José Juan Tebello*  
*Prov. Development Coordinator*

U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT  
Manila, Philippines

Ramon Magsaysay Center  
1680 Roxas Boulevard

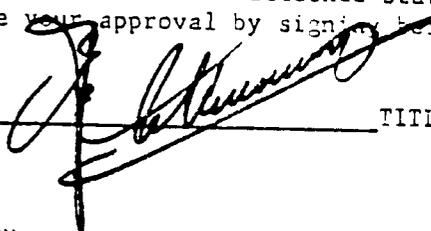
Telephone: 59-80-11

RE: APPROVAL OF THE STATEMENT OF PARTICIPATION, PROJECT PAPER DRAFT,  
BICOL INTEGRATED HEALTH, NUTRITION & POPULATION PROJECT

DATE: Sept. 4, 1978

The interest and support of all the proposed participants in the project have increased the probability of its early funding and implementation.

To assist in the finalization of the Project Paper you are kindly requested to review the attached statement of participation and indicate your approval by signing below.

SIGNED: 

TITLE: (Acting) DIRECTOR/BRBDP

Thank you.

  
Wilbur K. Nelson, Ph.D., Dr.P.H.  
Consultant

U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT  
Manila, Philippines

Ramon Magsaysay Center  
1680 Roxas Boulevard

Telephone: 59-80-11

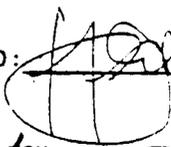
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BICOL INTEGRATED HEALTH, NUTRITION & POPULATION PROJECT

DATE: Sept. 4, 1978

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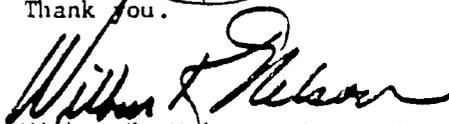
SIGNED:



TITLE:

*Regional Population Officer*

Thank you.



Wilbur K. Nelson, Ph.D., Dr.P.H.  
Consultant

no. POPCOM (National Nutrition Council and Commission on Population)

- 1) Direct the Regional, Provincial, District and Municipal Offices to provide backstop support to the BHA and to provide technical assistance when necessary.

U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT  
Manila, Philippines

Ramon Magsaysay Center  
1680 Roxas Boulevard

Telephone 59-80-11

*N.A.C.*

RE: APPROVAL OF THE STATEMENT OF PARTICIPATION, PROJECT PAPER DRAFT,  
BICOL INTEGRATED HEALTH, NUTRITION & POPULATION PROJECT

DATE: Sept. 4, 1978

The interest and support of all the proposed participants in the project have increased the probability of its early funding and implementation.

To assist in the finalization of the Project Paper you are kindly requested to review the attached statement of participation and indicate your approval by signing below.

SIGNED: *[Signature]* TITLE:                     

*man. spl. II*

MLGCD (Ministry of Local Government and Community Development)

- 1) Direct its regional, provincial/city and municipal offices to perform their roles and functions as called for in the implementation plan of this project. Specifically, technical and financial supervision of installations of sanitary, water, and drainage facilities.
- 2) Approve appropriations for incentive allowances for its employees actively participating in the project.
- 3) Re-orient its Grants-in-Aid program in the two provinces to fit into the environmental sanitation component of the BHP.

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Manila, Philippines

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1680 Roxas Boulevard

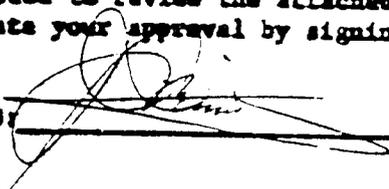
Telephone: 59-80-11

**RE: APPROVAL OF THE STATEMENT OF PARTICIPATION, PROJECT PAPER DRAFT,  
NICOL INTEGRATED HEALTH, NUTRITION & POPULATION PROJECT**

**DATE: Sept. 4, 1978**

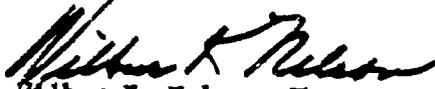
The interest and support of all the proposed participants in the project have increased the probability of its early funding and implementation.

To assist in the finalization of the Project Paper you are kindly requested to review the attached statement of participation and indicate your approval by signing below.

SIGNED: 

TITLE: Regional Health Director

Thank you.

  
Wilbur K. Nelson, Ph.D., Dr.P.H.  
Consultant

**MOH (MINISTRY OF HEALTH)**

1. Serve as "Lead Agency" ; recommend approval of Project Paper.
2. Direct the Regional Health Office to provide necessary support to the project as called for in the project design.
3. Provide technical assistance as deemed necessary.
4. Approve appropriations for MOH-funded project activities, and provide funding for partial maintenance of infrastructure and activities when the project phases out.

A handwritten signature in black ink, consisting of a stylized initial 'G' followed by a horizontal line extending to the right.

**MOH (Ministry of Health)**

**A. Project Management Office**

- 1) Prepare detailed operations manual and organize appropriate support staff.
- 2) Together with the representative of the local government approve the list of targeted barangays.
- 3) Assume responsibility for overall planning, coordination and implementation of the project.
- 4) Assist in the establishment of organizational linkages among the different participating agencies.
- 5) Develop and install a fiscal management system for project funds and serve as funding channel to implementing groups.
- 6) Supervise the development and installation of a project monitoring and evaluation system and see to it that project targets are accomplished within reasonable time periods.
- 7) Prepare periodic reports on project accomplishments.

**B. Regional Health Office**

- 1) Appoint the Project Management Staff and make available appropriate office space and related facilities.
- 2) Direct the Provincial and City/Municipal Health Offices to provide necessary support to the projects called for in the project design.
- 3) Submit periodic reports to the PMO regarding project-related accomplishments of the PHOs and RHUs.
4. Undertake training of the RHUs for project related case handling and microscopy.
5. Make available adequate space, faculty, and facilities at the MOH Regional Training Center to meet the BHP training requirements.

U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT  
Manila, Philippines

Ramon Magsaysay Center  
1680 Roxas Boulevard

Telephone: 59-80-11

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BICOL INTEGRATED HEALTH, NUTRITION & POPULATION PROJECT

DATE: Sept. 4, 1978

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To assist in the finalization of the Project Paper you are kindly requested to review the attached statement of participation and indicate your approval by signing below.

SIGNED: \_\_\_\_\_

TITLE: \_\_\_\_\_

*Regional Director  
MSSD Legaspi*

Thank you

*Wilbur K. Nelson*

Wilbur K. Nelson, Ph.D., Dr.P.H.  
Consultant

U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT  
Manila, Philippines

Ramon Magsaysay Center  
1680 Roxas Boulevard

Telephone: 59-80-11

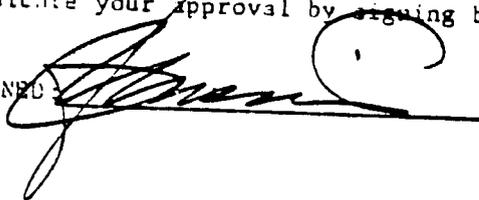
RE: APPROVAL OF THE STATEMENT OF PARTICIPATION, PROJECT PAPER DRAFT,  
RURAL INTEGRATED HEALTH, NUTRITION & POPULATION PROJECT

DATE: Sept. 4, 1978

The interest and support of all the proposed participants in the project have increased the probability of its early funding and implementation.

To assist in the finalization of the Project Paper you are kindly requested to review the attached statement of participation and indicate your approval by signing below.

SIGNED:



TITLE:

*Asst. Regional Director CESOV  
Bu. of Public Works.*

U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT  
Manila, Philippines

Ramon Magsaysay Center  
1680 Roxas Boulevard

Telephone: 59-80-11

RE: APPROVAL OF THE STATEMENT OF PARTICIPATION, PROJECT PAPER DRAFT,  
BICOL INTEGRATED HEALTH, NUTRITION & POPULATION PROJECT

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To assist in the finalization of the Project Paper you are kindly requested to review the attached statement of participation and indicate your approval by signing below.

SIGNED: *Francis Escudino* TITLE: *Social Action Director*

Thank you.

  
Wilbur K. Nelson, Ph.D., Dr.P.H.  
Consultant

*P. J. New*

**CATHOLIC RELIEF SERVICES/SOCIAL ACTION CENTER**

- 1) **Train and supervise activities of project-hired additional Diocesan Nutritionists, Food-for Work Coordinators and Community Organizers.**

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U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT  
Manila, Philippines

Ramon Magsaysay Center  
1680 Roxas Boulevard

Telephone: 59-80-11

RE: APPROVAL OF THE STATEMENT OF PARTICIPATION, PROJECT PAPER DRAFT,  
NICOL INTEGRATED HEALTH, NUTRITION & POPULATION PROJECT

DATE: Sept. 4, 1978

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To assist in the finalization of the Project Paper you are kindly requested to review the attached statement of participation and indicate your approval by signing below.

AGUSTIN B. RAGO  
 REGIONAL DIRECTOR  
 SIGNED: \_\_\_\_\_ TITLE: Executive Assistant  
HILARIO B. DALILO  
 (HILARIO B. DALILO)  
 Executive Assistant -  
 Health Region V

Thank you.

  
 Wilbur K. Nelson, Ph.D., Dr.P.H.  
 Consultant

BAEX

25-2-1979

July 1979

9538 560

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MOA (Ministry of Agriculture)

- 1) Direct the BAEX to fill up vacant HMT and RYDO positions in the two provinces.
- 2) Direct the BPI and BAI to assist in the nutrition programs through intensified crop and animal production activities in the target barangays.

*[Handwritten signature]*  
9/10/78

*[Handwritten initials]*

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U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT  
Manila, Philippines

Ramon Magsaysay Center  
1680 Roxas Boulevard

Telephone: 59-80-11

RE: APPROVAL OF THE STATEMENT OF PARTICIPATION, PROJECT PAPER DRAFT,  
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DATE: Sept. 4, 1978

The interest and support of all the proposed participants in the project have increased the probability of its early funding and implementation.

To assist in the finalization of the Project Paper you are kindly requested to review the attached statement of participation and indicate your approval by signing below.

SIGNED: \_\_\_\_\_ TITLE: *C/O. M.L.G.O. R-V,  
Legaspi City*

Thank you.

*Wilbur K. Nelson*  
 Wilbur K. Nelson, Ph.D., Dr.P.H.  
 Consultant

166

U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT  
Manila, Philippines

Ramon Magsaysay Center  
1680 Roxas Boulevard

Telephone: 59-80-11

RE: APPROVAL OF THE STATEMENT OF PARTICIPATION, PROJECT PAPER DRAFT,  
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DATE: Sept. 4, 1978

The interest and support of all the proposed participants in the project have increased the probability of its early funding and implementation.

To assist in the finalization of the Project Paper you are kindly requested to review the attached statement of participation and indicate your approval by signing below.

SIGNED: Ed de Leon TITLE: Chief of operations

Thank you.

  
Wilbur K. Nelson, Ph.D., Dr.P.H.  
Consultant

167

MPI (Ministry of Public Information)

- 1) Direct its regional and provincial offices to take the lead role in the IECM Campaign.

ed



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Republic of the Philippines  
**BICOL RIVER BASIN DEVELOPMENT PROGRAM**  
Boras, Canaman, Camarines Sur

2 November 1976

Mr. Charles C. Christian  
Acting Mission Director  
USAID/Philippines  
Manila

Dear Sir:

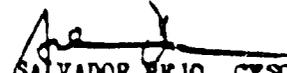
The Bicol River Basin Development Program Office working closely with concerned agencies had taken an active role in the preparation of the Project Review Paper of the Integrated Health, Nutrition and Population Project. The Project is a necessary component in the over-all systems framework and is very critical to the achievement of the goals of the BRBDP.

The development planners and policy makers in the program area are unanimous in endorsing the immediate implementation of the above project. The Bicol River Basin Coordinating Committee (BRBCC) during the last monthly meeting of 27 October 1976 authorized the Program Director to send a formal letter to USAID manifesting the endorsement and commitment of the Committee to the implementation of the Integrated Health Project.

The BRBCC is composed of regional directors and the provincial governors of Camarines Sur and Albay. The Committee assists the Program Director in the formulation of guidelines needed in the operation of the BRBDP. It also reviews the programs and projects developed by the Program Office and its various planning task forces. It also provides a forum for the discussion of problems in inter-agency coordination and integration of development efforts.

The Program Office therefore, expects that the Integrated Health Project given the endorsement of the BRBCC will be another successful project pursued through inter-agency participation. We are looking forward to the continuing support of USAID to the BRBDP.

Very truly yours,

  
SALVADOR PEJO, CESO II  
Acting Program Director

RES/linda  
11276

February 1, 1977

Dr. Luisa Alberto  
Regional-In-Charge  
Population Commission  
Logaspi City

Dear Dr. Alberto:

The Bicol River Basin Development Program in coordination with concerned agencies will soon start the feasibility study of the Integrated Health, Nutrition, Population and Environmental Sanitation Project. The study aims to improve the present draft of the Project Review Paper which is a very preliminary document.

A very critical aspect of the feasibility study is the identification of critical linkage mechanism aimed at reinforcing or strengthening existing programs. Exhaustive analysis will be made to insure that duplication are avoided.

Identification of project components will be made with the prospective beneficiaries. The population component which is presented weekly in the present draft of the Project Review Paper will be presented in its right perspective in the Project Paper through maximum involvement of your agency. The Project Paper therefore will be finalized through a collaborative planning efforts of all agencies involved.

I hope this can be of help to you and again our request for the endorsement from your office. Thank you for your concern to the project.

Very truly yours,

  
SALVADOR PENCO, CESO II  
Acting Program Director

pv/jr.

COMMISSION ON POPULATION  
Region 7, Legaspi City

1st Indorsement  
February 1, 1977

In order to achieve the desired Project Paper which will be beneficial to this region as soon as feasible, the present draft of the Project Review Paper is hereby favorably endorsed.

 Alberto M. M. M.  
Regional Officer

111

Bicol River Basin Development Program  
INTEGRATED HEALTH, NUTRITION AND POPULATION  
SEMINAR-WORKSHOP  
March 26, 1977, Afternoon Session

Attended by 55 mayors and 2 governors from Bicol River Basin

This is the summary:

GROUP I - Barangay Health Aide (BHA) Qualifications & Functions

It was the consensus of the group that there must be a BHA. It was emphasized that the BHA functions would be merely assistance and supportive. Doubts by some mayors are due to the word "perform" which the inter-agency task force used in the specifications of BHA functions.

COMMENTS & QUESTIONS:

A comment was made that duties of the BHA are too numerous. The proposal that the barangay captain be the probable BHA is untenable. They cannot assist in all duties of government agencies at the same time perform their obligations effectively as heads of their respective barangays. The qualifications recommended are too difficult either for any barangay resident to approximate or fulfill.

As a counter argument, it was observed that the barangay officials and the barangay residents should not be underestimated. Considering BHA functions to be mere assistance and helping personnel involved in the different line agency programs related to health, nutrition and population, they could manage. It was emphasized that barangay officials should be the BHAs, if they are qualified.

A question was raised on the kind of training that will be given to the BHA. The answer was flexible training as seen fit to the conditions of the community. A training scheme will be designed by the technical experts and the course syllabus of the Department of Health (DOH) for its Barangay Health Technician (BHT) could be used as a reference.

Using the word "coordinate" in reference to the BHA functions would be more functional rather than just mere "assistance". But the consensus was for the word "assist" to be used. However, in areas where coordination is needed, the BHA should coordinate. In areas where assistance is more applicable, he will assist.

Two possible problems were presented with regards to the BHA functions:

- (1) The BHA will be overloaded with functions because the line-agency personnel might not perform their job efficiently if they rely heavily on his presence.
- (2) The line-agency personnel might be doing their job efficiently leaving the BHA with nothing to do.

Specific functions of the BHA will be mainly health and they are related to the lead agency - the DOH. For nutrition and population functions, they will assist and coordinate so that there will be no disruption of existing line-agency functions. In the absence of barangay-based nutrition and population workers, the BHA will fill in the gaps.

#### GROUP II - Replicability of Institutional and Physical Components

The proposition that all barangays should be fielded with BHAs, the maintenance of which they would absorb on the basis of BHA performance after the 5 year project implementation, is very sound. It was suggested then that the portion in the PRP which states that only those barangays who could afford to support the BHA after the project has phased out will be provided with a BHA should be deleted. This assumes that all barangays could carry on given the chance to see and observe the performance of the BHA while he is being funded by the sponsor or funding institution.

The capacity of the barangay to finance the BHA is not limited to the speculated increase in real property tax. They have other sources of income. The barangay has the capability to impose tax measures. It also has the community development aid from the province and the municipality which they could use to fund the BHA. So the program should provide a BHA for every barangay regardless of their funding capabilities.

Regarding the security of the BHA, the question on who will take the responsibility for him if he meets an accident was raised. It was suggested that insurance be provided for the BHA. The suggestion was proposed to be incorporated in the Project Review Paper. The project could not answer for this. It is the municipality and the province who could answer for this insurance since they will be the one to shoulder financing afterwards.

Speaking of the commitment of the province, an assurance was given that after the project phases out, the province will support and will provide the 47.5% share in the program. Municipalities are also

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supporting the project, after all they are more concerned with their own barangays. Since the province gets 10% of the general income tax collections of the municipalities, it does not have any reason not to help.

Fear was expressed insofar as the curative functions of the BHA is concerned. Assurance was given the participants that the training program for the BHA shall give them ample background for all their functions and responsibilities.

GROUP III - Supporting Project Components/Additional Suggestions  
For Project Funding

It was suggested that there is not only a need for additional feeding centers, but also a need for additional feeding utensils and equipment.

On ambulances, the DOH will be providing Camarines Sur with ten (10) ambulances and ten (10) Municipal Health Centers. In Albay, two (2) ambulances have already been provided. In addition, the DOH will provide one more ambulance and two (2) Municipal Health Centers for that province. It was suggested therefore that ambulances might as well be distributed outside the IBRD/GOP assisted areas.

A question was raised on the capacity of the Camarines Sur Provincial Hospital to absorb the laboratory personnel they would like the project provide. The representative of the said hospital said that they could fund them considering that they charge fees from patients who can afford. If this would not suffice, they could always ask from the national fund.

It was stressed that establishment of communication facilities is a very important aspect of the program in the sense that far-flung barrios inaccessible by road could be reached via improved communication systems. In case of emergencies, this could facilitate assistance.

Communication facilities will be taken care of by project funds and other line-agencies. Under the DOH plan, the Management Information System will put up a communication network linking the central office to the Barangay Health Stations by radio. Walkie-talkie will also be provided to the resident midwife in every catchment area. Communication will be from the Provincial Health Office to the Rural Health Units in the municipality to the midwife in the catchment area. It was also suggested that the MIS should provide for inter-agency communication.

Motorcycles will be provided for inaccessible areas while motoboats will be provided for coastal areas in place of ambulances.

#### GROUP IV - Implementation Scheme

The Area Development Teams came up with their own version of the organizational set-up in the provincial, municipal and barangay levels with the aim of trying to relate the Integrated Health, Nutrition and Population machinery for implementation with the political machinery.

It was also suggested that the funding scheme should be included in the organizational set-up. What is most important is the justification of the BHA specifically, why is the BHA being funded when his duty is no better or no more or less than the duties of the other barangay workers who are not funded? Corollary to this, should the project also provide for funding of these other barangay workers?

In answering these questions, it was observed that voluntary barangay-based workers work only as they please. They have limited functions subject to their availability. Maximum output of this program could be achieved only by the effective performance of the BHA. Compensation and incentives therefore necessary for him to carry out his functions properly. Other barangay-based workers are not permanently based in the barangay. They are only assigned there for some time and that they are not residents of the place unlike the BHA. The latter should be a resident of the barangay and will then be in a better position to perform his functions being more familiar with health status of the community. For these, the BHA deserved to be paid with a compensation commensurate to the bulk of his work.

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ANNEX G

BICOL MULTIPURPOSE SURVEY

## The Bicol Multipurpose Survey (BMS)

### A. Objectives

1. To provide reliable and valid information to assess the broader Bicol River Basin Development Program (BRBDP) and to assess indicators of each component Integrated Area Development (IAD) project. These indicators will measure agricultural production and productivity per hectare; the levels and distribution of income; time allocation and employment status; fertility and mortality levels and family planning use; health and nutritional status and social service use; the contribution of women; and the perceived and actual quality of life.
2. To develop a greater depth of understanding of the problems that the people of the Bicol region endure and the constraints that must be removed to solve them. These results will be applied in BRBDP project planning and design.
3. To develop adequate baseline data to be able to understand the combined and synergistic effects of the various GOP projects and programs along with other positive and negative processes of growth outside the control of regional development efforts. Together with other organizational evaluations this will document the rural development process in the Bicol. This 1978 BMS will be followed with BMS surveys every 2-3 years which will develop both a BMS panel and additional representative sample surveys. Part of the future survey samples will be reinterviews of 1978 BMS households to allow for in-depth longitudinal analyses. The remaining sample will be drawn on a representative basis from each project area.

### B. Description of the 1977-1978 BMS

#### 1. Sample Size

Seventeen project areas (IAD's and sub-IAD's) will be sampled to provide a sample of about 1000 households. Households will be selected on a cluster basis to provide a representative picture of the urban and rural barangay populations in the provinces of Albay and Camarines Sur.

#### 2. The BMS Instruments

A series of actions over the 1976-1977 period led to the development of the BMS instruments. Under the coordination of a BRBDP consultant, persons from the BRBDP and USAID/RD offices developed a set of objectives which were to be answered by the BMS. These included information to meet the three objectives stated above. With the assistance of leading researchers from the University of the Philippines Diliman and Los Baños and the Institute of Philippine Culture - Social Survey Research Unit (IPC-SSRU), a draft BMS was developed. The draft was tested and redesigned and submitted to a group of Filipino and foreign social researchers at a conference sponsored by the BRBDP in Naga City. The result was a significant revision in the instrument-- a revision developed by these experts under the supervision of BRBDP, USAID and IPC-SSRU personnel. This revised instrument was tested and translated to form the BMS.

Numerous government and private agencies were represented in this process. These included representatives of the Dept. of Health; Regional NEDA; the various offices of the BREDP; USAID-RD and USAID-ODM; the Nutrition Center of the Philippines; the School of Economics and College of Nursing, U.P. Diliman; the Institute of Agricultural Development Administration, U.P. Los Baños; and IPC-SSRU.

A contract was signed in November 1977 with IPC/SSRU to conduct the field survey and data processing portions of the BMS. Scheduled date of completion is November 1978, after which separate contracts will be negotiated for analysis.

The following sections comprise the BMS:

a. Socio Economic Survey

Two or more visits to each household will be conducted to collect on a recall basis this information. Demographic, time use in home and market activities, health and nutrition beliefs and practices, family planning beliefs and practices, detailed agricultural inputs and outputs, other income, employment, and labor force information, household assets and liabilities and perceived and objective quality of life indicators will be measured with this instrument. Data is collected both on each individual and the household.

- b. Individual nutritional and health status profiles - Height, weight, hemoglobin and arm circumference data will be collected by trained medical technologists to provide an accurate welfare measure of all members of our household samples.
- c. Barangay survey - an inventory of the physical infrastructure and social services provided in each barangay will be developed. In addition, prices at the usual shopping centers for barangay residents will be measured. These barangay data will provide an understanding of both the impact of outside forces and the BREDP on the barangay infrastructure.
- d. Agricultural and health worker surveys of all personnel in the Rural Health Units/City Health Offices, the Bureau of Agricultural Extension and Bureau of Plant Industries will be conducted by questionnaire. Both a schedule of worker activities and a test of worker knowledge are included in these survey instruments.
- e. Individual dietary intake and time allocation data based on weighing and measuring and observation techniques, respectively, will be collected during 1978 for a subsample.

C. Implementation

The training, data collection, coding and computerization will be handled by the Institute of Philippine Culture (IPC). IPC with its Bicol-based affiliate, the Social Survey Research Unit (SSRU) will select the sample with the assistance of the BREDP and develop spot maps, training

guides, coding manuals editing programs for the key punched data and SPSS files for the household, individual and community data. The BRBDP will provide some assistance by providing one or two programs developed by an outside researcher.

The final instruments, coding manuals, edited raw data and SPSS files will be turned over to the BRBDP for distribution to the Filipino scholars who will conduct the analysis. Researchers will have submitted proposals for analysis of the initial 1977 BMS to the BRBDP-PO and USAID Naga City offices for appraisal by this group.

#### D. Analyses

Tabular analyses and in-depth reports on seven substantive areas will be prepared by analysts connected with the IPC-SSRU, Institute of Agriculture Development and Administration at UP Los Baños, U.P. School of Economics, U.P. College of Nursing, Social Research Associates and possibly other research or teaching institutions. In most cases these analysts were involved in the development of the BMS and the BMS conference and have been consulted in all substantive changes made to the BMS.

The key areas of analysis correspond to seven major indicators of development. They are: (see Annex A for details)

1. Agricultural Production
2. Level and Distribution of Income
3. Time Allocation and Employment
4. Demographic Change
5. Health and Nutritional Status
6. The Perceived and Actual Standard of Living
7. The Contribution of Women

#### E. BMS Supervision

The final direction of 1978 BMS and all future Bicol Multipurpose Surveys will be jointly conducted by the research section of the BRBDP and the USAID Regional Development Office Naga City and operational decisions are jointly made for this unique endeavor. For this initial 1978 BMS, Mr. Perfecto Bragais, Jr. has represented the BRBDP; Dr. C. Stuart Callison has represented USAID/RD Naga City; and Dr. Barry M. Popkin has acted as a consultant to both groups.

**ANALYSES OBJECTIVES OF BICOL MULTIPURPOSE SURVEY****BREDF Studies: 1978-79**

- I. Agricultural production (rice, coconuts, sugar cane, vegetables, root-crops, poultry and livestock and fish).

The BREDF seeks to understand and document:

1. The key determinants of a) total agricultural production, b) production/hectare, and c) productivity/worker
2. The efficiency of the present delivery system of several key programs. Foremost is irrigation, agriculture credit and land utilization. By land utilization, we mean the nature of the cropping pattern and the seasonality of usage. Secondary is the use of other factor inputs (seeds, fertilizer and other chemicals, extension agent contacts, labor), agricultural credit, and important cultural practices.
3. The present knowledge and working schedules of key agricultural technicians is needed for workers in survey areas.

We feel two reports are merited in this section. One is an analysis of the factors which affect productivity (I.1) which includes inputs and technician knowledge. The second is on key delivery system problem areas, especially agriculture credit. The issue of credit and debt and saving levels is a critical one which the BREDF wishes to see analyzed in detail.

- II. Income - levels, composition and distribution

The BREDF wishes to understand the individual and combined effects of such projects as rural electrification, roads, irrigation facilities, agricultural extension services, land consolidation and tenure reform, and so forth on the following:

1. The level and sources of income for the household (men, women and children).
2. The distribution of income. This includes income going to landlords of tenants and other types of equity/income distribution issues.
3. The returns per hour of labor of the men, women, children.

We expect two reports, one is on the factors related to the distribution of income and the second is on the factors affecting the returns per hour of men, women and children (their value of time).

- III. Time allocation is home and market production and leisure

The BREDF is interested in understanding the determinants of the time allocation patterns of men, women and children in market and home production and leisure and important components of market production.

Market production components include farm, wage, business/professional, handicraft, and travel time. The home production components, which include child care, food preparation, and washing/cleaning, will be analyzed in more depth in topic VII. The location of the work and the time spent traveling to work are of special interest. Some work must be undertaken on the determinants of market labor participation but we are also interested in the more in-depth time allocation patterns. Thus the analyst should look not only at whether or not the person has employment but also at the hours of employment.

We expect one report on factors affecting the employment status and time allocation of men, women, children. Total household time market work should be examined as a separate dependent variable. Focus should be on the use as independent variables of the policy factors which the BREDP can affect through its programs.

#### IV. Population growth rates - Fertility and family planning usage

Chief concerns of BREDP and agencies supporting family planning program are:

1. The present characteristics of the basin population. This include age and sex composition, age-specific fertility rates and education levels.
2. The key determinants of present fertility levels. Included are socio-economic and belief factors, breast-feeding, contraceptive usage, age of marriage, etc.
3. The key determinants of family planning utilization.
4. The present knowledge and time allocation of family planning workers in the survey municipalities. Also knowledge of health workers on contraceptives will be desired.

The basin will add migration analysis to the second survey and examine persons and households who left.

We expect two reports. The first will emphasize the determinants of fertility levels and the second, the determinants of family planning usage.

#### V. Health-Nutrition-Environmental Sanitation

The BREDP wishes to know the following:

1. The present health and nutritional status, infant mortality and the type and use of water and toilet facilities.
2. The key determinants of nutritional and health status which include socio-economic, environmental, and health service usage factors.

3. The key determinants of the health service usage patterns. First what are the perceived needs of the households and what proportion of these are met through the use of modern public, modern private and traditional health services. Second, what factors affect the usage of and expenditures on modern private, modern public and traditional services.
4. The health and nutrition knowledge and practice patterns of the mother and of key public and private modern and traditional workers in the study areas.
5. Some environmental quality and toilet/water supply related information is needed for measuring the impact of the proposed Bicol Integrated Health and Nutrition Project.

We expect to see two reports. The first is on the determinants of health and nutritional status and the second is on the determinants of health service utilization and health expenditure patterns. Many of the factors mentioned in items 1-5 must be included in these reports and the key issues mentioned in items 1-5 should be presented in tabular form to the BRBDP.

#### VI. Consumption, wealth, investment patterns

The BRBDP wishes to understand the key factors which determine and are associated with the perceived and actual quality of life.

1. PQL Factors include housing; education of children; the types of accessible roads; the formal organizations in which men and women participate; general household health status; food and drink consumption levels; the present role of the mother as female head of household; and the change during the past year in the overall PQL of the household.
2. The actual pattern of food and non food expenditures, and caloric consumption.
3. The actual household present value of wealth in housing; land; agricultural; fishing; other employment-related capital; household consumer durables; and livestock and poultry. One report on the PQL is desired and a second on factors affecting wealth, consumption and expenditure levels.

#### VII. Contribution of Women

The BRBDP wishes to understand the present contribution of women to the Bicolano household and economy and ways to improve their participation and efficiency in these activities. Other sections of analysis will concentrate on the efficiency of women in economically productive activities, both within the household and without, and their incomes and wage levels. In this section, we wish to focus on the factors which determine:

1. The participation of women in household non-market and market-oriented activities, other market activities, and formal organizations; and
2. The efficiency of women in child care, food preparation, and other aspects of home management.

One report will be expected to address these two issues,

#### VIII. Objective Quality of Life Index

Prepare an index using nutritional status, infant mortality, real income, wealth, housing, sanitation and a wide variety of other social and economic factors to develop and provide one or two objective quality of life indices, for the Program Area as a whole and for each LAD and sub-LAD. This is a much smaller and simpler report which will be done by one of the analysts working on other aspects of the BMS analysis.

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ANNEX H

SANITATION SURVEY RESULTS

TABLE 1.

**SUMMARY OF EXISTING WATER SUPPLY FACILITIES  
IN 94 RURAL BARANGAYS OF THE BICOL RIVER BASIN**

Type of Water Supply Facility	PROVINCE						TOTAL BASIN AREA		
	ALBAY			CAMARINES SUR			No. Facility Available	Weighted Avg. No. HH. Served / Unit	% Population Served
	No. Facility Available	Avg. No. HH Served/Unit	% Population Served	No. Facility Available	Avg. No. HH. Served/Unit	% Population Served			
Private Hand Pump	475	2.6	27.3	1166	2.7	37.2	1641	2.7	33.8
Public Hand Pumps	24	13.0	7.0	61	14.4	10.3	85	13.7	9.1
Free Flowing Wells	5	29.2	3.2	5	11.6	0.7	10	20.4	1.5
Open Dug Wells (Unimproved)	113	7.5	18.9	543	3.6	23.2	656	4.3	21.7
Open Dug Wells (Improved)	9	26.3	5.3	158	1.7	3.2	167	3.0	3.9
Springs (Unimproved)	72	9.9	15.9	130	7.1	10.8	202	8.1	12.6
Spring (Improved)	26	27.8	16.1	15	28.8	5.0	41	28.2	8.9
Piped Water	7	40.1	6.3	5	86.6	5.1	12	59.5	5.5
BRBDP Filter	-	-	-	3	N.A. <sup>1/</sup>				
Others	2	1.0	-	12 <sup>2/</sup>	22.0	4.5	14	18.0	3.0

Notes: <sup>1/</sup> Surveys still underway in these 3 barangays as of 10 August 1978.

<sup>2/</sup> Three (3) barangays obtain drinking water from piped water systems in adjacent municipalities (totally 319 households).

Table 2. Summary of Existing Toilet Facilities in 91 Rural Barangays of the Bicol River Basin

TYPE OF WATER SUPPLY FACILITY	P R O V I N C E				TOTAL BASIN AREA	
	A L B A Y		Camarines Sur		Number Available	Percentage Population Served
	Number Available	Percentage Population Served	Number Available	Percentage Population Served		
Water-sealed bowl w/ septic tank	22	0.5	15	0.2	37	0.3
Water-sealed bowl w/ septic tank and without leaching	116	2.6	143	1.7	259	2.0
Water-sealed bowl w/ covered pit	245	5.5	3252	38.4	3497	27.0
Covered pit privy (no WS bowl)	455	10.2	1731	20.4	2186	16.9
Open pit privy (open dug pit)	2194	49.0	701	8.2	2895	22.3
"Antipolo" type (discharging to ground)	87	1.9	301	3.5	388	3.0
Others	6	0.1	2	-	8	-
No toilet	1350	30.2	2349	27.6	3699	28.5

Figure 1.

# DISTRIBUTION OF SIZE OF BARANGAYS SURVEYED BY NUMBER OF HOUSEHOLDS

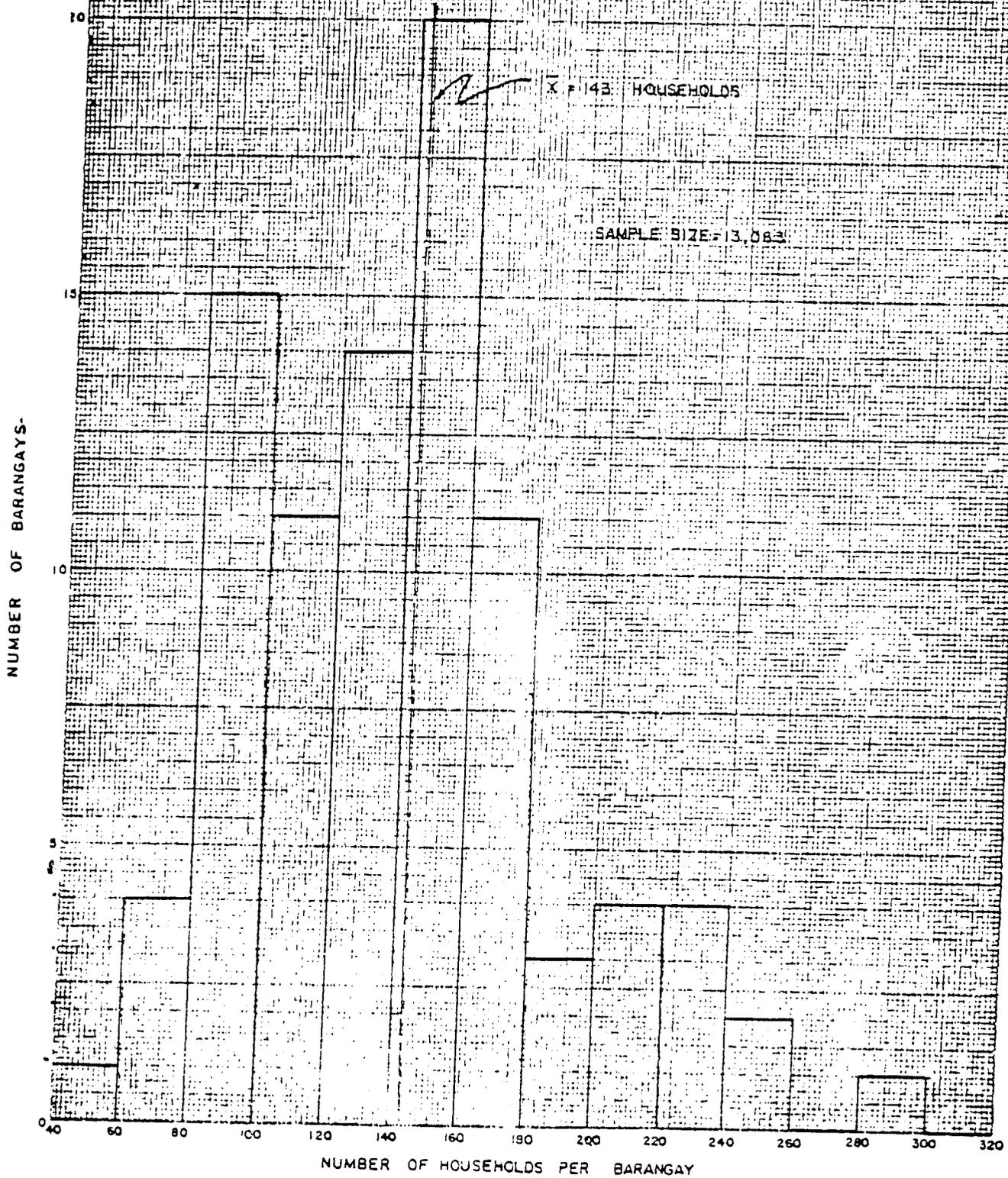
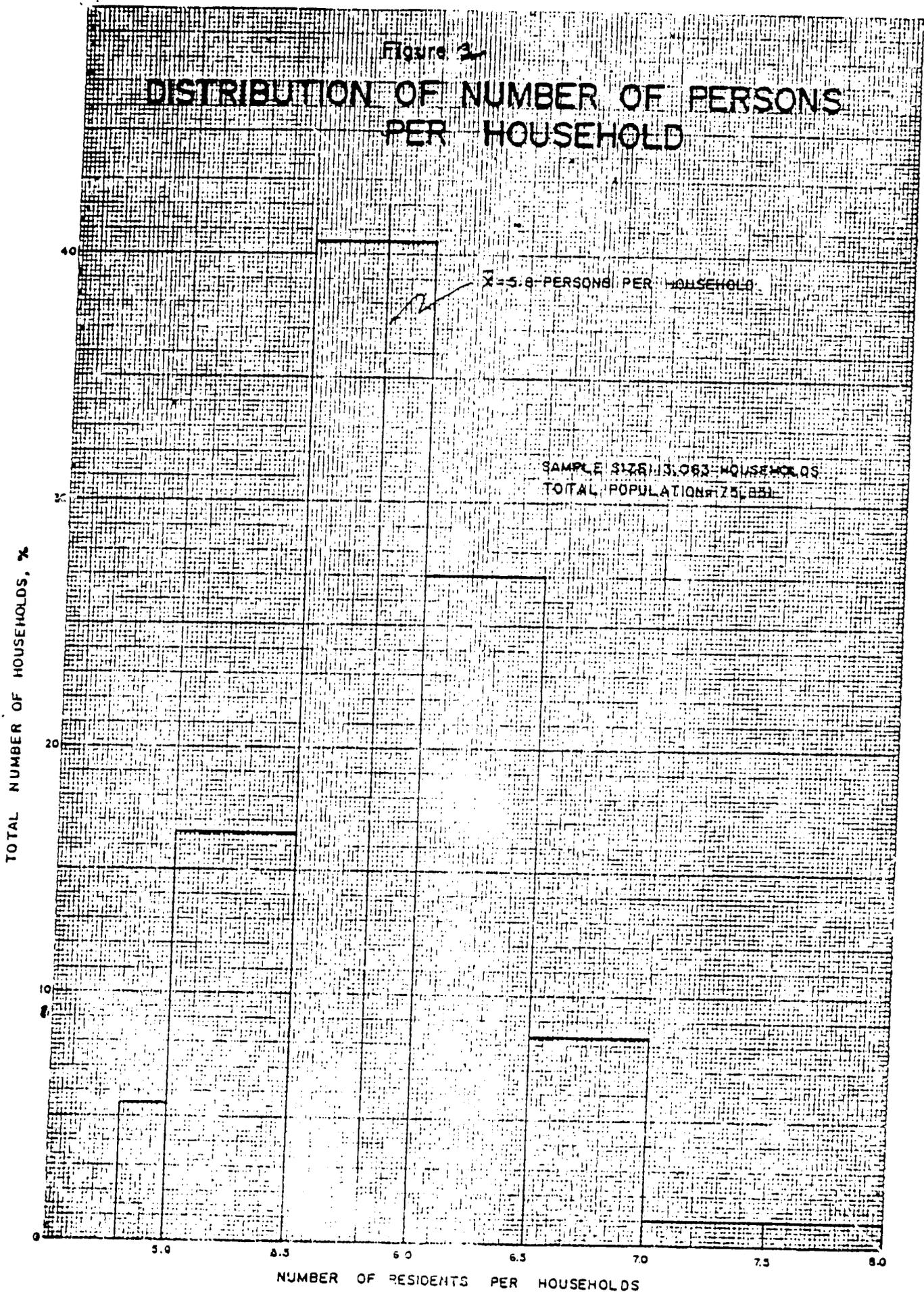


Figure 2

# DISTRIBUTION OF NUMBER OF PERSONS PER HOUSEHOLD



NUMBER OF RESIDENTS PER HOUSEHOLDS

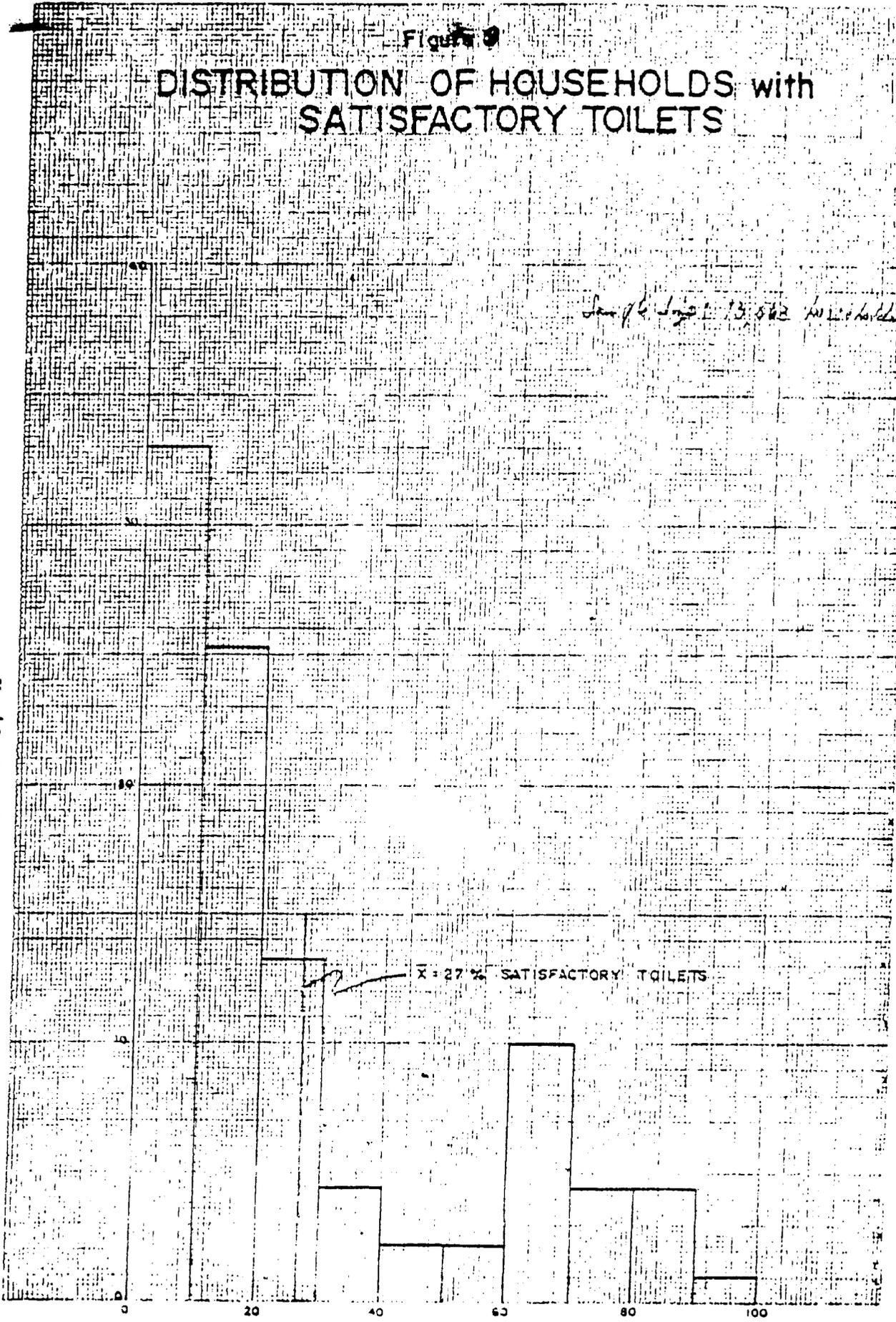
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Figure 9

# DISTRIBUTION OF HOUSEHOLDS with SATISFACTORY TOILETS

Sample Size: 13,562 households

TOTAL NUMBER OF BARANGAYS, %



$\bar{x} = 27\%$  SATISFACTORY TOILETS

HOUSEHOLDS PER BARANGAY WITH SATISFACTORY TOILETS, %

Sanitation Survey Results

From the results of the survey, general observations on the inadequacy of sanitation facilities and poor sanitation habits in the rural areas of the province of Albay and Camarines Sur have been reinforced. The percent sanitation level can be used as a measure by which a priority ranking can be established and also as a means of verifying changes in sanitation conditions, thus serving as a convenient monitoring and impact evaluation device. The individual barangay results could be used as the basis for the barangay's health and sanitation improvement plan.

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For detail analysis of methodology and findings of the environmental sanitation survey, see the BRBDP Report "Environmental Sanitation Survey, October 1978".

ANNEX I

PROJECT DESIGN LOGICAL FRAMEWORK SUMMARY

PROJECT DESIGN SUMMARY  
LOGICAL FRAMEWORK

Project Title & Number

Bicol Integrated Health, Nutrition and Population Project

Sector Goal: To raise the quality of life and real per capita incomes of the residents of 400 rural barangays in Camarines Sur and Albay. (A-1)

Project Purposes: (B-1)

1. Health, nutrition and population services effectively reaching the rural barangays through an economical, integrated and continuing delivery system.
2. Improved sanitary environment and household water supplies in rural barangays.
3. Increased local government financial support of health, nutrition and population programs.
4. Increased participation of barangay workers and residents alike in health, nutrition and population programs.

Project Outputs: (C-1)

1. Rural Institutional Development
  - a. Barangay Health Aides (BHAs) recruited by rural barangay council and local governments and trained by interagency training staff.
  - b. Barangay Health, Nutrition and Population Teams organized and functional in target rural barangays.
  - c. BHA kits distributed to participating barangays.
  - d. Continuing BHA integrated training program established, staffed and operational.

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- e. Tri-media Information, Education, Communication and Motivation (IEM) Campaign launched and continuing to reach all participating rural barangays.
  - f. Rural Improvement Clubs, Homemakers' Clubs, 4-H Clubs and other rural clubs organized in every participating barangay and actively working with BINPTs.
  - g. Additional Diocesan Nutritionists, Food-for-Work (FFW) Coordinators, and Community Organizers assisting in food distribution and community development in an integrated manner.
  - h. Expanded Feeding programs for nutrition in every barangay through feeding and cooking equipment provided for the Barangay Development Centers (BDCs).
  - i. Village Drugstores (Botika sa Barangay) established and operational in participating barangays.
  - j. MOH immunization program expanded in participating barangays.
  - k. Microscopy Centers established and operational as part of Municipal Health Centers.
2. Physical Health Infrastructure and Sanitation Development
    - a. Laboratories in the provincial hospitals of Camarines Sur and Albay upgraded to perform bacteriological, and chemical analysis of water sources and offering new services such as histo-pathology, cyto-pathology, serology, blood banking, clinical microscopy, blood chemistry and hematology.

- b. Municipal Health Centers renovated.
- c. Barangay Health Stations constructed.
- d. Municipal Health Center Extensions established and operational.
- e. Health, sanitation and pre-construction survey of all rural barangays.
- f. Barangay community-type water facilities constructed and individual household water facilities improved.
- g. Effects of chlorinated drinking water demonstrated.
- h. Individual household pit privies and communal toilets for barangay schools constructed.
- i. Improved drainage facilities.

Project Inputs: (D-1)

- 1. Existing and additional manpower and physical resources.
- 2. Foreign Exchange and GOP counterpart funds.
- 3. Training programs for trainers, BHAs and line agency personnel.
- 4. Barangay labor contributions.

OBJECTIVELY VERIFIABLE INDICATORSMeasures of Goal Achievement: (A-2)I. Goal

1. Perceived and objective quality of life indicators improved by 1984.
2. Reduced absenteeism from work and schools due to illness.
  - 1.a. Life expectancy increased from 59.0 to 62 years by 1984 in the target barangays.
  - 1.b. Infant mortality rate reduced from 72.7 to 54.4 per 1,000 live births by 1984.
  - 1.c. Foetal death rate reduced from 6.2 to 4.7 per 1,000 live births by 1984.
  - 1.d. Maternal mortality rate reduced from 1.34 to .92 per 1,000 live births by 1984.
  - 1.e. Incidence of first degree, second degree and third degree malnutrition among pre-schoolers reduced from 47.38 percent to 9.48 percent, 23.46 percent to 2.35 percent and 5.51 percent to zero respectively by 1984.
  - 1.f. Incidence of parasitic infestation of the total population reduced from 90 percent to 30 percent by 1984.
2. Crude death rate reduced from 5.8 to 3.9 per 1,000 population by 1984.
  - 3.a. Morbidity due to water-borne diseases and intestinal parasitism reduced from 600 to 350 cases per 100,000 population by 1984.

- 3.b. Morbidity due to tuberculosis and other pulmonary diseases reduced from 1,500 to 1,000 cases per 100,000 population by 1984.
4. Birth rate reduced from 40.32 to 30.32 per 1,000 population by 1984.
5. Local governments completely funding all required expenses for the 400 barangays in support of the project.

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

- 1.a. 80 percent of the targeted households using "recommended" preventive health practices by 1984.
- 1.b. Of the targeted rural population, the immunization program reaching:
  - 1) 90 percent of school entrants and 80 percent of newborn children for Bacillus Calmette Guerin (BCG) by 1984.
  - 2) 70 percent of the targeted population for Cholera, El Tor, Typhoid and Paratyphoid (CTPa) by 1984.
  - 3) 80 percent of infants for DPT (Diphtheria, Pertussis, Tetanus) by 1984.
  - 4) 50 percent of pre-natal cases for Tetanus Toxoid by 1984.
  - 5) 40 percent of school entrants for Trivalent Oral Polio Vaccine (TOPV) by 1984.
- 1.c. 80 percent of targeted infants and pre-schoolers participating in expanded nutrition programs by 1984.
- 1.d. 50 percent of targeted pregnant and nursing mothers using "approved" nutrition practices by 1984.

- 1.e. 40 percent of targeted married women of reproductive age (MRA) using family planning methods by 1984.
- 2.a. 70 percent of the targeted population using "satisfactory" toilets by 1984.
- 3.a. 100 percent of stipends of 400 BHAs funded from local government revenues by 1984.
- 3.b. 400 barangays constructed barangay development centers by 1983 from local funds.
- 4.a. OVIs 1a to 1g.
- 4.b. 27.0 percent repayment rate achieved on loans for water supply facilities and individual household toilets by 1984.
- 4.c. 44,800 families putting up their own blind drainage systems by 1984.

Magnitude of Output : (C-2)

- 1. Rural Institutional Development
  - a. 400 barangays employing trained BHAs by 1984.
  - b. 400 Barangay Health, Nutrition and Population Teams (BHNPTs) organized by BHAs and the Barangay Councils and backstopped by interagency operations by 1984.
  - c. 400 BHA kits distributed by 1984.
  - d. 1 regional interagency training team constituted, continuing BHA training program operational in a training center by 1979.
  - e. IECM activities intensified and covering 400 barangays by 1984.

- f. Rural Improvement clubs, Homemakers clubs, 4-H clubs and other rural clubs functional and assisting the project in 400 participating barangays by 1984.
  - g. 5 Diocesan Nutritionists, 3 FFW Coordinators and 3 Community Organizers deployed by 1979.
  - h. 400 barangays completing expanded feeding programs by 1984.
  - i. 400 self-liquidating village drugstores operating by 1984.
  - j. MOH immunization program expanded through BHA help, servicing 400 barangays by 1984.
  - k. Microscopes and supplies distributed to 38 municipalities without microscopy centers by 1979.
2. Physical Health Infrastructure and Sanitation Development
- a. 2 provincial hospital laboratories and Regional Public Health Laboratory upgraded by 1979.
  - b. 7 Municipal Health Centers renovated by 1979.
  - c. 9 new Barangay Health Stations constructed by 1979.
  - d. 55 Municipal Health Center Extensions constructed by 1979.
  - e. 1,370 barangays surveyed by 1979.
  - f.1. 1,600 units of barangay community-type water facilities constructed or improved by 1984.
  - f.2. 2,000 units of individual household water supply facilities improved by 1984.
  - g. Chemicals for chlorination (70 percent hypochloride powder) for a year's supply distributed to 64,000 households by 1984.
  - h.1. 32,000 rural households construct sanitary toilets by 1984.

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h.2. 400 barangay schools with new or improved communal  
toilets by 1984.

Implementation Target (Type and Quantity) (D-2)

(See Financial and Implementation Plan)

MEANS OF VERIFICATION

(A-3)

I. Goals

1. Actuarial reports
2. MOH, MEC (MCH, NNS, NFPO, DIC) reports
3. NNS and NNC reports
4. POPCOM reports
5. NCSO reports
6. Provincial and Municipal Treasurer's reports
7. Survey reports (SSRU or other institutions)
8. Project monitoring and Evaluation reports

(B-3)

1. Actual reports
2. MOH (MCH, NNS, NFPO, DIC) reports
3. NNS and NNC reports
4. POPCOM reports
5. NCSO reports
6. Provincial and Municipal Treasurer's reports
7. Survey reports (SSRU or other institutions)
8. MLGCD reports
9. Project Monitoring and Evaluation Group reports
10. NFW and LWUA reports

## (C-3)

1. Rural Institutional Development
  - a. Participating agency reports
  - b. BIA reports
  - c. Project monitoring and evaluation Group Reports
2. Physical Health Infrastructure and Sanitation Development
  - a. MOH reports
  - b. RHU-Sanitary Inspection reports
  - c. NNC reports
  - d. NLCCD reports
  - e. BIA reports
  - f. Project Monitoring and Evaluation reports

## (D-3)

1. Participating agency reports
2. BRBDP documents
3. BIA reports
4. Independent researchers' reports

IMPORTANT ASSUMPTIONSAssumptions for achieving goal targets: (1-4)I. Goal

Bicol portions of national infrastructure projects (transportation, irrigation, electrification, etc.) and other BRBDP projects implemented as planned.

1. Preventive health and sanitation practices are compatible with rural customs, attitudes and beliefs, or the latter can be made to change.
2. Low-cost nutritious diets can be devised that are palatable to the targeted population.
3. Effective birth control methods are acceptable to rural residents and targeted families see personal advantages to family planning not overcome by traditional desires for large families.
4. The P.L. 480 Title II program will provide food supplements to families with malnourished children and also provide funding for some other project components.

Assumptions for achieving purpose: (3-4)

1. Rural residents can be sufficiently motivated as to the importance of a sanitary environment and improved water supplies to pay the additional costs (repay loans and pay water fees) and provide the necessary labor and their monthly cash income will permit them to do so.

2. The Real Property Tax Administration System implemented as planned in the project area and thus result in sufficient additional revenues to cover BHA stipends as expected.
3. Barangay residents of sufficient capability and motivation can be recruited to perform the functions planned.
4. Central government line agencies and the POPCOM are able to work together in close cooperation to train and backstop BHAs and will reorganize their staffs.
5. Effective logistics systems are established in MOH, POPCOM, NNC and BAHx to support required expanded rural barangay programs.
6. National GOP and IBRD programs to increase the numbers and coverage of Municipal Health Centers, Barangay Health Stations, Midwives, Home Management Technicians, and Full Time Outreach Workers implemented in Bicol as planned.

Assumptions for achieving outputs: (C-4)

1. Barangay Councils and residents agree with the concept of appointing qualified people and the system of recruitment, and qualified candidates exist who are willing to perform BHA work in their own barangays for a small stipend.
2. Rural barangay councils and residents will agree to pay small fees for safer water, and primary drainage facilities as well as the maintenance of their facilities.
3. Chlorination of water is acceptable to rural barangay residents.

4. Barangay councils will provide buildings for the Barangay Development Centers.
5. Rural residents will provide the labor and will agree to undertake the financing commitments for the construction of water-sealed toilets.
6. Households will construct their own blind drainage as needed.

Assumptions for providing inputs: (D-4)

1. USAID and GOP counterpart funds made available by Congress and the national offices of the line agencies involved as scheduled.

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ANNEX J  
PROJECT CHECKLIST

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. 601(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). **N.A.**
9. FAA Sec. 612(b); Sec. 601(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 60% overall project cost in local currency.**

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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 ~~some~~ <sup>core</sup> areas of ~~Panay Island, Albay and Camarines Sur.~~

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

N.A.

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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; ~~Project~~ Institutions developed by the 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 to 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.

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?

APAC PID APPROVAL

UNCLASSIFIED STATE 081592

SUBJECT: BICOL INTEGRATED HEALTH, NUTRITION, AND POPULATION PROJECT (492-0319) PROJECT IDENTIFICATION DOCUMENT (PID)

Quote:

- 1. APAC approved PID for Bicol Integrated Health, Nutrition, and Population Project (BIHNP) March 21, subject to the following guidance and conditions:
  - A. Systems Approach - The APAC accepted that the project is now only at a PID stage and that many issues might be resolved in the final pp, but felt that the state of DOH reorganization to deal with health delivery systems is still in flux. APAC requests that the pp not be submitted to AID/W until the Mission is satisfied that reorganization has proceeded far enough to assure improved health delivery systems; otherwise, the project purpose of the BIHNP would be confined to the deployment of multi-functional health workers at the Barangay level.
  - B. Barangay Health Agent (BHA) Qualifications - the APAC questioned whether minimum recruitment standards for BHA's should be influenced by temporary surplus of highly qualified midwives (12 years of school plus two years post-secondary education). It was felt that minimum qualifications should be set much lower in any program designed to have a national spread effect, although more qualified personnel could be employed when available at a given time and a given locality. APAC was concerned (a) with cost effectiveness and (b) possibility that more qualified personnel might not reside in or work with the people of Barangays and might leave the program whenever more desirable employment is available. APAC saw no reason to set recruitment standards higher than proposed for similarly designed PUSH Project, i.e. six years formal schooling.
  - C. Evaluation - evaluation plan for project should be designed to address performance at three levels: goal impact on improvement of health status, effectiveness of administrative arrangements and multi-agency coordination and operational effectiveness of BHA. COOPER

unquote.

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ANNEX K

MISSION DIRECTOR'S SECTION 611 (e)  
CERTIFICATION

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U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT  
Manila Philippines

Ramon Magsaysay Center  
1680 Roxas Boulevard

Telephone: 59-80-11

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

I, Peter M. Cody, the Principal Officer of the Agency for International Development in the Philippines, having taken into account, 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.



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Peter M. Cody  
Director  
USAID/Philippines

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Date

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ANNEX L

DRAFT PROJECT AUTHORIZATION

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ANNEX M

REQUEST FOR ASSISTANCE