

PD-AAD-577

(Do Not ABSTRACT -) (Ref 11/1/77)

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PD-AAD-579

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71
ORIGIN AID-43

16 p

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A:DAC

E.O. 11652: N/A

TAGS:

SUBJECT: BICOL INTEGRATED RURAL DEVELOPMENT GRANT AND
BICOL INTEGRATED AREA DEVELOPMENT III (LOAN)

1. SEVERAL REVIEW SESSIONS WERE HELD TO CONSIDER SUBJECT
PIDS. CONSENSUS OF OPINION IS THAT THERE IS INSUFFICIENT
INFORMATION GIVEN IN THE GRANT PID TO PERMIT THE
EVALUATION OF THE NATURE AND INTENT OF THE PROJECT.
REQUEST, THEREFORE, THAT THE MISSION SUBMIT REVISED PID

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BASED UPON HANDBOOK 3 REQUIREMENTS. SPECIFICALLY, THE PID SHOULD ADDRESS ITSELF TO SUCH QUESTIONS AS: WHY SHOULD AID GIVE ADDITIONAL TECHNICAL ASSISTANCE TO BRBC AND WHAT WOULD BE THE IMPACT ON THE BRBC IF SUCH ASSISTANCE NOT FORTHCOMING? WHAT IS THE PROJECT DESIGNED TO DO? WHAT IS THE BASIS FOR SAYING FISCAL YEAR 1981 WOULD BE LAST YEAR OF SUPPORT? HOW WAS THE PROJECT FUND TOTAL DERIVED AND HOW MUCH WOULD BE ALLOCATED FOR EACH KIND OF ACTIVITY TO BE SUPPORTED UNDER THE PROJECT? ARE OTHER AID INPUTS REQUIRED? IN ADDITION, A GENERAL STATEMENT OF THE GOAL/PURPOSE/OUTPUT RELATIONSHIP FOR THIS PROJECT IS REQUESTED.

2. IN YOUR SUMMARY OF THE PROBLEM TO BE ADDRESSED AND THE PROPOSED SOLUTION TO THAT PROBLEM, PLEASE CONSIDER THE FOLLOWING QUESTIONS: HAVE THE OPERATIONS AND PLANNING OF THE BICOL RIVER BASIN COUNCIL BEEN CARRIED OUT IN SUCH A WAY AS TO ACHIEVE THE OBJECTIVES SET FORTH IN THE REVISED PROP FOR THE ORIGINAL BICOL RIVER BASIN DEVELOPMENT GRANT PROJECT? THAT IS, HAS THE COUNCIL DEVELOPED AND PERFORMED ITS FUNCTIONS IN A MANNER CONSISTENT WITH GOP PLANS? DOES THE COUNCIL HAVE ANY AS YET UNREALIZED DEVELOPMENT POTENTIAL WHICH MIGHT BE ACTUALIZED BY FURTHER TECHNICAL ASSISTANCE FROM AID? THE RELATIONSHIP OF THE COUNCIL TO THE THREE PROVINCES (ALBAY, CAMARINES DEL NORTE, CAMARINES DEL SUR) SHOULD BE DISCUSSED.

3. AID/W WOULD APPRECIATE BEING UPDATED ON A REGULAR BASIS, SAY MONTHLY OR QUARTERLY, AS TO THE PROGRESS OF THE ORIGINAL DEVELOPMENT IN TERMS OF WHAT THE COUNCIL IS ACCOMPLISHING AND WHAT PROBLEMS IT IS ENCOUNTERING. PROGRESS REPORTS ALREADY BEING PREPARED BY AND FOR THE COUNCIL COULD BE COPIES TO AID/W,

4. QUESTION OF REPLICABILITY AS IT APPLIES TO ORIGINAL BICOL RIVER BASIN DEVELOPMENT PROJECT WAS RAISED. POINTS ON THIS ISSUE INCLUDE FOLLOWING:

(A) CAN THE INSTITUTIONAL ASPECTS AND/OR POSSIBLE

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OTHER SPECIFIC ACTIVITIES BE REPLICATED ELSEWHERE?

(B) SINCE THE DEVELOPMENT PROJECT HAS BEEN A PIONEERING EFFORT IN PHILIPPINES, HOPEFULLY COST OF REPLICATING (ASSUMING IT DESIRABLE) WOULD BE SUBSTANTIALLY LESS THAN ORIGINAL PROJECT COSTS. WOULD APPRECIATE YOUR COMMENTS.

(C) THERE ARE STILL SOME MISGIVINGS REGARDING PER CAPITA COSTS AND COST EFFECTIVENESS OF THE BICOL PROGRAM VS. ALTERNATIVE POSSIBILITIES. WOULD APPRECIATE YOUR COMMENTS.

B. BICOL INTEGRATED AREA DEVELOPMENT III: APPROVAL OF PID FOR THIS LOAN PROJECT IS CONTINGENT UPON ULTIMATE APPROVAL OF PID FOR GRANT PROJECT. HOWEVER, FOLLOWING QUESTIONS SHOULD BE CONSIDERED IN DEVELOPMENT OF PRP FOR LOAN PROJECT:

(AA) WHILE PROPOSED PROJECT APPEARS HAVE GOOD POTENTIAL DEVELOP INTO VIABLE INVESTMENT OPPORTUNITY, IT RAISES DUAL ISSUES ON DEGREE OF AID INVOLVEMENT IN INFRASTRUCTURE

WHICH RAISED AT REVIEW AND APPROVAL ORIGINAL PROP. FIRST ISSUE IS RELATIVE PRIORITY AID FUNDING ALLOCATED TO INFRASTRUCTURE VS OTHER PROJECT OPPORTUNITIES. SECOND ISSUE IS STATED OBJECTIVE OF ORIGINAL PROP APPROVAL THAT BICOL PROGRAM WOULD NOT EVOLVE INTO PROGRAM PRIMARILY SUPPORTED BY AID. IN THIS REGARD, INDICATIONS OF GOP PRIORITIES AND FUNDING WOULD BE USEFUL. GIVEN LARGE AMOUNTS AND LONG-TERM FUTURE POTENTIAL INVESTMENT REQUIREMENTS, NEED WAS CLEARLY PERCEIVED AT PROGRAM OUTSET THAT OTHER DONORS SHOULD BE INVITED INTO PROGRAM BY GOP AT EARLIEST PRACTICABLE DATE. SINCE THIS PROJECT OF TYPE TRADITIONALLY SUPPORTED BY ADB AND IBRD PROGRAMS, DOES OPPORTUNITY EXIST FOR SOLICITING THEIR SUPPORT? IF SO AID COULD POSSIBLY SUPPORT DOWNSTREAM DEVELOPMENT PROGRAM - PARTICULARLY ON FARM ACTIVITIES, AND/OR REALLOCATE PORTION OF FUNDS TO OTHER PROJECTS IN BASIN NOT READILY TRANSFERABLE TO OTHER LENDERS.

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(BB) THE PRP SHOULD CONTAIN A SOCIAL IMPACT STATEMENT WHICH DISCUSSES THE RAMIFICATIONS FOR SMALL FARMER SUPPORT ASPECTS OF THIS PROJECT. SUCH A STATEMENT SHOULD COVER SUCH AREAS AS LAND REFORM, WATER USERS' ASSOCIATIONS, ETC. IN ADDITION, THE STATEMENT SHOULD POINT OUT HOW THIS PROJECT WILL SERVE TO BRING INCREMENTAL PRODUCTION (AGRICULTURAL AND OTHER) ON-LINE QUICKLY FOR BENEFIT OF SMALL FARMERS.

(CC) APPROVAL OF PRP MAY BE CONTINGENT UPON SUCCESS IN SO DESIGNING PROJECT AS TO INCLUDE SOCIAL DEVELOPMENT ASPECTS.

(DD) TAKE NOTE THAT APPROVAL FOR THE PP REPEAT PP ON THIS PROJECT WILL BE CONTINGENT ON AID/W AGREEMENT TO AN OVERALL MASTER PLAN FOR THE BICOL RIVER BASIN WHICH SHOULD BE DRAWN UP BY THE BICOL RIVER BASIN DEVELOPMENT COUNCIL BY JUNE, 1977. SUCH A PLAN WE BELIEVE WOULD NEED TO ARTICULATE THE COUNCIL'S PLAN FOR AGRICULTURAL DEVELOPMENT AND INFRASTRUCTURE DEVELOPMENT AND HOW THESE TWO OBJECTIVES WILL BE COORDINATED. ADDITIONALLY, SUCH A PLAN SHOULD STATE COUNCIL'S OVERALL DEVELOPMENT OBJECTIVES FOR THE BASIN AND HOW THE COUNCIL PLANS TO FUND THE PROJECTS. SUCH A STATEMENT WOULD INCLUDE A DISCUSSION OF THE COUNCIL'S PHILOSOPHY REGARDING DEVELOPMENT IN THE BASIN AND WOULD ALSO DETAIL ITS FUNDING STRATEGY, CITING POTENTIAL SOURCES OF FUNDS. SUCH PLANS WOULD PRESUMABLY NEED GOP ENDORSEMENT PRIOR TO AID AUTHORIZING PROPOSED LOAN.

(EE) REQUEST FULLEST POSSIBLE COVERAGE OF ECONOMIC RATE OF RETURN FOR THIS PROJECT AS A WHOLE AS WELL AS ANY MAJOR SEPARABLE PARTS.

(FF) SINCE THIS IS LARGE INFRASTRUCTURE ACTIVITY AND, AS SUCH, SUBJECT POTENTIAL COST ADJUSTMENTS AND ESCALATION -- PLEASE PROVIDE DETAILED DISCUSSION COST BREAKDOWN, METHOD DETERMINATION, ESTIMATED POTENTIAL FOR COST VARIATIONS AND/OR ESCALATION AND AID POSITION RE ALLOCATION RESPONSIBILITY COST INCREASES IF THEY

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MATERIALIZE. IT WILL BE INCREASINGLY DIFFICULT IN FUTURE TO COVER COST ADJUSTMENT BY UPWARD ADJUSTMENT AT PP STAGE AND ACCOMPANYING 113 INSTRUCTIONS.

(GG) REQUEST THAT ENVIRONMENTAL IMPACT QUESTIONS BE FULLY COVERED IN PRP BY MEANS OF AN INITIAL ENVIRONMENTAL EXAMINATION (IEE) WHICH IS REQUIRED. ASSUME PREPARATION OF IEE'S WILL BE CONCERN OF SENIOR ENVIRONMENTAL SPECIALIST ASSIGNED TO USAID MANILA. KISSINGER

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AGENCY FOR INTERNATIONAL DEVELOPMENT
PROJECT IDENTIFICATION DOCUMENT FACESHEET
 TO BE COMPLETED BY ORIGINATING OFFICE

1. TRANSACTION CODE
 C A = ADD
 C = CHANGE
 D = DELETE

PID
 2. DOCUMENT CODE 1

3. COUNTRY/ENTITY Philippines. 4. DOCUMENT REVISION NUMBER

5. PROJECT NUMBER (7 DIGITS) 492-0303 6. BUREAU/OFFICE
 A. SYMBOL ASIA B. CODE 04 7. PROJECT TITLE (MAXIMUM 40 CHARACTERS)
 Bicol Integrated Rural Development

8. PROPOSED NEXT DOCUMENT
 A. 3 2 = PRP
 3 = PP B. DATE 10/7/6

10. ESTIMATED COSTS (\$000 OR EQUIVALENT, \$1 = P 7.50)

FUNDING SOURCE		AMOUNT
A. AID APPROPRIATED		2,890
B. OTHER U.S.	1.	
	2.	
C. HOST COUNTRY		6,900
D. OTHER DONOR(S)		
TOTAL		9,790

9. ESTIMATED FY OF AUTHORIZATION/OBLIGATION
 1/ a. INITIAL FY 7 3 b. FINAL FY 8 1

11. PROPOSED BUDGET AID APPROPRIATED FUNDS (\$000)

A. APPRO- PRIATION	B. PRIMARY PURPOSE CODE	PRIMARY TECH. CODE		E. FIRST FY <u>78</u>		LIFE OF PROJECT	
		C. GRANT	D. LOAN	F. GRANT	G. LOAN	H. GRANT	I. LOAN
(1) FN	B-291	210		900		2,890	
(2)							
(3)							
(4)							
TOTAL				900		2,890	

12. SECONDARY TECHNICAL CODES (maximum six codes of three positions each)

13. SPECIAL CONCERNS CODES (MAXIMUM SIX CODES OF FOUR POSITIONS EACH)

BS BR

14. SECONDARY PURPOSE CODE

15. PROJECT GOAL (MAXIMUM 240 CHARACTERS)
 To raise the socio-economic level of the poor majority in the Bicol River Basin and extended influence areas (Program Area) to the national average by 1990 and to sustain its growth rate at the national average after 1990.

16. PROJECT PURPOSE (MAXIMUM 480 CHARACTERS)

#1 Secure major financing from external donors and domestic sources and physically begin implementation of 8 or more socially and economically feasible, integrated development projects in the Bicol from 1977 to 1981.

#2 Increase private sector agribusiness and rural manufacturing investments in the Bicol.

#3 Manage AID support projects and coordinate all AID support in the bicol.

17. PLANNING RESOURCE REQUIREMENTS (staff/funds)

18. ORIGINATING OFFICE CLEARANCE

Signature: [Signature]
 Title: Asst. Director for Regional Development
 Project Manager Date: 08/27/6

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

AID 1330-2 (3-76)

1/ The PP will also justify FY77 funding under the old Program.

1. Summary of the Problem and the Development Response:

-- The Problem --

The development problems and constraints of the Bicol are well documented beginning with the 1973 Bicol River Basin framework plan, the BRBDP Comprehensive Development Plan 1975-2000, the Bicol Project PROP, FY 74-76 PROAGs, socio-economic surveys, major water resources studies, project papers for current AID loans in the Bicol and other documentation. The results of three years of initial studies indicate that the Bicol Program Area has immediate development potential, particularly in the areas of agricultural development, promotion of the private sector in terms of agribusiness and rural manufacturing, supporting physical infrastructure, and social services. This section provides current background and a summary of the key development constraints that continue to be the focus of the ongoing GOP effort as it moves into intensive component project packaging, implementation and impact evaluation.

The core of the economically depressed Bicol Region is the two provinces (Camarines Sur and Albay) making up the Bicol River Basin and its influence area. This program area, recently enlarged by Presidential Decree 926, includes 706,000 hectares and has 1.6 million inhabitants. The area is characterized by:

- a high rate of crude population growth (3.3%);
- coupled with a high rate of outmigration (1.0%);
- low per capita production and income compared with other regions (only 59% of the national average);
- serious maldistribution of income;
- low rate of savings and investment;
- a lower than average ratio of manufacturing activity;
- physical and economic isolation from Manila and other markets, high transportation costs due to bad roads, a dilapidated railroad and inadequate shipping;
- lack of employment opportunities;
- hostile physical environment, periodic typhoons, flooding, poor drainage, salinity intrusion, the cumulative effects of which adversely affect production;
- inefficient production and marketing technology;
- inequitable land tenure arrangements and small farm size (1.7 ha.);
- poverty and technological ignorance in the home with a high level of malnutrition, disease, and infant-child mortality.

Many of the above problems and constraints to development should yield to adequate capital investments, appropriate technological transfers coordinated and integrated GOP efforts, increased popular participation, and accelerated total net private sector investment.

The GOP and the Mission believe the major constraints to rapid development can best be alleviated at less cost through a set of multi-sectoral, integrated area development^{1/} projects, complemented by the successful implementation of key, ongoing GOP programs (e.g., land reform, rural electrification, etc.).

-- Institutional Development --

In recognition of the above historical constraints and confirmed high development potential, the GOP formally designated the Bicol River Basin Development Program as one of the four nationally supported efforts under the Cabinet Coordinating Committee for Integrated Rural Development. Presidential Decree 926 was signed by President Marcos on April 28, 1976, committing the GOP to accelerated planning, implementation and monitoring of an "integrated multi-project area development program" in the Bicol. The full text of this decree is included in TDAID A-109 dated May 12, 1976, and should be carefully perused in order to gain a full understanding of the program's new direction, and organizational relationships and responsibilities, which are key considerations in the requirement for the revised USAID grant Bicol Project in support of the GOP program. This new GOP thrust is a logical follow-on to the formative Bicol River Basin Council which has been replaced by a Program Cabinet Coordinator and a strengthened Program Office in the Bicol.

The organization and coordinating structure is in place; this includes increased authorities, well-defined policies including a clear coordinating and monitoring role, and very significantly, authorized annual budget appropriations. The institutional capability is present to do integrated planning and to monitor implementation which was one of the major objectives of the original grant project.

^{1/} Integrated Area Development (IAD) is a systems approach to development of a target area of high growth potential. Planning and implementation is based on existing programs and feasibility studies to determine the most feasible package of physical infrastructure, agricultural production, agribusiness and manufacturing, and social service activities, integrated and coordinated into a single project or an interlinked set of projects. (See Libmanan/Cabusao IAD (PP) and Bula IAD II (PRP)).

Parang... (handwritten)

The thrust of this proposed project is to package feasible Integrated Area Development projects and integrated sectoral projects for other donor financing. It is in support of this intensive effort to package and arrange funding for the various program components that this revised Bicol grant project (IRD) is addressed, plus continued support and monitoring functions of current and proposed AID projects and programs in the Bicol. There remains a critical need for technical assistance in project studies and surveys, project development (packaging activities) and the design of impact evaluation. Both the GOP and the Mission feel that unless the present planning and packaging momentum is sustained and accelerated, and unless major financing can be arranged within the next few years, the established institutional framework and the fledgling regional development program itself would falter and fail to achieve its objectives.

Wages... (handwritten)

-- The Goal --

A well-defined goal has emerged from BRBDP-USAID analysis. This revised grant project goal is a summary statement of the GOP Bicol River Basin Program: To raise the socio-economic level of the poor majority in the Bicol River Basin and extended influence areas (Program Area) to the national average by 1990 and to sustain its growth rate at the national average after 1990. Stated in human terms, the goal is to help primarily subsistence level villagers in a depressed region of the Philippines catch up with the average Filipino by 1990. The classical development problems are all present. This goal embodies the U.S. Congressional Mandate on Aid almost to the letter. The primary measures of goal achievement are increased per capita income (6.3% annually from 1975 to 1990), more equitable distribution (lower 50% receiving 25% of total income in 1990, up from 13% in 1974), and reduced unemployment (7.7% in 1974 to 3% in 1990).

The sub-goals, conceptually, are the aggregation or sum of the outputs and purpose level achievements of all BRBDP sponsored projects and a much higher level of private sector investment. They assume the successful achievement of other key GOP programs. Only through the complementary effects of a set of interlinked, integrated projects and programs can the GOP goal be achieved by 1990.

-- Purpose --

The purpose of this revised grant project in support of the GOP Program is clearly action-oriented:

1. To secure major financing from external donors and domestic sources and physically begin implementation of eight or more socially and economically feasible integrated development projects in Bicol from 1977 to 1981.

2. Increase private sector agribusiness and rural manufacturing investments in Bicol.
3. Manage AID support projects and coordinate all U.S. support to the Bicol. *and other external donor support*

Three additional AID-GOP financed capital projects are proposed (the last in FY 1979), with the balance of the additional capital requirements for the program provided by other external donors. Multi-donor financing is the preferred alternative beginning in FY 1978. After 1981, the GOP Program is expected to be well into the implementation phase with a set of interlinked loan projects and the planning and packaging process fully self-sustaining. For the private sector, several feasibility studies are expected to result in major investments, and increased agriculture production is expected to result in increased agribusiness and other private sector investments.

The most critical assumption is that capital will be available from external donors (a share from AID) and that it will continue to be matched by GOP resources for feasible projects in the Bicol Program Area. On the private sector side, it is assumed that the current favorable investment climate will be stimulated further by the GOP and that GOP infrastructure and other projects will provide needed complementarities.

-- Outputs --

The project outputs are:

1. Studies and surveys conducted defining basic and second generation problems and providing detailed baseline and revised planning data leading to project packaging.
2. Identify, plan and package a minimum of 12 major development loan projects in Bicol by 1981.
3. In-depth resource assessment conducted, agribusiness and rural manufacturing potential identified, feasibility studies completed, and provided to potential investors.
4. AID funded loan and grant projects planned, monitored and evaluated as scheduled.

How do we do this?
much for

The first three managed outputs are the most critical in terms of developing projects, attracting external capital, justifying scarce domestic resources, and, for the private sector, encouraging investment. The main thrust of the project outputs is packaging projects that will lead to hard investments in the Bicol. The basis for the magnitude of the outputs is the BRBDP Comprehensive Development Plan and other planning projections that have been developed over the previous three years.

The fourth output describes a key USAID technical assistance function relating to current and proposed AID assistance projects and links AID project design, monitoring and evaluation requirements to the GOP management information system, including integrated networks. This output will contribute to AID and BRBDP management coordination. The next full evaluation is scheduled for June 1977.

The BRBDP institutional framework and organization are in place (original project purpose achieved ahead of schedule). A reasonable assumption is that it will continue to function effectively under PD 926; furthermore, that both the GOP and AID will continue to place a high priority on the Bicol Program and provide adequate budget and technical resource inputs.

-- Inputs --

The inputs expressed in budget terms and general categories are described in the financial plan. It is important to relate the magnitude of total capital costs for BRBDP component projects initiated at the purpose level (not a project cost) in order to relate the ratio of project development costs (broadly defined) to the estimated capital investments generated. The order of magnitude is \$200-\$250 million in capital investments obligated from 1975 through 1981.

It is important to recognize that each discrete BRBDP loan project associated with this grant project must stand on its own merits. Each discrete project will have its own economic, technical, social and financial analysis and justification. Added benefits and increased complementarities are expected from the overall GOP integrated program to achieve the goal and justify intensive capital investment.

2. Financial Plan:

a. Proposed AID financial inputs by fiscal years (\$000)

	<u>77 (CP)</u>	<u>78</u>	<u>79</u>	<u>80</u>	<u>81</u>	<u>78-81 (PID)</u>
USAID DH	160	180	180	200	100	660
Contracts	500	490	470	390	300	1650
Training	42	50	60	40	-	150
Commodities	<u>166</u>	<u>180</u>	<u>160</u>	<u>90</u>	<u>-</u>	<u>430</u>
TOTALS	868	900	870	720	400	2890

b. Estimated GOP/BRBDP inputs (GOP FY 77-81, \$ millions)

Personnel/operating budget	1.8
Project Development/monitoring budget	5.5
Trust Fund	<u>.3</u>
TOTAL	7.6

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The proposed project includes budget for surveys, research, pilot projects, in-country training, feasibility studies (non-loan related), preliminary engineering and design, monitoring and evaluation. Cost estimates are the best available at this stage in the BRBDP planning and project identification process. An estimated \$2.0 million may be requested by GOP from AID feasibility loan funds for major studies including agribusiness. The PP will spell this out. GOP estimates will be refined over the next year. Where other AID resources are available at the right time, the level of direct project development inputs proposed in this PID can be reduced accordingly. The same is true for the BRBDP if inputs are available from line agencies.

3. Development of the Project:

- a. This proposed project is essentially an updating of the ongoing grant project to reflect the accelerated thrust in the GOP Bicol Program. There is a requirement for the continuous services of four direct hire staff currently in the Bicol (reduced to two in 1981) plus PASA/Contract services. By kind, an estimated 25% of the TA institutional and short term contract services are required for research and evaluation, 25% for water resources and agriculture (particularly the assessment of feasibility studies and project preparation), 20% for agribusiness related activities, 15% for planning and 15% for social services, transport, etc. This TA will be focused directly on project packaging or AID monitoring/project management requirements. Most of the packaging resources will be provided by the GOP, but they clearly require external expertise in a responsive, timely manner. The GOP looks to AID for this assistance during the next five years and is initiating a formal request in this regard. A modest level of training (not available in the Philippines) is proposed primarily at AIT Bangkok and commodities will support GOP interagency and local government planning and implementation.

- b. Because the Bicol Program is an innovative approach and recognizing that several AID/W bureaus and offices have tested concepts and expertise to offer, the policy of the Mission is to incorporate these AID/W interests as an integral part of the Bicol Project to the fullest extent practicable. Cases in point include the recent Agribusiness Resources Assessment and follow-on technical assistance

programmed through the AID Special Assistant for the Private Sector AA/PPC, and the innovative Urban Functions in Rural Development Project (TAB). PPC would also be involved in the proposed multi-purpose survey with the Agriculture Development Council, New York. All are expected to make a major contribution to the BRBDP.

- c. A revised PROP would have been required for FY77-78 due to program changes. In order to avoid Congressional Notifications and to make the necessary project life extension without duplication of the same documents for FY 78, the Mission elected to prepare a Project Paper in lieu of a revised PROP (ref MANILA 4800). AID/W concurred in this action. Thus the Project Paper will cover five years; one more year for the original project (FY 1977) and four years of the new grant project (FY 78-81). This revised PID was requested by AID/W per STATE 199865. The project paper will be forwarded for AID/W action to enable first quarter 1977 funding.
- d. No AID/W resources are required in the development of the project paper.

4. Issues of a Policy or Programmatic Nature:

STATE 199865 raised the question of replicability of the Bicol Program. The Bicol program is now one of four nationally decreed integrated programs under the Cabinet Coordinating Committee for Integrated Rural Development. Each national program area has a different combination of the same classical development problems. The Bicol experience, being the first nationally authorized integrated program with a framework plan, has been a valuable guide in the design or redesign of the other programs. Clearly the organizational and coordinating structure of each program must be tailored to the problem mix and local organizations. Because of the positive nature of integrated planning and interagency project implementation, it is very likely that this institutional form will continue after the transitional BRBDP Program Office phases out. The Bicol program experience is clearly transferable to regional NEDA development councils throughout the Philippines. In fact it is planned that eventually BRBDP functions will be assumed by Region V NEDA.

Other integrated rural development programs in the Philippines or other LDC could learn from the steps taken by the BRBDP in developing a framework plan and gathering baseline physical and social data. Cost savings would result from the fact that the methodology will have been proven so the learning process of trial and error would not have to be repeated.

Concerning per capita costs of development within the Bicol Program Area, Mission feels that total private and public investment costs presently projected by the GOP/BRBDP may be lower than one would expect

given the goal of raising per capita income in the Bicol to the national average by 1990. Most development economists would say that the investment should be higher.

The most recent World Bank report on the Philippines (May 5, 1976) indicates "the incremental capital-output ratio is expected to remain roughly at the current level of 3.4 ... through 1980 ..." nationwide. In view of the large amount of capital-intensive infrastructure and public utility investment required in the Bicol to raise it to national averages, it is anticipated the Bicol IOOR will be at least that high. This means that for every dollar increase in annual per capita value-added and gross income desired \$3.40 worth of new net investment must occur. In terms of BRBDP targets, in order to increase annual per capita value-added from \$209 in 1970 to the projected national average of \$612 in 1990 (in 1975 prices), with an IOOR of 3.4, net investment totalling around US\$1,370 per capita must be undertaken to create the productive capital infrastructure, buildings, machinery and human skills required for the present 1.6 million population. An additional \$2,081 per capita investment would be required to raise production another \$612 for each additional member of society expected by 1990 (total 1.971 million people) for a total net investment requirement of over US\$3 billion during the 20-year period, instead of the projected \$1.6 billion, or an average of \$150 million per year (\$76 per capita per year). ^{2/} The first 5 years have already fallen far short of that mark.

A comprehensive set of integrated public projects and a high level of private sector investment is required to achieve this goal. If the GOP policy were instead designed to provide resources spread more evenly to all rural areas of the Philippines without consideration of immediate developmental potential, then the issue would be

^{2/} The population of the Program Area was reported to be 1,446,170 in the 1970 Census. BRBDP planners project it into the future growing at an annual rate of 1.3% between 1970 and 1980 and 1.85% between 1980 and 1990. (Thus it is projected to have been 1.543 million in 1975 and to reach 1.971 million in 1990.) The rate of population growth is expected to rise after 1980, despite family planning programs, due to a slower rate of net outmigration as Bicol development progresses and more people are able to find jobs within the Basin area. The rate of net outmigration for the 6-province Bicol Region averaged 1.1% from 1960-1970, but for Camarines Sur Province alone it was 1.8%. See NEDA Statistical Yearbook of the Philippines 1975, pp. 42, 57, and Comprehensive Development Plan for the Bicol Region 1975, NEDA Regional Development Council, Part III, p. III-54.

Correction 33%
from 1.85% to 1.3%
in 1970

different. The Bicol experience suggests that such unfocused sector projects would be more costly in relation to benefits because of overlaps, higher total overhead costs, and the fact that some projects impact differently and sometimes adversely on other sectors within the different regions. Integrated area development planning clearly pays dividends, particularly in areas of high economic potential, and is replicable with the assumption that it is replicated in areas of sufficiently high potential. The GOP, as a matter of national development policy, is pursuing precisely this approach. It is actively developing poorer areas of the country where they can get a significant economic and social bang for the buck. This approach is a sound way to mobilize resources, which are limited, to address the country's most critical development problems. Obviously, it would be folly to attempt replicating the Bicol model in all areas of the country without regard to economic potential. But, since the beginning of the Bicol program the GOP has seen it as an approach that is workable and replicable in areas with potential for development.



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ACTION AID-31

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FM AMEMBASSY MANILA
TO SECSTATE WASHDC PRIORITY 1431

UNCLAS MANILA 15898

AIDAC

F.O. 115521 N/A
SUBJ: BICOL INTEGRATED RURAL DEVELOPMENT GRANT PID

1. A PROJECT REVIEW COMMITTEE MEETING FOR THE PURPOSE OF REVIEWING THE BICOL INTEGRATED RURAL DEVELOPMENT GRANT PROJECT PAPER IS TENTATIVELY SCHEDULED FOR MONDAY, OCTOBER 18.

2. WOULD APPRECIATE YOU CABLE ANY COMMENTS THAT APAC HAD ON THE BICOL INTEGRATED RURAL DEVELOPMENT PID BY C.O.D. FRIDAY IN ORDER THAT PRC CAN INCORPORATE THEM IN THE MONDAY PRC MEETING.
STILL



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PROJECT REVIEW PAPER

BICOL INTEGRATED HEALTH, NUTRITION AND POPULATION PROJECT

121P

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Final Interagency GOP Draft - 11/2/76

AGENCY FOR INTERNATIONAL DEVELOPMENT PROJECT REVIEW PAPER FACESHEET		1. TRANSACTION CODE <input type="checkbox"/> A. ADD <input type="checkbox"/> C. CHANGE <input type="checkbox"/> D. DELETE	PRP
3. COUNTRY/ENTITY Philippines/Bicol River Basin		4. DOCUMENT REVISION NUMBER	2. DOCUMENT CODE 2
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10. ESTIMATED COSTS (\$000 OR EQUIVALENT \$)						
A. FUNDING SOURCE	FIRST FY			OF PROJECT		
	U. P.A.	C. L.C.	TOTAL	U. P.A.	C. L.C.	C. TOTAL
AID APPROPRIATED TOTAL	650	3,850	4,500	650	3,850	4,500
(GRANT)						
(LOAN)	650	3,850	4,500	650	3,850	4,500
OTHER U.S.	1. PL 480					
	2.					
HOST COUNTRY		1,933	1,933		1,933	1,933
OTHER DONOR(S)						
TOTALS	650	5,783	6,433	650	5,783	6,433

70%

30%

11. PROPOSED BUDGET AND APPROPRIATED FUNDS						
1. APPROPRIATION	B. PRIMARY PURPOSE CODE	PRIMARY TECH. CODE		FIRST FY		TOTAL
		C. GRANT	D. LOAN	E. GRANT	F. LOAN	
1. PH	152		540		4,500	4,500
12.						
13.						
14.						
TOTAL					4,500	4,500

12. PROJECT PURPOSE (Maximum 400 characters)

Improved health and nutrition status of the rural population and reduced birthrate in Camarines Sur and Albay Provinces by: 1) Effective health, nutrition, population, sanitation and water services to rural barangays through an economical delivery system, funded from and supported by local and national resources and institutions. 2) Improved sanitary environment and household water supplies in rural barangays.

13. DATA CHANGE INDICATOR: WERE CHANGES MADE IN PID FACESHEET (C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z) OR IN THE ATTACHED CHANGED PID FACE SHEET.

YES

PID facesheet submitted for approval simultaneously with this PRP.

14. PLANNING RESOURCE REQUIREMENTS (Staff, Fund)

15. ORIGINATING OFFICE CLEARANCE
SIGNATURE

16. DATE DOCUMENT RECEIVED
IN AID WORK FOR ALL WORKSHEETS
DATE OF DISTRIBUTION

TITLE **Gerold Van Der Vlugt, Health AD/HRD**
William Doody, NTR AD/HRD
Lawrence A. Marinelli, AD/RD

AID 1330 (1-78)

1. Priority and Relevance

The proposed program area covers the provinces of Camarines Sur and Albay. The estimated total population of this area as of May 1, 1975, was approximately 1.75 million, or 55 percent of the entire population (about 3.2 million) in the Bicol Region. About 80 percent of the 1.75 million people, including some portions in the cities, is rural. The population growth rate of the region is around 2.2 percent, lower than the national average of 3.1 percent due only to outmigration, without which it would equal 3.3%. The 1974 per capita income (Gross Domestic Product) of ₱1187 (US\$170) per annum was the very lowest among all regions in the country, and it has been declining in real terms (1972-74) while the national average has been rising..

Registered crude birth and death rates are 37.86 and 7.21, respectively. The infant mortality rate is 72.7 per 1,000 live births (the actual rate is believed to be much higher), the three leading causes being pneumonia, gastro-enteritis, and bronchitis. All of the above are complicated by a relatively high incidence of malnutrition among pre-school children, 48.1 percent of whom suffer from first degree malnutrition; 24.1 percent, second degree; and 5.9 percent, third degree. A combination of primary and secondary malnutrition produces incredibly complex disease pathology and/or disease processes resulting in chronic disability and, in children, high mortality and retardation of growth and development. Only 3 percent of the total population were found to eat the recommended three servings of protein, carbohydrates, and vegetable foods in 1974.

The three leading causes of mortality in the program area are pneumonia, pulmonary tuberculosis, and heart disease. The corresponding causes of morbidity are gastro-enteritis, pneumonia, and influenza. Water-borne enteric diseases and intestinal parasitism (which in turn aggravate the malnutrition problem) are endemic in the area as the result of contaminated water supplies and poor environmental sanitation, particularly in the rural sector. A large proportion of the barangays do not have convenient water supplies, especially during the dry season, and only 31% of all households have satisfactory toilets.

The major thrusts of the Bicol River Basin Development Program (BRBDP) are in the areas of irrigation, flood control, primary and secondary road development, land reform, on-farm water management, several pilot livestock and fish projects, agribusiness development and marketing. Central to the planning of the BRBDP is the recognition that physical and economic investments will not be meaningful unless supported by social projects. The ultimate goal of the BRBDP effort is the full development of man, in order to improve the general quality of life, to increase real per capita income, and to improve income distribution in the program area.

The leading component of the planned BRBDP social development program is the proposed Bicol Integrated Health, Nutrition and Population Project. The proposed project is designed to raise the quality of life of the Bicol River Basin residents directly, and also to give them the better health and stamina to more fully contribute to and thereby receive other benefits from the total development effort. It is critical both to the success of the overall development program in Bicol, and to ensure that

the poor majority share in the benefits of development and experience a rise in their real socio-economic status and in the overall quality of their lives.

The proposed Bicol Integrated Health, Nutrition and Population Project extends national programs of the Philippine government in three major problem areas and focuses them on the rural barangays. It addresses:

- Communicable disease, especially*
(1) Water-borne diseases and intestinal parasites.

Only 28 percent of the project area population is served by waterworks, and very few of these waterworks are satisfactory by national health standards. Poor waste disposal and drainage systems exacerbate these problems. *morbidity and mortality rates from preventable diseases are very high.*

- (2) Malnutrition, rampant in the area, interacts synergistically with communicable, parasitic and other diseases and is a key primary or secondary cause of morbidity and mortality.
- (3) Rapid population growth. The fertility rate is very high and since few Bicol households practice effective methods of birth control there is good potential for increasing family planning acceptors.

The primary purpose of this project is to improve the health and nutrition status and reduce the birth rate of the rural population of Camarines Sur and Albay provinces. It proposes to do this (1) by helping to improve the rural barangay sanitary environment and household water supplies directly and (2) by developing an economical Rural Health Care Delivery System, supported and funded in large part by local resources and institutions, to extend health, nutrition, population, sanitation and water services to the rural barangays.

The project is not only an important component of GOP development strategy to upgrade the quality of life in rural areas, so as to broaden the benefits of development, reduce urban migration and encourage greater participation in the development process among the rural poor, but by contributing to the overall BRBDP effort it will also strengthen the strategy of decentralized, integrated area development. It is also expected to develop a locally-based institutional innovation in health, nutrition and population services that will become an easily replicable model for the rest of the country.

In terms of the USAID/Philippines Development Assistance Program, this project pursues, on a regional basis, all four "people-intensive", "most complex" lines of action charted by that document as the key areas of AID assistance. These are (1) population/family planning, with integrated health and nutrition efforts as key motivational factors, (2) rural development, including homemakers education through extension services, (3) rural industry and infrastructure, including rural institutional development and the effort to make rural life more attractive to reduce rural-urban migration, and (4) increased participation in the development process, focusing on the more effective marshalling and use of human, organizational and financial resources for development purposes, largely through decentralization of planning and implementation functions down to the regional, provincial, and barrio levels.

2. Project Description

A. The Problem and the Strategy

The technical knowledge of how to combat the three major problem areas noted above--communicable disease, malnutrition and rapid population growth--is available in the urban centers of the Philippines. Several national and a few local programs are underway to deal with them.

So far, however, efforts to extend health, nutrition and population information and services into rural areas have been unable to achieve a significantly positive impact among the rural poor. The basic constraints are the sheer magnitude of the requisite task and the total cost it would involve. The central government itself cannot command either the administrative talent or the revenue resources necessary to do the job successfully alone. The problem is further complicated by the distance, time and financial inadequacies which prevent most rural residents from using city or poblacion-based health services and facilities. Cultural barriers and social differences between the medical doctors and health-related extension workers and the rural barangay residents are also contributing factors.

It is believed that, if the desired services are to be effectively provided to the rural population, technically knowledgeable and motivated individuals must be physically located in each rural barangay, and that he or she should be a person well-

known and respected by the barangay residents. It is also believed that these social services and the recommended water and sanitation facilities should be of sufficient perceived value to rural residents, once they become aware of their importance to their family's health and nutrition status, that they will be willing to bear a significant share of their cost.

The proposed project will build an experimental answer to the problem based on these beliefs. The strategy contains two major thrusts: institution-building and physical construction.

Institutionally, the project will provide start-up funds for organizing, staffing, training, supporting and selling (to the rural public and their leaders) a new, integrated, decentralized approach to rural health care delivery. The action will focus on creating a locally-hired and funded Barangay Health Aide (BHA) in each barangay, with the national agencies re-orienting their efforts to concentrate on BHA training, backstop and support activities from municipal and province centers and on handling curative cases referred to them for special treatment.

Physically, the project will provide funds to upgrade laboratory facilities for water analysis, to construct or rehabilitate a few rural health centers and stations, conduct an environmental sanitation survey of rural barangays, and to establish a revolving loan fund to help rural barangay councils and households finance improved water supply facilities, sanitary drains and water-sealed toilets, with emphasis on upgrading water supplies. These components are also designed to support the BHA in performing his various duties and to help finance some of the

construction activities the BHA will be recommending and supervising.

This approach is expected to strengthen local, barangay-based institutions, forge a more effective link of cooperation between them and national government agencies, and mobilize local talent and resources to achieve the targetted purposes and goals of this project.

B. Rural Institutional Development

During the 5-year lifespan of the project at least 1200 rural barangays councils^{1/} are expected to recruit and appoint at least one semi-volunteer Barangay Health Aide (BHA), who will be trained, prepared and equipped to perform the following basic functions in a frontal attack on the three major problem areas listed above:

(1) Preventive Health

- a. Promote and improve environmental sanitation in the rural areas.
- b. Supervise construction, operation and maintenance of barangay water supply and drainage systems.
- c. Assist in immunization and the control of communicable diseases.
- d. Disseminate health information and practices.
- e. Help promote maternal and child health.

^{1/} This is 88% of the estimated total of 1370 rural barangays in Camarines Sur and Albay Provinces and in the rural areas of the three autonomous cities of Naga, Iriga and Legaspi. Barangay participation in this program will itself be voluntary, and not all of them are expected to opt in.

(2) Nutrition

- a. Nutrition recruitment of eligible individuals in the nutrition program, and referral of pregnant women for pre-natal care. Facilitate and assist in education efforts of municipal nutrition workers.
- b. Assist in Operation Timbang and distribution of PL 480 food commodities.

(3) Family Planning Promotion: Assist in Information, Education, Communication and Motivation (IECM) activities for family planning as requested by POPCOM workers. The BHA's will also act as referral to the municipal family planning personnel in their area.

(4) Curative Health: Case finding activities, referral and follow-up patients referred; administrate first aid and publicize first aid techniques.

(5) Special Functions, such as assisting in food production and food preparation campaign in support of the National Nutrition Program.

The amount of stipend for each BHA will be determined by barangay and municipal councils, following provincial guidelines, and paid for out of local property tax revenues, although the project proposal includes sufficient funds to provide a start-up subsidy until the current (AID supported) Real Property Tax Administration Project is completed (by 1980 or 81) and revenue receipts accordingly increased. (See Section 5, "Feasibility

Issues," for further discussion). It is expected that, ^{the} BHA stipend will actually be paid by the municipal treasurer and the cost (less temporary subsidy) will be shared by the Province, Municipality and Barangay in the same proportions that they share property tax revenues (presently 45%, 45% and 10%, respectively).

To equip the BHA first aid, simple drug, health and nutrition kits will be procured with project funds, assembled and distributed to each participating barangay council for the BHA's use. One regional BHA training center and ^{an} integrated, interagency training program will be established, staffed and maintained in order to provide both the initial one-month training needed for each new BHA and on-going re-training and refresher courses in the future. The training will encompass preventive health, sanitation, nutrition, family planning, first aid, and related services. This training program will be permanent, recognizing that natural attrition rates will require a continuous program to train replacements after the initial complement of BHA's are fielded. The project will provide start-up funding for this effort, including per diem for the first 1200 BHA's sent for training, at the close of which it will be absorbed on a share arrangement by the participating line agencies. In-service training for related extension workers, teachers, and their supervisors already assigned to the barangays and who will be working with the BHA's will likewise be provided.

Initially, the project will shoulder the cost of this activity, but as the AID/BRBDP project phases out, the various line agencies

involved in the training will incorporate training, travel and per diem costs into their annual budgets and will share the cost of maintaining the permanent training center and its staff.

Members of the training staff will be detailed from the Department of Health, Bureau of Agricultural Extension, National Nutrition Council, Population Commission, Department of Local Government and Community Development, Department of Education and Culture and the National Manpower and Youth Council, the latter being the probable implementing agency for the training component.

Central government line agencies will provide BHA backstop and support activities in the municipal centers and provincial capitals and handle cases referred to them by the BHA's for special treatment. A small amount of money is designated to provide temporary support for some of the incremental costs to be incurred by these agencies, as discussed in detail below, but they will be expected to absorb much of the costs out of their regular budgets and on-going projects.

Among the line agency people with whom the BHA's will work are the Home Management Technician (HMT's), the Municipal Health Officers (MHO's), the nurses, the Rural Midwives, the Nutritionists of the Department of Social Services and Development (DSSD), and Catholic Relief Services/Social Action Center (CRS/SAC), Dentists, Sanitary Inspectors, Teachers, POPCOM workers, and the the Community Development Workers of the DLGCD. The BRBDP and the lead agency of the project (Dept. of health) will negotiate a Memorandum of

Agreement with all participating agencies clearly defining the responsibilities of each as agreed during the project planning and preparation stage. That this be done will be a covenant or condition precedent of the proposed AID loan agreement.

The BHA's will also help organize and work with the various rural clubs in the project area.

Other specific institutional activities intended to support the BHA's and financed by this project are:

(1) Information, Education, Communication and Motivation Campaign

A barangay-^{oriented}~~based~~ information, education, communication and motivation (IECM) campaign utilizing the tri-media approach will be launched by health, nutrition and population educators in order to increase public awareness of the importance and value of improved health practices in the rural areas, as well as to motivate the residents to support the project. At the same time, representatives of the Project Management Office will be explaining the project to barangay and municipal councils to enlist their voluntary, active support, participation and official commitments to finance the project eventually.

(2) Equipment and Incentives for the Home Management Technicians and Additional Nutrition Staff of the Catholic Relief Service/Social Action Center.

Municipality-based Home Management Technicians (HMT's) of Bureau of Agricultural Extension (BAEx) will assist and back-stop the BHA's. The HMT in each municipality is assigned

duties relating to home management extension services to improve rural household conditions with emphasis on the nutritional requirement of the community. Under this project the HMT's will orient their barangay efforts at improving nutritional status through the BHA's. The project will provide grinders and scales needed by the HMT's in the preparation of weaning mix and in the weighing ^{of} the children. The two provincial HMT supervisors will be provided vehicles to facilitate their mobility in supervising HMT activities. The project will also include special (GOP-funded) incentive allowances for the HMT's, their two provincial supervisors, and the regional HMT supervisor to encourage extra effort during its lifespan. It is a critical assumption that the BAEx will staff-up at least one HMT per municipality as it plans to do, and such an assumption. The HMT's and the BHA's will organize Rural Clubs in each barangay to assist them in their educational and promotional efforts. (This is an extension of on-going BAEx programs in this regard). This Rural Club and BHA infrastructure will facilitate the expansion of existing food assistance programs (utilizing PL 480 Food for Peace commodities) to cover 80% of the identified cases of moderate and severe malnutrition among pre-schoolers (where the morbidity rate is 60% in severe and 24% in moderate cases). It will also facilitate the implementation of education, food production and other food assistance efforts to alleviate the malnutrition problem. Regional representatives of the Catholic Relief Service and

mentation should probably be made a covenant of the loan agreement.

the Social Action Center will augment their local staffs by 10 Diocesan nutritionists and 2 Food for Work coordinators in support of this part of the project at project expense for 5 years, after which they will be absorbed by their parent organizations. It is assumed that non-project-funded PL 480 Title II food commodity assistance will continue to be made available as at present to assist families with identified cases of severe or moderate malnutrition among their infants or children.

(3) Organization of Mobile Support Teams

Seven mobile health, nutrition and population teams will be deployed and temporarily project-funded as a multi-agency operation to support and reinforce BHA efforts to service special nutrition and health problems such as anemia, goiter, Vitamin A deficiency, intestinal parasitism and other emergency referral cases. The teams will be composed of a medical doctor, a nutrition educator and a medical technician/driver.

(4) Botica sa Barrio (Village Drugstores)

A start up subsidy will be provided for 1200 Botica sa Barrio (Village Drugstores), one per barangay, which are expected to become self-liquidating. The Botica will be established only in those barangays appointing a BHA. These will facilitate the rural population's access to modern preventive and curative vitamins, drugs and medicines.

(5) Immunization Program

The Department of Health immunization program will also be expanded and subsidized by the project, since the BHA's will be able to assist the rural health officials pursue

targetted immunizations in their barangays.

(6) Establishment of Barangay Supply Points

POPCOM has plans to establish barangay contraceptive supply points (BSP's) in each barangay to support family planning motivation functions of the BHA's. Since family planning will constitute one of the major programs that the BHA's will be called upon to help, the project management will see to it that the BSP's are in fact established and are assured of the continued supply of contraceptives and other population program-related facilities. This component is an "assumption," rather than a project-funded activity, but it is such an important assumption that it should be included in the loan agreement as a covenant and the project manager should monitor its accomplishment.

C. Physical Health and Sanitation Infrastructure Development

The project will provide funds for the construction of 9 or 10 new Barangay Health Stations, adding to those already constructed or financed by the GOP or a World Bank project to complete the planned density of three per municipality (municipalities average 32 barangays each), and the renovation of 7 Municipal Health Stations presently in dilapidated condition. These facilities will better enable DOH to provide backstop support to the BHA's and curative health care for referral cases.

In preparation for the major thrust to improve household water supply facilities, the project will provide the foreign

exchange requirements to upgrade laboratory facilities in the two provincial hospitals of Camarines Sur and Albay for adequate bacteriological and chemical analysis of water sources, not presently possible. It will then undertake an environmental sanitation survey to determine the status of rural barangay water supply and drainage systems, waste disposal facilities and general sanitation conditions throughout the project area. This survey will be used by health and sanitation authorities as a basis for recommending specific, cost-effective improvements for each barangay. The BHA's of participating barangays will participate in conducting the survey and work with barangay leaders and health authorities in formulating the recommendations. The project will also fund the technical services of a U.S. specialist in developing inexpensive water supply systems for rural Asian villages to assist in this effort for a 6-month period. See Annex D(1) for detailed environmental sanitation proposals.

A \$2.9 million revolving loan fund will be established (92% of it from the requested AID loan) to enable 1000 barangay councils to finance materials for the construction of recommended water supply and drainage facilities, to be repaid over 5 years from water fees and local tax revenues, and to help an estimated 6000 remote households finance individual water supply improvements. The BHA or an assistant will help supervise construction and will be

responsible for overseeing the correct operations, maintenance and water-fee collections of the systems installed.

A second revolving loan fund of \$1.3 million will be established to finance material loans for the construction of individual household pit privies with water-sealed bowls. Sufficient funds will be provided to finance an estimated 13,400 water-sealed toilets per year for two years, counting on repayments (over a period of two years in each case) to finance similar numbers in the succeeding 8 years in order to reach the targetted total of 134,000 rural households presently without satisfactory toilets (in the expected 1200 participating barangays). The BHA or his designated assistant will also supervise the collection of these loans on a commission basis.

The loan funds will be administered by the Rural Banks in cooperation with the Department of Local Government and Community Development (DLGCD). The DLGCD, Bureau of Public Works (BPW) and the Department of Health (DOH) will cooperate in implementing this component of the project and will work directly with the BHAs, barangay councils and barangay residents to assure their participation in the planning, design and construction of recommended facilities.

The project plans include a small amount to fund the chlorination of public water facilities constructed or improved, where necessary, for the first year of operation, after which such costs would be covered by water fees already collected.

D. Anticipated Results

The inputs and expected outputs outlined above should lead to the achievement of the primary project purpose, the improved health and nutrition status of the rural population and a significantly reduced birthrate in Camarines Sur and Albay Provinces, by (1) providing effective health, nutrition, population, sanitation and water services to rural barangays through an economical delivery system largely funded from and supported by local resources and institutions and (2) improving the sanitary environment and household water supplies in rural barangays.

The successful achievement of the primary purpose should result in an improved quality of life and increased real per capita income in the program area by 1982. There should be measurable improvements in both perceived and objective quality of life indicators determined in sample surveys. Improved sanitary environment and water supplies for at least 70% of rural families and a reduced incidence of parasitic infection from 90% to 30% will indicate reduced losses of food nutrients consumed due to intestinal malabsorption and parasitic consumption, increasing the real value of food consumed. Reduced absenteeism from work and schools due to illness will increase the productivity and learning capacity of the present and future labor force.

Conditions expected by the end of the project in 1982 that will indicate primary purpose achievement include an increase

in life expectancy from 59.1 to 61.0 years, a decrease in infant mortality from 72.7 per 1000 live births to 50, a crude death rate reduction from 7.2 to 5.0 per 1000 population, mortality due to water-borne diseases and intestinal parasitism reduced by 50%, and TB cases reduced from 10 to 1 per 10,000. In addition, the project is expected to reduce the incidence of second and third degree malnutrition by 40% and to reduce the crude birth rate from 38 to 31 per thousand by 1982.

Sub-purpose achievement by the end-of-project in 1982 will be indicated by the following conditions:

Health: (1) 60% of rural households using recommended preventive health practices, (2) preventive disease education system reaching 80% of rural households, (3) spot-mapping and disease referral systems operative in 1200 rural barangays, and (4) of the total rural population, the immunization program reaching 90% of school entrants and 80% of newborns for BCG, 70% of total population for cholera El Tor, typh^hoid and paratyphoid, 80% of infants for DPT, and 50% of pre-natal cases for tetanus toxoid.

Nutrition: (1) 80% of rural infants and pre-schoolers participating in an expanded nutrition program and (2) 50% of rural pregnant and nursing mothers using approved nutrition practices.

Population: (1) 40% of rural Married Women of Reproductive Age (MWRA's) using family planning methods.

Water and Sanitation: (1) 90% of the rural population have convenient access to satisfactory water supplies and (2) 50%

of the rural population is using satisfactory toilets by 1982.

Local Resource Mobilization: (1) 840 BHA's partly funded from local revenue sources by 1982 and 960 BHA's wholly funded locally by 1985, and (2) 90% repayment rate achieved on loans for water-sealed pit latrines by 1982 and for water supply and drainage systems by 1985.

4. Beneficiary

The project beneficiaries are the approximately 1.75 million residents of the delineated area, 72 percent of whom are in the Bicol River Basin. This population is expected to expand to 1.95 million by 1980. It is to this anticipated population that the Integrated Health, Nutrition and Population Project is ultimately addressed.

The average per capita income in the Bicol Region has been estimated by NEDA as only 49 percent of the national average in 1974. (See Table 12 Annex D(4).) Clearly, per capita income must be increased. It is to this task that the Bicol River Basin Development Program (BRBDP) has been committed.

Under the BRBDP, per capita income is expected to catch up with the national average by 1990. This is to be achieved mainly through increases in agricultural productivity and employment opportunities for the rural population. However, Bicol residents cannot participate fully in the development undertakings if malnutrition, communicable diseases, poor environmental sanitation and rapid population growth remain unsolved. Once freed from the shackles of these social problems, the project beneficiaries will be better able to perform their tasks as agents of production and to participate more fully in the free and competitive market.

Of special interest to the project are the infants and pre-school children in the program area, estimated at 412,000 (23

percent of the total population). These are the ones most vulnerable to malnutrition. On the basis of the results of Operation Timbang, it is estimated that about 29.6 percent of this age group suffer from moderate to severe malnutrition. By improving the nutritional status of children, the project ensures their normal growth and development, thereby immeasurably improving their present and future learning capability. In effect, the children of today will be better prepared to assume the responsibility for continuing the development process. The project will ^{help distribute} provide commodities to the children with second and third degree malnutrition.

In the area of environmental sanitation, it is the poorer households, who at present must travel farther to obtain water and who drink less potable water, who can benefit relatively more from these features of the proposed project.

In addition to the direct beneficiaries described above, it is the GOP expectation that the program will prove replicable administratively and economically in other areas of the country. The methods of organizing and funding the Barangay Health Aides, their training and technical and logistics support, and the methods of planning, organizing and funding small barangay water supply and sanitation facilities--the major innovations of this project--should prove worthy of institutional and financial replication elsewhere.

5. Feasibility Issues

Feasibility issues include questions of cultural acceptance, institutional practicality, financial viability, institutional and financial replicability, and economic justification in a low-income society where investment capital is scarce. Relevant experience in other areas of the Philippines, discussed in section 3 above, while providing only spotty evidence, buttresses the belief that barrio-level extension and technical workers are culturally acceptable and can have a positive impact.

The practicality of the integrated institutional approach, channeling inputs and logistical support from several "line agency" programs through a smaller designated number of technicians at municipality and barrio level has its roots in the necessity of it, due to the sheer cost of the alternative of redundant barrio facilities and workers for each individual activity. The integrated approach presented in this proposal, though somewhat novel, seems to offer the best hope of delivering a significant package of basic health measures to an impoverished rural society like this one.

The total costs of effective rural health and sanitation delivery systems are relatively easy to calculate and often seem large compared to the limited financial resources of the central government. It should be recognized, however, that inasmuch as better health and nutrition are partly "consumer goods," as well as public investments in productive human resources, such programs

should be designed so that local sources of financing will cover a large share of the annual operating costs, in addition to recovering a significant share of the original capital costs. Local contributions can be collected in the form of fees for services rendered, an increase in local property taxes, charges for water used, an assessment per household or a head tax, or in whatever form seems most appropriate.

The question of financial replicability is answered in so far as local, rather than central government, resources are mobilized to pay for significant cost elements of the project. The proposed project is designed so that 60% of its total cost, ⁹⁰ 24% of its total investment in construction and equipment, is in the form of loans to rural barangay councils and households to be repaid over a period of two to five years. Incremental operating expenses attributable to the central government line agencies at the end of the project amount to only ₱ 622,000 (\$ 82,900) annually, or less than 1/2 peso per capita in the rural portions of the project area. On the other hand, for each participating barangay local revenue funds will be expected to fund a ₱1200 annual BHA stipend, or an average of ₱1.20 per person resident in the barangay. Since BHA stipends are to be paid out of property tax revenues, the relatively better-off barangay residents (property owners) will be paying for services enjoyed by, and perhaps more important to, the poor (the property-less), as well.

If this project proves financially feasible in the Bicol, with the lowest per capita income in the Philippines, there is no question but that it would be financially replicable throughout the Philippines, in as many areas as there are local governments and rural households to pay for the services and facilities they themselves would enjoy.

The question of institutional replicability is also answered in that administrative and management requirements of line agencies are kept to a minimum by focusing their efforts more on training and backstop support. New talent is recruited from rural barangays and local institutional capacities are given greater opportunities to develop.

There are several specific issues relating to the financial aspects of the proposed project that will be resolved during the preparation of the project paper. These are:

- (1) Who will fund the Barangay Health Aide (BHA) in the initial years of the project? The principle of eventual local revenue funding as outlined in section 2 is accepted. Presently, however, both Albay and Camarines Sur Provinces have poor tax bases and poor collection rates. They will have minimal additional funding capability until the AID-supported Real Property Tax Administration Project is completed (expected by 1980 or 1981 in both provinces).

The present (Integrated Health Nutrition and Population) project proposal assumes the project will fund the BHA stipends 100% during the first three years of a BHA's employment and 50% during the next two years, with the province, municipality and barangay sharing 50% of these costs in years 4 and 5 and 100% thereafter. An alternative proposal is to design the proportion of total BHA stipends funded from the project to correspond with the proportion of municipalities remaining each year to be incorporated in the new Real Property Tax Administration System, so that it will decline annually as local tax revenues increase. The new Property Tax System is expected to raise such revenues by 2 or 3 times their present levels and to be completed throughout both provinces by 1981. It has been developed through an AID-supported pilot project. (Real property tax revenues are shared by the province 45%, municipality 45%, and barangay 10%). A third alternative, which might reduce the pace of the project

implementation but might help assure greater local participation and commitment from the beginning, is for the project not to fund any part of the BHA stipend.

The question of an initial subsidy or funding of the BHA's assumes more importance as an issue since the major A.I.D. contribution to the cost of the project is in the form of a loan, instead of a grant.

- (2) A second financial issue relates to the funding of the Mobile Team Vehicles. It has not been resolved which GOP agency could and would be willing to finance maintenance and operating expenses for these vans. Another vehicle issue is related to the need to reach inaccessible barangays. Consideration will have to be given to using public conveyances or other means to get the mobile team and equipment to the inaccessible barangays.
- (3) The question of the use and level of use of food commodity assistance is controversial. The present project envisions the use of commodities for both second and third degree malnutrition. How important are the price disincentives on the poorer farming households? Moreover, given the requirements that the recipients will pay only a small portion of the actual costs, will the use of financial subsidies as incentives blunt the desired long-term preventive nature of this program?
- (4) The water-sealed pit latrine loan fund will provide commodity loans worth up to P300 per family in the form of the materials required to construct adequate toilet facilities. Even at such a

low cost it is doubtful that all low-income rural households could easily afford the monthly cash payments required to amortize the loans in two years. It is for this reason funding is planned in this project for only 10% of the targetted population^{1/} each year. The amount of new money requested covers only 20%--the first two years--with the remaining 80% funded from repayments as half of the initial fund rolls over each year thereafter. Only those families able and willing to make the repayments will be encouraged to borrow from the fund.

It is expected more families will become able and motivated to make the financial commitment as the total Bicol River Basin Development Program progresses and results in higher household incomes.

The environmental sanitation component of this project will be targetted on the barangays of the lowest socio-economic level which have not been able to substantially improve their environmental sanitation status to date. The technical competence exists in the Bicol area to effect improvement; however, the necessary financial resources and individual educational and motivational components have been lacking. This project will provide the necessary organization and coordination and the financial and commodity support to allow barangay residents to

^{1/} The targetted population are the 134,000 households estimated to be the 69% of the 1200 rural barangays (expected to participate in this project) without satisfactory toilets. They comprise only 48% of the total population of Camarines Sur and Albay Provinces.

improve household water supplies and waste disposal. All commodity requirements anticipated for this improvement are currently available in the local Bicol market at reasonable prices which are expected to remain stable within the overall average inflationary trends.

This project will utilize existing organizational and financial institutions and develop their capability to provide soft term commodity or financial loans to barangays and barangay residents to support the capital requirements for household water and waste disposal improvements. The project assumes that the barangay and barangay residents will take advantage of these loans and effect repayment on an acceptable level. The phased levels of improvement will be designed to fall within the barangay's identifiable economic capability or, if a higher financial input is required in specific areas, the residents will be held responsible for repayment of only a predetermined portion of the loan. The loan repayments will assure long term economic viability of the project as they will be combined in a fund to be used for future environmental sanitation improvements or BHA support. In order to strengthen individual motivation to establish and properly utilize the improved water and waste disposal systems the project will support a multimedia educational program through existing organized systems.

Economic Justification

With the replicability issues of who can pay how much (discussed above) to one side, there are strong economic justifications for a relatively high level of investment in preventive health, water and sanitary facilities. Improved health status can increase physical and mental performance, reduce the loss in work^{and school} time due to absenteeism, and

reduce the loss in human capital investments due to mortality and disabling diseases. More indirectly, improved health and reduced mortality will improve attitudes toward family planning and health in general and increase the benefits to the individual from his leisure time. More specialized losses which can be rectified include the reduced morbidity and increased post-partum anenorrhea, if the nutrition education program succeeds in increasing the extent and length of breast-feeding and in increasing the efficiency with which available household resources can provide calories, as food preparation practices of the family are improved. An improved sanitary environment can also be expected to provide a substantial reduction in the nutritional ^{losses, which can be translated into} and real economic losses, now suffered by a majority of the rural poor in ~~the~~ Bicol due to parasitic infection and mal-absorption of nutrients by the digestive tract. The economic value of these losses is believed to be enormous, equalling around ₱63 (\$8.69) per capita per year. A brief description of a few of these economic benefits are included in Annex D(3).

6. Other Donor Coordination

With regard to the project proposed in this PRP, there are other direct donor contributions. In the order of their magnitude they are described below:

- A. IBRD/GOP Department of Health Restructured Health Delivery System Project (1974-9), total cost nationwide \$50 million shared equally. Bicol portions include:
1. Construction
 - a. IBRD will build, furnish & equip a Regional Training Center for the Region based in Legaspi City at a cost of ₱3.0 million.
 - b. Construct 13 Rural Health Units (RHU's) at ₱350,000 per unit.
 2. Provide a vehicle per Rural Health Unit at a cost of ₱40,000/unit, and 3 for the Training Center. IBRD input for 1 & 2: ₱8.19 million.
 3. 50% of the salary of the midwives for each Barrio Health Station will be borne by IBRD during the life of the Program (1974-9) for a total of ₱369,720.
 4. Training cost of new midwives will be borne by IBRD.
- B. Government of the Philippines
1. Construction of three (3) Barrio Health Stations per Rural Health Unit, at a cost of ₱40,000.00/unit. Total cost ₱1.56 million.
 2. 50% of salary of new midwives to be deployed in the Barrio: ₱369,720.00
 3. Delivery costs of BCG and DPT immunization.
- C. Local Government
1. Construction of 5 additional RHU's and 3 BHS/RHU
- D. WHO continues to provide consultant hours in the area of TB, malaria and schistosomiasis control.
- E. UNICEF provides materials and equipment, drugs and food supplement and funds for training of traditional birth attendants.
- F. AMKOR provides funds for training of 10 Barefoot Doctors in Sorsogon. Provide food commodities for the malnutrition prevention program of the government.
- G. POPCOM (Population Commission). Their "outreach" program envisions 3 workers for every municipality. Their activity will be principally in IECM for population control.
- H. National Nutrition Council (NNC). This is a National Coordinating Agency for nutrition activities. Key aspects of this nutrition program are described in Annex F.
- I. US Voluntary Agencies. This Catholic relief agency nutrition program, the loan of several nutritionists as needed/requested and the storage ^{of commodities} ^{of food} ^{facilities}.

7. Financial Plan

The proposed loan of \$4.5 million will be the fourth USAID loan in direct support of the GOP Bicol River Basin Development Program. Earlier loan activities include the Libmanan-Cabusao Integrated Area Development Project for \$3.5 million which was signed in July 1975 and the Bicol Secondary and Feeder Road Project for \$10 million signed in April 1976. A third loan in the amount of \$3 million has received preliminary approval for an integrated area development project in a 2,500 hectare area in Bula, Camarines Sur.

The \$4.5 million loan proposal in this PRP would finance 70 percent of the total costs associated with this integrated health, nutrition and population project. The principal cost components are shown in an annual breakdown in the table below.

Personal services, which is 13 percent of the total cost is composed of salaries and wages of the mobile teams, Project Management Office personnel, Diocesan Nutritionists, CRS FFW Coordinators, drivers for HMT Supervisors, and fixed charges, incentive allowances and BHA stipends. The three biggest cost items in this component are the BHA stipends, salaries of the mobile teams, and incentive allowances accounting for 66 percent, 14 percent and 5 percent of total personal services, respectively.

Operations and maintenance will include travel allowances, supplies and materials, gas and supplies for mobile team jeeps and other vehicles, training costs, the IECM campaign, the environmental sanitation survey and project monitoring and evaluation. The biggest

sub-items here are training costs and supplies and materials including drugs for the Botica sa Barrio and Biologicals for the DOH immunization program. This item accounts for only 8 percent of total project cost.

Capital outlay accounts for 57 percent of total cost, 93 percent of which is for physical construction. The construction of water supply systems and pit privies with water-sealed bowls account for 44 percent and 31 percent, respectively, of all physical construction. Other components of the capital outlay item include construction of primary and secondary drainage systems, chlorination of drinking water, and equipment such as laboratory facilities, scales and grinders, vehicles, mobile team equipment, BHA kits and office equipment. *construction of Municipal Health Centers and Barangay Health Stations*

An inflation rate of 7 percent per year and a contingency rate of 15 percent are assumed.

Some \$650,000 of the AID loan is to be allocated to cover the foreign exchange costs of U.S. consultant services, imported medical supplies and chemicals and imported equipment for laboratories, transportation, office and BHA kits of simple medical equipment. The rest, \$3.85 million will be used to establish the revolving loan funds to finance construction and improvement of rural water supply, drainage and toilet facilities. GOP funding of \$1.93 million will cover the rest of the planned project costs. It should be noted that success of the project depends on several on-going GOP programs and line agency activities and backstop support, the funding of which is not included in these calculations.

FINANCIAL SUMMARY

US \$000

<u>Expenditure</u>	<u>YEAR</u>					<u>Total</u>	<u>Foreign Exchange Required</u>	<u>GOP Funded</u>	<u>AID Funded</u>
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>				
Personal Services	62	138	183	228	201	<u>812</u>		812	
Operations & Maintenance	122	118	110	110	69	<u>529</u>	230 ^{1/}	299	230
Physical Construction	825	1217	664	664	39	<u>3409</u>	40 ^{2/}	299	3110 ^{4/}
Equipment	109	79	37	37	-	<u>262</u>	260 ^{3/}	2	260
<u>Sub-total</u>	<u>1118</u>	<u>1552</u>	<u>994</u>	<u>1039</u>	<u>309</u>	<u>5012</u>	<u>530</u>	<u>1412</u>	<u>3600</u>
15% Contingency	167	249	171	191	61	<u>839</u>	80	299	540
7%/yr. Cost Escalation	-	108	144	234	96	<u>582</u>	40	222	360
<u>Total</u>	<u>1285</u>	<u>1909</u>	<u>1309</u>	<u>1464</u>	<u>466</u>	<u>6433</u>	<u>650</u>	<u>1933</u>	<u>4500</u>
% of Total						100%	10%	30%	70%

^{1/} \$50,000 for U.S. consultant services for 6-month water source and sanitation survey and project evaluation, \$180,000 for medical supplies.

^{2/} First year chlorination costs of barangay water supplies.

^{3/} Laboratory, transportation, office, and BHA kits of simple medical equipment.

^{4/} \$3.07 million is for revolving loan funds for construction of water and drainage facilities and water-sealed pit latrines.

(US PL 480 Title II
Food Commodities)

(922.5) (922.5) (922.5) (922.5) (922.5)(4612.5)

8. Implementation Plan

Implementation of the program within a five-year timeframe will necessarily be accomplished in phases.

Phase I entails the smoothing and laying the ground work through the following pre-service activities:

(1) Signing of the Memorandum of Agreement

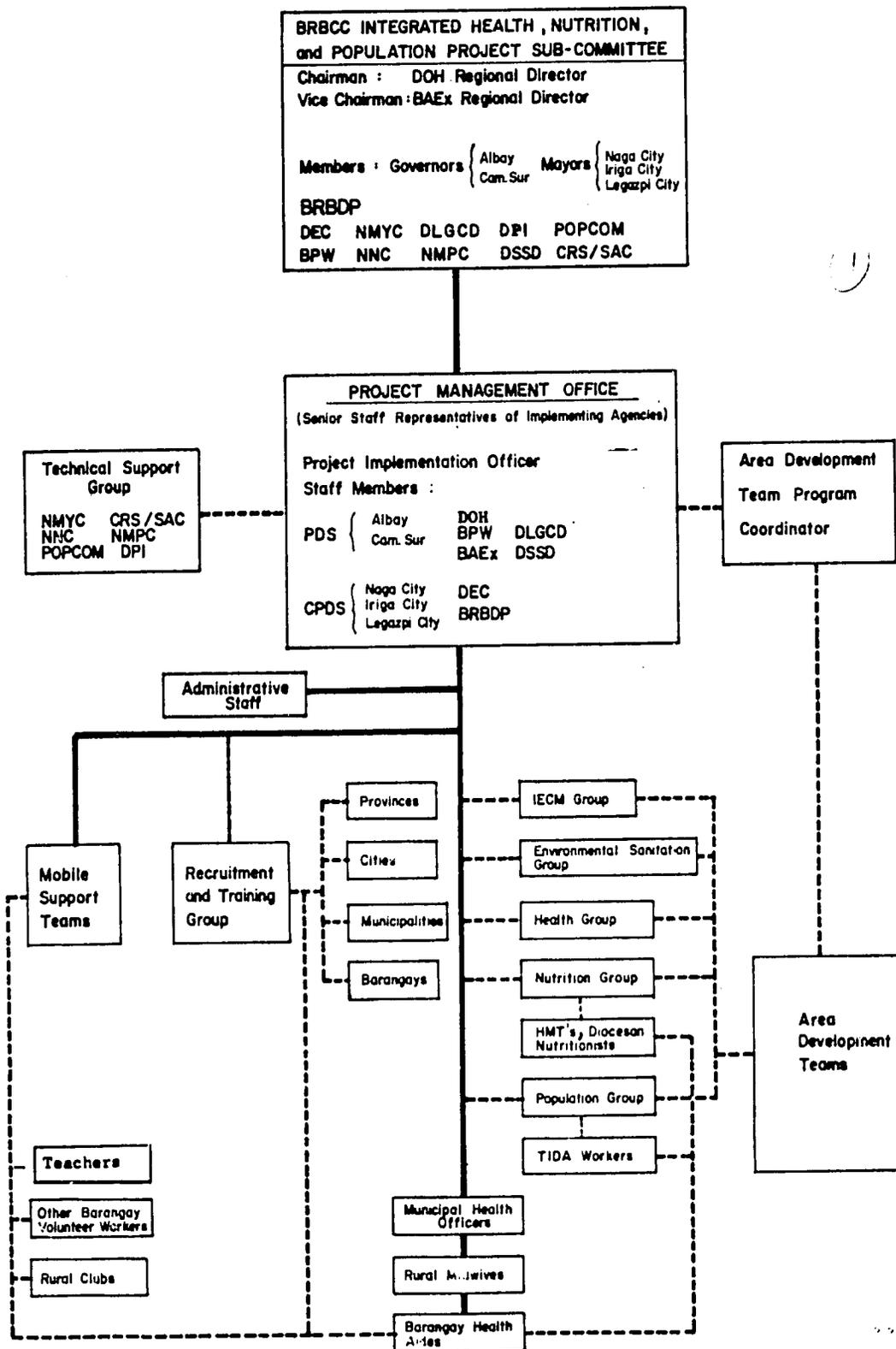
The MemoAg will be prepared and signed by the BRBDP and the heads of the participating agencies including the local government. The Memorandum will define responsibilities and expectations, technical assistance in training, supervision and backstopping in specified areas of specialization. In return, the line agencies will receive logistic support in terms of equipment, supplies/commodities and incentive/travel allowances. Line agencies' responsibilities at the end of the program period will be clearly spelled out, i.e., absorption of new or additional items, and for local government, i.e., Provincial, Municipal, City, and Barangay, the take over of the Integrated Health, Nutrition and Population Campaign at what terms at the termination of the project.

(2) Development of the Organizational Structure

A sub-committee of the Bicol River Basin Coordinating Committee for the program, as shown in the attached organizational chart, will be created with the Department of Health (DOH) Regional Director as Chairman and the Bureau of Agricultural Extension (BAEx) Regional Director as Vice-Chairman. The members of the sub-committee will be the

BICOL INTEGRATED HEALTH, NUTRITION AND POPULATION PROJECT

ORGANIZATIONAL CHART



regional directors of the Department of Education and Culture (DEC), the Bureau of Public Works (BPW), the National Manpower and Youth Council (NMYC), the National Nutrition Council (NNC), the Department of Public Information (DPI), the Department of Social Services and Development (DSSD), the Population Commission (POPCOM), the Catholic Relief Services/Social Action Center (CRS/SAC), the BRBDP, the governors of the provinces of Camarines Sur and Albay and the mayors of the cities of Naga, Iriga, and Legaspi. The project will be implemented through a Project Management Office which will be headed by full-time Project Implementing Officer appointed by DOH. This office will ^{have a core group} ~~be~~ composed of senior staff representatives of implementing agencies namely, the Provincial Development Staffs (PDS) of Camarines Sur and Albay, the City Planning Development Staffs (CPDS) of Naga, Iriga and Legaspi, BPW, BAEx, DEC, DLGCD, DOH, ^{and} ~~AND~~ DSSD with the BRBDP representative acting as coordinator.

Technical support at this level will be provided by the senior staff representatives of NMYC, NNC, POPCOM, CRS/SAC, NMPC and DPI. The Area Development Team Program Office will be similarly actively involved. A staff under the project management office will be hired on a full-time basis to handle administrative matters. Interagency groups will ~~will~~ be formed in the lower echelons of the organizational structure.

The Recruitment and Training Group will have a line function with the NMYC as the lead agency. The Barangay Council will nominate a BHA, whose nomination will in turn be endorsed by the municipal council. The BHA will then be appointed by the provincial governor based on criteria set by the Recruitment and Training Group. The city mayors will approve and appoint the BHA's of rural barangays falling within city limits. The IECM group (lead agencies: DPI and DEC), the Environmental Sanitation Group (lead agencies: DOH, BPW, and DLGCD), the Health Group (lead agency: DOH), the Nutrition Group (lead agencies: BAEx and CRS/SAC) and the Population Group (lead agency: POPCOM) will be performing staff functions and will interact closely with the ~~district~~ Area Development Teams in the two provinces.

At the municipal level, all these groups will channel their programs through the ^{Rural Health Units} ~~Municipal Health Offices~~ in the municipal health center^s. It should be noted that implementation will be supervised by the Rural Health Unit of the Municipal Health Center as a whole since not only the municipal physician will be instrumental in the process but all the nurses and the sanitary inspectors as well. More immediate supervision of the Barangay Health Aides will be performed by the rural midwives in the Barangay Health Stations. (There are three BHS's and three midwives, whereas there is an average of 32 barangays, per municipality.) Monthly meetings of the BHA's

in each municipality with the Rural Health Unit will probably suffice.

The Home Management Technicians (HMT's) of the BAEx and the CRS/SAC Diocesan Nutritionists will be supervised by the Nutrition Group insofar as their support activities to the BHA's are concerned. In like manner, the Population Group will supervise the TIDA workers of the POPCOM. The interagency Health, Nutrition and Population Mobile support team which will be composed of one physician, one nutritionist and one medical technologist, will serve as a BHA referral group and will cater to health and nutrition problems requiring immediate treatment. These mobile teams will initially be activated by the project management office. At the end of the project, the personnel will be absorbed by the different agencies concerned and the DOH will assume the lead role. The rural units organized by the HMT's, the teachers and the Barangay volunteer workers will assist the BHA's in all their functions.

(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 on their roles in the campaign; these include local officials, i.e., Provincial, City, Municipal and Barangay Officials.

(5) Convening of Inter-Agency Groups

Once participating agencies have been oriented on their roles, the different groups will be convened so that they may start their respective implementation activities.

(6) Setting Up of Training Center and Training Programs

A regional training center will be set up using existing facilities of the National Manpower and Youth Council and of the BRBDP in Pili, Camarines Sur. The various groups will meet to develop and prepare BHA training programs, training curricula and operation manuals in coordination with the PMO.

(7) Materials Procurement/Reproduction

Materials necessary to support the project will be procured and/or reproduced by the Administrative Staff in coordination with IECM group. Medicine for the Botica sa Baryo for the Barangays and biologicals for the immunization program as well as the BHA kits and mobile team vehicles, equipment and materials will also be procured.

(8) Recruitment, Screening and Appointment of BHA's

An initial batch of 120 BHA's will be recruited, screened and appointed according to agreed upon conditions and

criteria set by the PMO. This will be undertaken by the Recruitment and Training Group in consultation with the local government and the procedure will be that as described in the project's organizational structure.

(9) Environmental Sanitation Survey

Comprehensive studies and evaluation of the sanitation levels of barangays will be undertaken for a period of six months immediately after the environmental sanitation group is formed, so that it may set the direction of the survey. Fifty researchers ^{and a U.S. consultant} will be hired for the undertaking.

The survey will pertain to careful studies and evaluations leading to preparation of detailed concepts and designs so that first phase construction can begin immediately after these studies are completed covering 10 percent of the total number of ^{target} barangays in the program. *See Annex D(1) for further details.*

Major activities in this first phase of the environmental sanitation program include:

- a) Review of sanitation conditions in barangays leading to quantified classification of the Bicol barangays into typical "sanitation types" (e.g. flat terrain/near waterways versus more hilly terrain/away from waterways), and for each such type preparation of drainage and descriptions of the existing "average" sanitation conditions, taking into account different categories of housing for

of the methods to use will take into account the socio-economic patterns in the barangay as these relate to operation and maintenance of the facilities. The selected improvements must be capable of being operated, maintained and "absorbed" within the existing socio-economic constraints.

- f) Detailed design of the unit types of improvements and, based on these, estimates of costs for constructing the desired improvements for all barangays included in the program assuming the costs involved for improvements for the typical barangay types may be extrapolated to cover all barangays included in the five year program.
- g) Preparation of specific detailed designs for barangay improvements for the first plan of construction, namely for 10 percent of the total number of barangays to be improved (the group of barangays representing the top 10 percent of priority need for sanitation improvement).

(10) Construction of Physical Infrastructure

- a) Nine Barrio Health Stations (BHS's) will be constructed and 7 Municipal Health Centers (MHC's) will be repaired outside of the 14 municipalities identified as IBRD/GOP input sites so that existing facilities may be augmented. Construction will be undertaken within the first year of the project.

b) The laboratory facilities in the provincial hospitals of Camarines Sur and Albay will be upgraded to perform bacteriological and chemical analyses of water sources as soon as project funds are released.

Phase II consists of the following activities:

(1) Launching of IECM Drive

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 by the IECM group through health educators of the line agencies to ensure active community participation.

(2) Training and Deployment of BHA's, Mobile Teams and Other Line Agency Personnel

Training of the initial batch of 120 will be accomplished in classes of 30. Formal training will be conducted for a period of four weeks. After this, BHA's will be deployed and in service training for them will consist of reporting to the Municipal Health Center once a month for consultation/conference and to pick up requisitions of medicine to resupply the initial stock of medicine, as they collect their monthly stipend from the municipal or city treasurer. A two-day live-in refresher course for the deployed BHA's shall also be provided annually.

Considering only the 1370 rural barangays inclusive of those falling within city limits in the two provinces which do not have ready access to the kinds of social services planned in the project, an estimated ⁸⁸~~85~~ percent of these, or 1,200 barangays, are targeted to be deployed with BHA's. The pre-service and deployment scheme of the BHA's shall be as follows: 120 for the first year; 360 in each of the succeeding three years or a total of 1,200 BHA's. Thereafter, an on-going program will train 120 or so new BHA's per year to allow for attrition and those barangays that wish more than one.

Three inter-agency mobile teams will be fielded in the first year. Two teams will be assigned to Camarines Sur and one to Albay. In the second year, another four teams will be fielded for a total of seven teams for each of the seven districts in the program area (i.e., ¹ in Camarines Sur and 3 in Albay). As has been mentioned, each team will be composed of one physician, one nutritionist and one medical technologist/driver. Vehicles are important if these teams are to function as roving clinics and laboratories.

Vacant positions of municipal HMT's will be filled immediately. As soon as the HMT's have been oriented on their expanded role in this program, they will backstop the BHA's in malnutrition prevention activities and the organization of Rural Improvement Clubs (RIC's) in their respective barangays.

The present 2 provincial supervisors will supervise the HMT's in Camarines Sur and Albay. The Regional HMT Supervisor, aside from overseeing the provincial supervisors, will handle the HMT's in the cities.

Simultaneously, the 10 Diocesan Nutritionists and 2 Food for Work Coordinators will be fielded to open additional feeding centers and assist in the distribution of U.S. P.L. 480 food commodities. While food commodities ^{are} ~~is~~ not funded by the project, the treatment of 2nd and 3rd degree cases of malnutrition through the distribution of food is part of the program.

Phase III consists of the delivery of services.

(1) BHA Spot Mapping Activities

As soon as the BHA's are deployed, they will conduct spot mapping activities in coordination with the Barangay Council. The map will be the basis of priorities in service delivery. At this time, barrio information assemblies will have been held by other line agencies involved and the organization of Rural Improvement Clubs will have been completed by the HMT's in some areas, and the BHA's where there were none. The Rural Improvement Clubs (RIC), if the spot map so indicates, will assist in organizing the barangay for food production in support of the nutrition program by the BHA with the technical assistance of the nutritionists of the BAEx or the CRS/SAC, the Rural Health Units, and the teachers.

*Insert:

The establishment of Botica sa Barrio (Village Drugstore^e) will also begin as soon as a BHA is present in the barangay to supervise drug dispersal. The drugstore will be housed in the ~~barangay~~ residence of the barangay captain or some other responsible citizen who will be available most of the time to supply villagers' needs. Drugs will be sold for enough to cover replacement costs.

Spot mapping will also include the target population of the immunization program so that immunization activities of the Rural Midwife may be facilitated.

*insert
next page*



An intensive campaign in the proper maintenance of a sanitary environment to prevent the spread of communicable diseases will be conducted through various means using line agencies and their personnel supporting the BHA's through the IECM group. Publicity of the presence of a Barangay Development Center (BDC), ^{or} ~~a~~ a Barangay Supply Point (BSP) in the area for family planning referral and other related activities will be one of the supportive functions of the BHA.

(2) Initiation of Construction of Environmental Sanitation Facilities

The construction and improvement of the environmental sanitation facilities will be undertaken as soon as the BHA is present to supervise the work.

The facilities to be provided will include deep wells, hand pumps and improvements of springs accessible to the residents of the barangay household, toilets and community drainage systems. ^(see Annex D for details.) Upon completion, the facilities will be turned over to the Barangay Authorities. Amortization payments on the loans for all the facilities will come from water fees from the consumers collected by the BHA, duly bonded, who will get additional compensation on a commission

basis aside from his monthly stipend. The money collected will be turned over to the Barangay Treasurer who will ~~in~~ return ~~it~~ ~~into~~ ^{the} revolving fund for ^{the} use of other barangays later on.

Construction of the facilities will be facilitated through loan obtained by the Barangay Council and guaranteed by the DLGCD with any rural bank. It should be emphasized that the consumers will not be made recipients of any money loan and will thus take the loans in the form of facilities.

The BHA will oversee the whole process, monitoring and reporting the problems met in his barangay to the Resident Midwife in the area, who will in turn report to the sanitary inspector.

(3) Initiation of Program Evaluation

The year's progress and progress every 12 months hence will be evaluated during 2-day workshops by the BHA's and a representative from each participating agency. A third party, contracted by the BRBDP for program evaluation, will coordinate these workshops so that an accurate evaluation of the program may be prepared and compiled at the end of the project.

(4) Retention of BHA's by the Barangay

Initially, the BHA stipends and training costs will be funded by the project. When the barangays decide to retain their BHA's, they will start sharing the BHA's stipend and

perhaps the
training costs, and the mechanism to generate local funds for the Integrated Health, Nutrition and Population Project will have been proposed and approved. The Barangays, the Municipality and the Province will shoulder 10 percent, 45 percent and 45 percent respectively of the BHA cost, the same share they get out of the property taxes. In the cities, the barangay will contribute 10 percent of the BHA costs while the rest will be funded by the City Government. Project support will be phased out gradually after a BHA has been funded completely for at most three years by the project. After these three years, the local government will shoulder 50% of the stipend for two years. By five years after the end of the project, all BHA's will be funded completely by the barangays, the Municipal, the City, and the Provincial Governments.

Phase IV will consist of full implementation of the program and delivery of services to target barangays. By the beginning of the fifth year, all the 1,200 BHA's will be delivering services and all water and waste disposal systems will have been repaired or improved and new ones constructed and approved as per year sanitary code or undergoing completion.

Phase V will pertain to finalization of project evaluation by the third party contracted for this purpose by the BRBDP. It is to be understood, of course, that completion of the evaluation of the project will be done when the fifth year is over.

9. Project Development Schedule

The Project Paper could be prepared and submitted to AID/W within 150 days of notification of approval of this PRP. The BRBDP as well as other GOP offices associated with the proposed project have indicated their willingness to assign appropriate staff to participate in an inter-agency task force effort to develop the Project Paper. See the Project Development Schedule Chart, attached as Annex F, for a detailed suggestion as to project development once the loan agreement is signed.

Project Design Summary
Logical Framework

Bicol Integrated Health, Nutrition and Population Project

I. Narrative Summary

A. Program Goal

Improved quality of life and increased real per capita income in the Bicol River Basin Development Program area.

B. Project Purpose

Primary Purpose

Improved health and nutrition status of the rural population and reduced birthrate in Camarines Sur and Albay Provinces.

Sub-Purposes

1. Effective health, nutrition, population, sanitation and water services to rural barangays through an economical delivery system, ^{largely} funded from and supported by local and ~~national~~ resources and institutions.
2. Improved sanitary environment and household water supplies in rural barangays.

C. Outputs

1. Institutional Development

- a. Semi-volunteer Barangay Health Aides (BHA's) recruited by rural barangay councils and trained by integrated line agency staffs.
- b. First aid, simple drug and health and nutrition kits distributed to participating barangays for BHA use.

- h. Village drugstores (Botica sa Barrio) established in participating barangays.
- i. DOH immunization program expanded in participating barangays.

- c. Rural Clubs organized and utilized in each barangay to work with the BHA.
- d. Permanent BHA integrated training center and training program established, staffed and operational.
- e. Mobile health, nutrition and health support teams fielded to assist the BHA's.
- f. Tri-media information, Education, Communication and Motivation (IECM) campaign launched by health, nutrition and population educators to reach all rural barangays.
- g. Additional Diocesan Nutritionists and Food for Work (FFW) coordinators assisting in food distribution in an integrated manner.

2. Physical Construction

- a. Pre-construction survey of existing barangay sanitation, drainage and water supply systems completed.
- b. Small barangay water supply systems constructed and some chlorinated.
- c. Household pit privies (water-sealed) constructed.
- d. Improved drainage ditches constructed.
- e. Rural Health Centers renovated.
- f. Barangay Health Stations constructed.
- g. Laboratory facilities in the provincial hospitals of

Camarines Sur and Albay upgraded to perform
bacteriological, (chemical and) . analysis of
water resources.

D. Inputs

1. Existing physical and manpower resources.
2. Foreign exchange and GOP counterpart funds
3. Training programs for BHA's and line agency personnel.

II. Objectively Verifiable Indicators

A. Measures of Goal Achievement

1. Perceived and objective quality of life indicators improved by 1982.
2. Incidence of parasitic infection reduced from 90% to 30% by 1982, reducing loss of food nutrients consumed.
3. Improved sanitary environment and water supplies for at least 70% of rural families ^{by 1982,} indicating reduced losses due to malabsorption of food nutrients consumed.
4. Reduced absenteeism from work and schools due to illness.

B. Purpose: End of Project Status

Primary Purpose

1. Life expectancy increased from 59.1 to 61.0 years by 1982.
2. Infant mortality rate reduced from 72.7 per 1,000 live births to 50 per 1,000 by 1982.
3. Crude death rate reduced from ⁷² to ⁵⁰ per thousand by 1982.
4. Morbidity due to water-borne diseases and intestinal parasitism reduced by 50 percent by 1982.
5. TB cases reduced from 10 to 1 per 10,000 by 1982.
6. ^{Severe and moderate} Malnutrition cases reduced by 40 percent by 1982.
7. Birth rate reduced from 38 to 31 per thousand by 1982.

Sub-Purposes

1. 80% of rural infants and pre-schoolers participating in expanded nutrition program by 1982.
2. 50% of rural pregnant and nursing mothers using "approved" nutrition practices by 1982.
3. 60% of rural households using "recommended" preventive

health practices by 1982.

4. Of the total rural population, the immunization program reaching (by 1982):

a. 90% of school entrants and 80% of newborns for BCG

b. 70% of total ^{population} for cholera, El Tor, typhoid and paratyphoid

c. 80% of infants for DPT.

d. 50% of pre-natal cases for tetanus toxoid.

5. Spot mapping and disease referral systems operative in 1200 rural barangays by 1982.

6. Preventive disease education system reaching 80% of rural households by 1982.

7. 40% of rural Married Women of Reproductive Age (MWRA's) using family planning methods by 1982.

8. 840 (70%) BHA's ^{partly} funded from local revenue sources by 1982, 960 BHA's (80%) wholly funded locally by 198⁵.

9. 90% of rural population have convenient access to satisfactory water supply by 1982.

10. 50% of rural population using satisfactory toilets by 1982.

11. 90% repayment rate achieved on loans for water supply and drainage systems ^{by 1985} and water-sealed pit latrines by 1982.

C. Magnitude of Outputs

1. Institutional Development

a. 1,200 barangays employing trained BHA's by 1982.

b. 1,200 BHA kits distributed.

- h. 1200 self-liquidating village sewage systems installed by 1982.
- i. DDM immunization program expanded, with BHA help, into 1200 participating rural barangays by 1982.
- c. 10 Diocesan Nutritionists and 2 FFW coordinators integrated into the project by the Catholic Relief Services/Social Action Center.
- d. 7 mobile nutrition and health teams deployed by joint-agency operation by 1980.
- e. 1200 rural barangays with functional Rural Clubs to assist project efforts by 1982.
- f. IECM activities intensified and covering 1200 rural barangays.
- g. 1 regional training team constituted by different line agencies, BHA training center and program operational.

2. Physical Construction

- a. 1200 rural barangays surveyed to determine existing sanitation, drainage and water supply status by 1978.
- b. 3000 small barangay water supply systems constructed or improved by 1982.
- c. 3000 small barangay water facilities chlorinated by 1982.
- d. ⁶⁰⁰⁰ ~~4400~~ individual household water supply systems improved by 1982.
- e. 53 ⁶⁰⁰ rural households ... construct sanitary toilets by 1982.
- f. Main drainage facilities constructed in 1000 rural barangays (83%) by 1982.
- g. 250 rural barangays (21%) construct secondary drainage systems by 1982.

- h. 7 Municipal Health Centers renovated by 1978
- i. 9 new Barangay Health Stations constructed by 1978.
- j. 2 laboratory facilities (1 each province) upgraded by 1978.

D. Implementation Targets (Inputs)

(See Implementation Plan)

III. Means of Verification

A. Goal

1. Operations Timbang survey and follow-up records
2. Private and government health reports
3. DOL and DEC reports
4. SSRU survey reports

B. Purpose

1. Actuarial reports
2. DOH (MCH, NNS, NFPO, DIC) reports
3. NNS and NNC reports
4. POPCOM reports
5. SSRU survey reports
6. Rural bank reports
7. DLGCD reports
8. BFW and LWUA reports
9. Project Monitoring and Evaluation reports
10. NCSO reports

C. Magnitude of Outputs

Institutional Development

1. Participating agency reports
2. BRBPP sub-committee reports
3. BHA reports

Physical Construction

1. Sanitation Environment Research reports
2. BHA reports

3. RHU - Sanitary Inspectors reports
4. DLGCD reports
5. DOH reports

D. Inputs

1. BRBPP sub-committee reports
2. BHA reports
3. Independent researchers reports

(for Logframe of Bicol Integrated Health, Nutrition and Population Project, revised 11/5/76, - Callison, AD/RD)

IV. Important Assumptions

A. Goal

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

B. Purpose

Primary:

- 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 targetted population.
 - 3. Effective birth control methods are acceptable to rural residents, and targetted families see personal advantages to family planning not overcome by traditional desires for large families.
 - 4. The PL 480 Title II program will provide food supplements
- Sub-Purposes: to families with malnourished children.

- 1. Rural residents can be sufficiently motivated as to importance of 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. Real Property Tax Administration System implemented as planned in project area and does result in sufficient additional revenues to cover BHA stipends as expected.

3. Barangay residents of sufficient capability and motivation exist and can be recruited to perform the functions planned.
4. Central government line agencies and POPCOM are able to work together in close cooperation to train and backstop BHA's and will reorganize their staffs and budgets accordingly.
5. Effective logistics systems are established in DOH, POPCOM, NNC and BAEx to support expanded rural barangay programs on a massive basis.
6. National GOP and IBRD programs to increase the numbers and coverage of Municipal Health Centers, Barangay Health Stations, midwives, Home Management Technicians, Barangay Supply Points (POPCOM) and municipal or barangay family planning workers implemented in Bicol as planned.

C. Outputs

1. Barangay councils and residents agree with the concept of appointing qualified people, 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 drainage systems.
3. Chlorination of water supplies is acceptable to rural barangay residents.
4. Rural residents will provide the labor and will agree to undertake the financial commitments for the construction of water-sealed toilets.

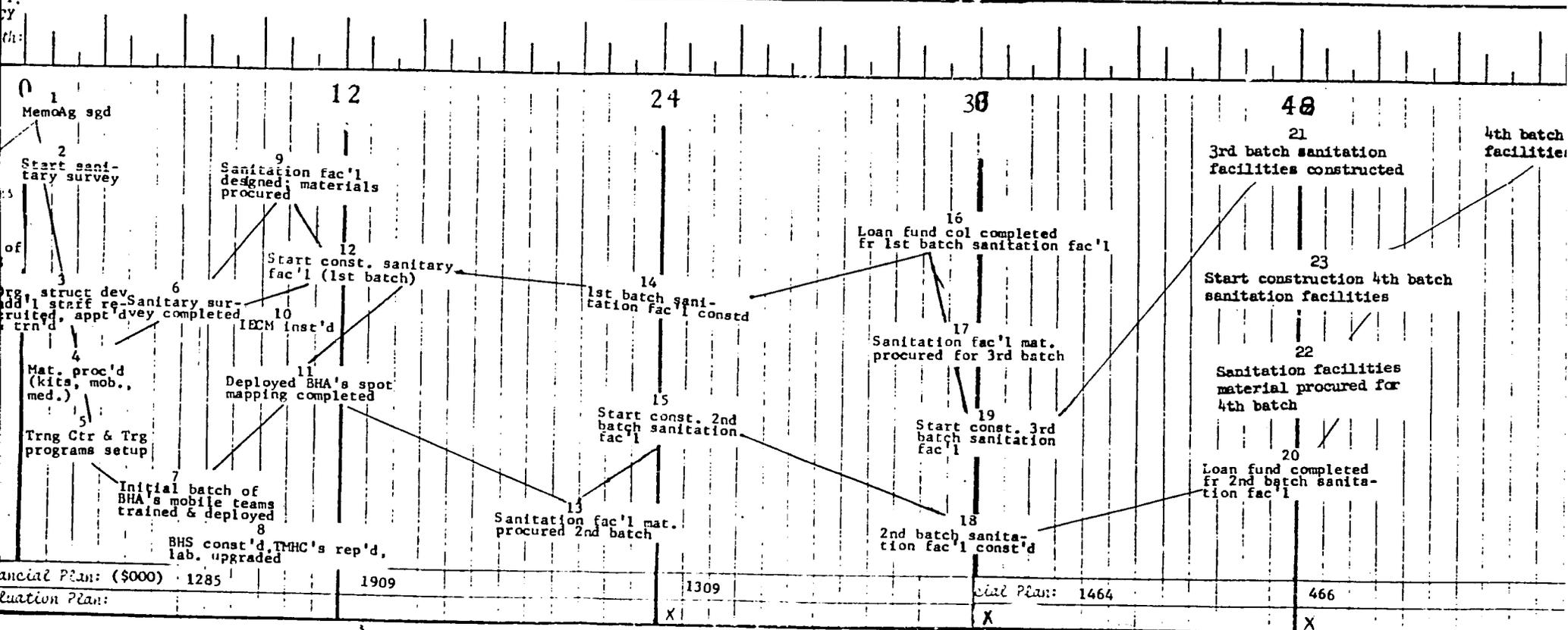
D. Inputs

(None)

PF ORM
(May be Expanded as Appropriate)

PF ORM
(May be Expanded as Appropriate)

Country: Philippines	Project No:	Project Title: Bicol Health, Nutrition and Population	Date: 11/4/76	Original / Revision #	PPT app:	Country:	Project No:	Project Title:
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PROJECT PERFORMANCE NETWORK

PROJECT PERFORMANCE

PPT FORM

Country:	Project No.:	Project Title:	Date:	/ / Original / / Revision #	Appvd:
<u>CPI DESCRIPTION</u>					
1.	MemoAg signed	20.	Loan fund completed from 2nd batch of sanitation facilities		
2.	Start of Sanitary Survey	21.	3rd batch of sanitation facilities constructed		
3.	Organizational structure developed; Additional staff recruited, appointed and trained	22.	Sanitation facility materials procured for 4th batch		
4.	Materials procured (BHA's kits, mobiles, medicines)	23.	Start construction of 4th batch of sanitation facilities		
5.	Training Center and Training Programs Set up	24.	4th batch of sanitation facilities constructed		
6.	Sanitary survey completed				
7.	Initial batch of BHA's mobile teams trained and deployed				
8.	BHS constructed, TMHC's repaired; laboratories upgraded				
9.	Sanitation facilities designed; materials procured				
10.	IECM instituted				
11.	Deployed BHA's spot mapping completed				
12.	Start construction of sanitary facilities (1st batch)				
13.	Sanitation facilities materials procured for 2nd batch				
14.	1st batch sanitation facilities constructed				
15.	Start construction of 2nd batch of sanitation facilities				
16.	Loan fund collection completed from 1st batch of sanitation facilities				
17.	Sanitation facilities materials procured for 3rd batch				
18.	2nd batch of sanitation facilities constructed				
19.	Start construction of 3rd batch sanitation facilities				

Supporting Analyses

Sanitation

- (1) Environmental Annex
- (2) Nutrition Program
- (3) Economic Benefits
- (4) Statistical Annex

Environmental Sanitation Annex

Proposed Environmental Sanitation Program

The proposed Environmental Sanitation Program will cover a period of five years with the work distributed as follows:

~~2-4~~ Year 1: This will include careful studies and evaluations leading to preparation of detailed concepts and designs so that first phase construction can begin within six months of Year 1 covering 10% of the total number of barangays in the program.

The work to be done in Year 1 will include:

(a) Review sanitation conditions in Bicol barangays leading to quantified classification of the Bicol barangays into typical "sanitation types" (for example, flat terrain/near waterway versus more hilly terrain/away from waterways), and for each such type prepare drawings and descriptions of the existing "average" sanitation conditions, taking into account different categories of housing for segments of the population and the manner by which sanitation services are provided for each housing category. These quantified concepts, representing average conditions for each typical barangay type, furnish a firm basis for engineering design and cost for estimating for the total construction programs covering all barangays to be included.

(b) Review the desired minimum sanitation levels set by the Sanitation Task Force of the Integrated Health Campaign as detailed in the subsequent section.

(c) Review evaluation (rating) of the existing sanitation facilities, for each typical barangay situation, to establish (a) the existing level of sanitation as compared to (b) the desired minimum levels to be met. This evaluation will employ a rating system similar to that used in Jakarta (Ref. 1), as illustrated in the ^{attachment below,} ~~attached Appendix "A"~~

(d) Complete approximate rating of sanitation conditions of all barangays in Bicol, and arrangements of these by order of priorities as to urgency of sanitation improvement needs.

(e) Evaluation of alternative methods for filling the sanitation gaps (to reach the desired minimum levels), and selection of those methods which achieve the desired improvements at least cost, i.e., which increase the ratings to the desired levels at least cost per point gain in rating considering construction and operating costs, and potential payback success. The selection of the methods to use will take into account the socio-economic patterns in the barangay as these relate to operation and maintenance of the facilities - the selected improvements must be capable of being operated and maintained and "absorbed" within the existing socio-economic constraints.

(f) Detailed design of the unit types of improvements, and, based on these, estimates of costs for constructing the desired improvements for all barangays included in the Bicol

Program assuming the costs involved for improvements for the typical barangay types may be extrapolated to cover all barangays included in the five year program.

(g) Preparation of specific detailed designs for barangay improvements for the first phase of construction, namely for 10% of the total number of barangays to be improved (the group of barangays representing the top 10% of priority need for sanitation improvement).

(h) First phase of construction for the top 10% of priority barangays.

(i) Preparation of progress report for first-year effort (including detailed description of plans for the remaining years revised as needed based on the accumulated experience).

~~222~~ Year 2: This will include (a) completion of the first phase construction, (b) preparation of designs for the second construction phase (30% of barangays, next level of priority), including refinements in the improvement concepts developed from accumulating experience, (c) the second phase construction, (d) implementation of administrative/operating methods for the first phase. (e) careful monitoring of the first phase to compare actual performance versus expected performance, with development of conclusions on improvements needed to achieve the desired goals considering both construction and operation/maintenance problems, and (f) preparation

of the second year progress report.

~~2~~ Year 3: This will include (a) preparation of designs for the third phase construction (30% of barangays, next level of priority), (b) improvements in the first phase as needed to achieve the desired sanitation level, (c) the third phase construction, (d) continuing implementation of administrative/operating/payback methods for the first and second phase, (e) continuing monitoring of the first and second phases to compare actual performance versus expected performance, with development of conclusions to seek improved solutions, and (f) preparation of the third year progress report.

~~2.4~~ Year 4: This will include (a) preparation of designs for the fourth phase (the final 30% of the villages), (b) construction of the fourth phase, (c) improvements in the second and third phases as needed to achieve the desired sanitation levels, (d) continuing monitoring of performance to seek improved solutions to particular problems, and (e) preparation of the fourth-year progress report.

~~2.5~~ Year 5: This will include (a) completion of all outstanding construction of the fourth phase, and of necessary improvements in the third and fourth phases (and perhaps also further improvements in the first and second phases), (b) continuing monitoring and improvement in methods of administration/operation/financing, and (3) preparation of a final project report including recommendations for applications throughout the Philippines.

~~2.6~~ Details of Sanitation Improvement Methods

The desired minimum sanitation levels set by the Sanitation Task Force of the Integrated Health Campaign are reviewed below. Two (2) levels of sanitation were chosen. Level I is to be achieved in all barangays in the Bicol during the five year program. Level II is to be achieved in a significant portion of the barangays where current or improved socio-economic conditions permit Level II improvements.

~~2.7.1~~ Accessways

Provision of paved accessways including roads, lanes, and paths, located to serve the bulk of the homes in the barangay, are essential of course for facilitating transportation and communications, but

they also make an important contribution to sanitation, especially in flat terrains. Without them the whole barangay becomes a sea of mud during the rainy season. Provisions of paved accessways, suitably located to be above normal flood levels, not only permits clean and dry access to homes but encourages the home owner to improve his own facility to keep it clean and dry.

Accessways are usually considered part of the communications component of barangay improvement programs, and are included in the communications component budget (not in the sanitation component budget); yet they can be very important in contributing to improvement of the overall community sanitation environment.

~~2.6.4~~ Drainage ditches

Provision of drainage ditches (usually alongside the access ways) is an essential part of the sanitation program level I, in that these ditches are the vehicle for removal of all liquid wastes from the community, as well as surface runoff. Without such ditches extensive areas of the barangays may be ponded for prolonged periods, resulting in gross contamination of virtually the entire community environment through spreading of fecal materials around the barangay (including fecal materials washed out of cesspools and privies).

The experience at Jakarta (Ref. 1) has shown, where the terrain is flat, it is important to keep the drains cleaned so that they will function as effectively as possible, that this requires some attention from the barangay captain (who can arrange to have such cleaning done

periodically by local residents under some type of family-cost-sharing arrangement), and that without such attention the drains tend to become used for disposal of trash. Another interesting observation from Jakarta is, when the ditches are properly cleaned, and the raked out materials stored in piles alongside the ditch, these materials (which are more-or-less relatively stable organic and inorganic materials) can be excellently utilized for landfilling of swamps and other low zones in the ^{barangay} village areas (thus reclaiming land not otherwise useable). Level II of the Integrated Health Campaign calls for construction of small side drains from all side streets and some individual house drains connected to the main drain.

~~2.6.3~~ Water supply

While the barangays are "getting by" with their present sources of water, these are usually heavily contaminated (due to lack of adequate handling of fecal materials) and moreover, even with an adequate toilet program (Section 2.6.4) will likely remain contaminated. The ultimate goal of course is a piped supply to each home-- when this becomes affordable-- but a feasible interim step is provision of a few public taps at strategic points throughout the barangays, so that all residents will have access to adequate and eventually safe water at least in limited amounts for drinking and cooking. This means provision of at least the rudiments of a village water supply system as level I goal, ^{or of a series of systems, for servicing the public-taps, for example, a rainwater collection system for the school roof together with piping to the taps, or a treated surface supply together}

liters per capita per day

with the piping. Usually the piping will be located along the access ways, where the houses are, hence it becomes feasible for homes which can afford it to hook up to this system. Level II would include provisions for chlorination of all public water supplies to insure their potability.

Assuming water supply improvements are provided as noted above, they must be administered and operated in a manner which not only makes the water available at reasonable rates but which provides security for the system. The Jakarta experience (Ref. 3) has shown that there is a strong public demand for purchasing the improved water, even in the poorest barangays, and even where local polluted supplies are plentiful, provided the purchase price is reasonable. Also, the density of taps needed (number per hectare) will not be uniform but depend upon the relatively availability and quality of the "competitive" local supplies; hence in the detailed design of the public tap system for a particular ~~village~~ ^{location} the number of taps to provide and their locations need to be suited to the particular local conditions. (As learned at Jakarta, use of average values is not a suitable basis for design).

~~1-1-1~~ Excreta disposal

While some homes have their own toilet facilities, most homes have none or the facilities for handling of excreta in some of the homes do not properly contain the fecal materials. The Level I goal is to have all homes in the barangays (or groups of homes) construct a pit privy with a water sealed toilet. The Jakarta experience (Ref. 1) has shown the only affordable excreta handling system is the use of pit privies (leaching pit privies, with porous walls), even in areas of high ground water. The use of the water-seal type toilets permits minimum of water use per service use of the toilet, thru conserving and prolonging the life of the pit privy. In areas where the ground water is sufficiently low, the pit privy will be above the ground water so leaching is effective, and the pit privy has a relatively long life (two or more years) before it must be pumped out (or filled in and replaced). If the ground water is high leaching will be limited, the ground water in the vicinity will be polluted, and the pit privy contents will have to be removed much more frequently; even so, it was found at Jakarta that this may still be the only reasonably satisfactory excreta handling system considering the relatively very high costs of any alternatives which will do better. Assuming that safe drinking water can be made available, the continuing pollution from these pit privies can be "lived with", and the overall combination of safe

water for drinking plus plentiful water not safe for drinking but useful for all other purposes will meet practically all needs until the time when house connections can be generally available.

The Level II objective is to construct septic tanks (with leaching pool or field) to adequately discharge the overflow and permit treatment by the soil. One key to utilizing pit privies and septic tanks as the primary means of excreta disposal is the availability of an efficient septic tank pumping service, i.e., vehicles (carts or trucks) equipped with hoses long enough to reach practically all the homes from those accessways which can accommodate these vehicles. The problems of septic tank pumping will be handled with the development of the Level II goal. Disposal of the pumped pit privy materials can be accomplished at a suitable site selected for this purpose, as is commonly practiced for cities in Asia.

~~2.6.5~~ Solid Waste Management

A system exists, specifically suited for Bicol conditions, by which residents store and dispose of their ~~solid~~ ^{solid} wastes at the home by burying or burning. Often edible solid wastes are fed to domestic animals and ~~total~~ ^{total} residual wastes are minimal. For the minimal sanitation levels recommended during the five year project, no additional solid waste collection or disposal facilities are believed needed.

Environmental AnnexRATING SYSTEM FOREVALUATION AND RATING SANITATION FACILITIES IN VILLAGES1. Basic Sanitation Services

While there is no "standard method" for grading the level of village sanitation facilities, some such grading system, even a crude one which is only partially quantitative, is needed if progress is to be made in rating or grading the value of alternative measures for improving village sanitation.

For purposes of this study an approach has been made by classifying the basic village sanitation measures as follows:

- (a) Provision of an adequate and safe water supply (surface and/or ground water).
- (b) Facilities for hygienic use of the water supply, especially for toilets, and washing and bathing.
- (c) Removal of excreta (and other sanitary wastes when feasible) from the premises and from the village environment, for discharge to an accessible waterway.
- (d) Treatment of the wastes prior to discharge to the waterway.
- (e) Provision for collection and disposal of solid wastes.
- (f) Provision of adequate surface drainage.

2. Environmental Values Affected by Sanitation Services

It is recognized that these various measures will have impacts on the village sanitation and environment in many ways, including impact on (1) the communicable disease hazard, (2) water pollution control in the waterways, and (3) community aesthetics. From the point of view of the BTHIP, the communicable disease impact is considered to be the controlling factor. The seven measures noted above may be assigned points to reflect their relative importance in village communicable disease control as follows:

- | | |
|--------------------------------------|------------|
| (a) Water supply (adequate and safe) | 250 points |
| (b) Hygienic use of water | 250 |

(c) Removal of excreta	300
(d) Waste treatment	100
(e) Solid waste collection and disposal	200
(f) Surface drainage	200
(g) Paved access ways	<u>100</u>
Total	1,400

In connection with communicable disease control in the village, measures (a), (b), and (c) are the most important, and (d), (e), and (f), while important, are of somewhat lesser significance. It is noted also that, of the total of 1,400 points relating to control of communicable diseases, almost half are assigned to bringing in and using the water for hygienic purposes, and the other half essentially to waste disposal. For purposes of water pollution control, measures (d) and (e) will be of primary importance. A preliminary grading system has been developed as shown in Table 2-1 which, while admittedly arbitrary, is believed to be of real value for comparing the relative benefits from alternative approaches.

3. Application of Rating System

As already noted, for purposes of the IPS, control of communicable disease must be regarded as the all-important target, hence Table 2-1 assigns this to represent 80 percent of the total sanitation benefits to be achieved from BETHIP measures, with 15% assigned to water pollution control and 5% to community aesthetics. Thus, for a "perfect" score with respect to provision of sanitation facilities, from the point of view of the BETHIP, a village with 100% adequate facilities for communicable disease control would score 1,400 points, plus an additional 15% of 1,000 or 150 points for 100% adequate water pollution control measures, plus another 5% of 1,000 or 50 points if 100% adequate with respect to community aesthetic, resulting in a possible overall total of 1,600 points.

With each category of scoring noted above (a,b,c, etc.) alternative approaches can be used, some of which will not qualify for a full score. Thus an open drainage ditch is considered to be only half as effective as a sanitary sewer (but more effective than a person walking to the field to defecate) in physically removing excreta from the in-village environment to the waterway, hence only 150 of 300 points would be assigned. Also, given measures may accomplish more than one function, thus a septic tank with leaching system does a complete job for both removing excreta and treating it, accomplishing both (c) and (d), and a community toilet/shower unit accomplishes (b), (c), and (d) for the people it serves.

Table 2-1:
 RATING SYSTEM FOR EVALUATING EFFECTIVENESS OF VILLAGE SANITATION FACILITIES

	Impact on Village Communicable Disease Hazard	Impact on Water Pollution Control	Impact on Community Aesthetics	Total Impact
(a) Water Supply	250 max		200 max	
(1) Quantity	(150)			
(2) Quality	(100)			
(b) Hygienic Use of Water	250 max	(Only significant as relating to treatment or collection for purpose of treatment)	100 max	
(c) Excreta Removal	300 max	(See Item d)	200 max	
(1) Sanitary Sewer	(300)		(200)	
(2) Septic Tank (without leaching system)	(150)		(100)	
(3) Septic Tank/Leaching System	(300)		(200)	
(4) Pit Privy (before becoming filled)	(150)		(150)	
(5) Open Drainage Ditch (Paved)	(150)		(100)	
(6) Defecation in Field	(100)		(50)	
(d) Waste Treatment	100 max	750 max	100 max	
(1) Treatment Plant	(100)	(750)	(100)	
(2) Pit Privy (before becoming filled)	(50)	(375)	(50)	
(3) Septic Tanks (no leaching)	(50)	(375)	(50)	
(4) Septic Tank/Leaching Systems	(100)	(750)	(100)	
(e) Solid Waste Collection and Disposal	200 max	250 max	200 max	
(f) Surface Drainage (paved)	200 max		100 max	
(g) Paved Access Ways	100 max		100 max	
(h) Total	1,300 max	1,000 max	1,000 max	
Relative Importance to BBTHIP	80%	15%	5%	100%

Notes: (1) Item (a): Of total of 250, allow 150 for quantity and 100 for quality.
 (2) Item (b): Of total of 250, allow 125 for a toilet and 125 for washing and bathing.
 (3) Item (c): Allow 100 points for collection and 100 points for disposal (removal).

List of References

- (1) "Immediate Programme for Sanitation". Prepared by Nihon Suido for UNDP/WHO as part of "Jakarta Sewerage and Sanitation Project, Indonesia", Feb. 1976.
- (2) "Indonesia, Appraisal fo the Jakarta Urban Development Project". Prepared for IBRD by N. Farmer, S.J. Guinness, and P. Ljung, 1974.
- (3) "Report on Review of Water Supply Programme for KIP Pelica II", Prepared for IBRD by H.F. Ludwig with collaboration of KIP/PAM Officials of Government of Indonesia, 20 Aug. 1976.

Current Nutrition Activities

The Philippine Nutrition Program is administered through the National Nutrition Council (NNC) at cabinet level. Its Executive Director: simultaneously serves as Executive Director of the Nutrition Center of the Philippines (NCP), a private foundation, to assure coordination of both the public and the private sector. The NNC is decentralized to the extent that a regional action officer operates in each of the 12 regions of the country. Below the regional level and through the regional office nutrition committees are organized at the Provincial, municipal/city/and barangay level, with public and private representation through the agencies concerned with implementation of nutrition activities at the community level. At the barangay level, a voluntary network is organized such that a unit leader is responsible for 15 to 25 households. Unit leaders function under the guidance of the barangay nutrition council generally headed by the teacher or the barangay captain. Through memoranda of agreement the line agencies of government and the private agencies identify their specific nutrition activities. Such agreements facilitate the coordinating role of NNC and assure a minimal duplication of effort.

In terms of action programs, the NNC has identified 5 areas for concentration:

1. Nutrition Education and Information
2. Food Production
3. Food Assistance

4. Health Protection

5. Family Planning Motivation

In 1975, a national program (Operation Timbang) of weighing pre-school children was launched. By mid 1976, four million children had been weighed. In the Bicol Basin, this program has now been completed in all but one municipality. The results indicate 24% of pre-schoolers are in 2nd degree and 6% in third degree malnutrition. Projected to the entire population of 1.76 million and assuming 20% to be pre-schoolers the estimated total for the provinces of Albay and Camarines Sur are 85,000 second degree and 21,000 third degree or a total of 106,000. Presently, approximately one fourth of these are being reached with food assistance through a coordinated effort between the Catholic church and CRS and the public sector (Education, Social Welfare, Health and Agriculture workers). (see below)

Other current nutrition activities that will augment the nutrition effort envisioned in this project are identified as follows:

1. Integration of nutrition into the curriculum of the public schools and the dissemination of information to the community - Dept. of Education and Culture. School and home food production is promoted and some food assistance. 120 schools in Camarines Sur and _____ in Albay receive assistance through CARE in the nutrition program. The education program extends to all schools, 749 schools in Camarines Sur and _____ in Albay.

2. Food assistance through CRS/Diocese to pre-school malnourished population.

This program is coordinated through the Provincial Nutrition Council and currently reaches about 26,000 with 96 pounds of PL 480 Title II commodities (rolled oats and corn soy blend) annually. Approximate total annual food input is 2.5 M pounds valued at approximately 15 US cents per pound.

This program proposes to extend this outreach to an additional 64,000 accessible children with 2^o & 3^o malnutrition. This will require annually an additional 6.15 M pounds of food commodities.

The NNC plans to replace, as rapidly as possible food assistance with local nutri-paks. This program is now in its infancy and its implementation on a self-help basis can be considerably augmented through this project.

3. Day Care Center Program

The Dept. Social Services & Dev. (DSSD) operates 187 day care centers in Camarines Sur and 33 in Albay. These centers focus on 2^o malnutrition pre-schoolers with snacks served at the center combined with nutrition education.

4. Nutri ward and other rehabilitation program.

The Provincial Hospital in Camarines Sur maintain 10 beds for nutritional rehabilitation and the Albay Provincial

Hospital maintains 3 beds.

This program rehabilitates severely malnourished children, provide education to mothers on prevention and maintains referral through Rural Health Units. The provincial nutritionist, Dept. of Health, operates mothercraft nutrition centers as extension of rural health units. Similar centers are operated by Bureau of Agr. Extension on a limited scale.

5. Agricultural Extension and Bureau of Plant and Animal Industries

Through home management technicians and youth officers this agency assumes the major role in the rural area of extending nutrition education into rural families and promoting food production through gardens and animal production. Plant and animal industries personnel assist through seeds and animal dispersal. There are currently

27 HUs in Cinaranga and 13 in Albay. *assume staff position is total of 55, one*
This project purpose to ~~provide~~ *assist* ~~the~~ *in* ~~one~~ *total of 55, one*
~~municipality~~ *municipality* ~~and~~ *and* ~~to~~ *to* ~~provide~~ *provide* ~~incentive~~ *incentive* ~~allowance~~ *allowance*
per ~~15,000~~ *15,000* ~~per~~ *per* in order to strengthen the focus on malnutrition prevention in the vulnerable groups.

6. Special project.

(a) Project Compassion. This project operates in 10 municipalities in Albay, is planned for expansion to all municipalities. Through the barangay network

(one unit leader per 20 households) this project through a Family Development Committee (at barangay and municipal level) attempts to delivery services in nutrition, family planning, food production (Green Revolution) and environmental sanitation.

The Bicol project through its augmented technical support (EHTs and supporting IRFTs) should greatly facilitate the effective delivery of the services planned in Compassion.

- (b) The Philippine Business for Social Progress (PBSP) through the Diocese in Samarines Sur supports a swine dispersal project to augment incomes of low income families. (The PBSP is a national organization of Philippine corporations that donate 1% of profits before taxes to social action projects.

Economic Benefits

While it is not possible to quantify all the benefits of this health, nutrition, family planning and sanitation program with precision, enough of them can be estimated within a sufficient range of confidence to justify investment on purely economic grounds, leaving humanitarian, social and political considerations aside. Take, for example, the major incremental portion, in terms of cost, of this project for the provision of potable water and sanitary toilet facilities and of sufficient health education, designed to effect a significant reduction in the burden of water-borne enteric disease and parasitic infestation. Surveys indicate a parasitic infestation rate above 90% of the region's population, with 70% carrying more than one type of worm. Over 30% of reported illness is attributable to enteric, water-borne diseases resulting from poor sanitation and contaminated water supply, including intestinal parasitism, bacterial and viral dysenteries/diarrheas and specific diseases like typhoid, cholera, hepatitis and polio.^{1/} Calculations below estimate three different categories of economic cost borne by the Bicol population due to parasitic infestation and continuous food and water population.

1. It has been observed that the human weight loss due to hookworm infestation is equivalent to one pound of rice^{2/} per man per month or 5.44 kilograms per man

^{1/}Dr. Patricia McCreedy, "Health Assessment, Bicol Region," report submitted to USAID/Manila in Dec. 1975, p. 3

^{2/}Herbert Pollack, Disease as a Factor in the World Food Problem, Research Paper p. 378 (Revised), Institute for Defense Analysis, April 1968, discussed in Dr. Lee M Howard, Key Problems Imperiling

per year. Multiplying this times 90% of the 1.77 million people in the project area indicates that the residents of these two provinces are losing a good value equivalent to 8,666 metric tons of rice annually to their parasites. At ₱1.90 per kilogram the current retail value of this amount of rice is ₱16,465,400 (or US \$2,255,534 at the current exchange rate of ₱7.3/\$1). Aside from its debilitating aspects, this represents pure economic loss.

2. It is estimated that direct costs of treating the persons with these infestation in Camarines Sur Rural Health Units alone of ₱548,000 annually could be attributed to water-borne enteric diseases.^{3/}

Extending the same per capita ratio to the entire project area provides a total estimate of curative costs of ₱1,124,693 annually (US \$154,068). This ignores the costs of medicines, herbs, and other remedies attempted.)

3. "Significant food energy wastage also occurs from failure of food absorption from the intestine secondary to continuous food and water pollution. In contrast to energy loss from infection following absorption of food into the body, the problem here

Modernization of Developing Countries, the Health Issues, Office of Health, TAB, AID/W, Dec. 1970, pp. 28-9.

^{3/}Dr. Patricia McCreedy, op. cit., p. 13.

is food waste from causes which preclude or inhibit absorption from the intestinal tract...for a variety of reasons, one of which is a barrier which develops in the intestinal wall following years of exposure to an unsanitary environment."^{4/}

The final results of research into this problem mentioned by Dr. Howard are not available here, but he indicated the calories and protein loss due to malabsorption was thought to be at least 10 to 15% of the amounts consumed.

In a random sample of 3240 households in the Bicol River Basin conducted in April 1974 it was found the average household spent ₱2857 annually for food.^{5/} Inflating this to Jan. 1976 prices it would equal ₱3927. (The CPI for food for low income families outside Manila and suburbs increased by 15.4% between April 74 and January 76). At this rate the 287,291 households in the project area spend ₱947,198 million for food. A 10% loss rate due to intestinal malabsorption would equal ₱94.720 million, or US \$12,975,320 (at ₱7.31 US \$1), the value of food purchased and eaten, but not absorbed and therefore wasted--a pure economic loss to the Bicol population.

^{4/}Dr. Lee M. Howard, op. cit., p. 29

^{5/}Jeanne Francis I. Illo and Frank Lynch, S.J., "Patterns of Income Distribution and Household Spending in the Bicol River Basin, "Social Survey Research Unit (SSRU) Research Report Series No. 13, SSRU, Ateneo de Naga, Naga City, Jan. 1975, p. 18.

The sum of these three annual cost categories to the 1975 population of the project area (in 1976 prices) is ₱112.3 million (US \$15.4 million). On a per capita basis, this equals ₱63.46 (US \$8.69) yearly.

Estimated Annual Cost of Water-Borne Enteric Disease and Parasitic Infestation to the 1.77 million people of the Project Area, Bicol River Basin, 1975.

<u>Cost Item</u>	<u>Pesos</u>	<u>US DOLLAR</u>
1. Food Loss to parasites	₱16,465,400	\$ 2,255 534
2. Curative visits to RHUs	1,124.693	154,068
3. Food loss due to intestinal malabsorption	94,719,842	12,975,320
	<u>₱112,309,935</u>	<u>\$15,384,922</u>

*At ₱7.3/US \$1, 1976 prices.

So long as present conditions are not improved, these costs can be expected to increase at least proportionately to the rate of population growth. As development proceeds, the rate of out-migration can be expected to slow and the death rate reduced, increasing the Bicol Region population growth rate; but if at the same time family planning efforts are successful the birth rate will be steadily reduced. As these three trends tend to cancel themselves out for the Bicol Region itself, we have assumed, for simplicity, that the resulting rate of growth remains unchanged during the projected period. The projected costs of disease would be increased or reduced somewhat if the rate of regional population growth turns out to be higher or lower than 2.2%. It should be a matter of

national policy to reduce the rate of out-migration from regions like the Bicol to Manila, because of the increasing cost of providing acceptable social services and infrastructure to the large annual influx of new people there.

At this rate of growth, the costs, of enteric disease and parasitic infestation to the project area population rises from US \$16.07 million in 1977, the first year of the proposed program, to US \$30.87 million 30 years later, in constant 1976 dollars. Total costs over the 31-year projection equal US \$703.56 million.

In estimating the proportion of these costs saved by the proposed program, we have assumed that, beginning in 1978, the second year of the program, the safer water and cleaner environment provided will succeed in reducing the incidence of water-borne enteric disease and parasitic loads by 10% of the remaining problem each year. This implies a 34.4% savings in the 5th year, 61.3% savings the 10th year, and by the 31st year 95.8% of the problem will be solved. The total savings to the Bicol population during the 31-year period projected would be US \$518.5 million. The present (1977) value of this stream of expected benefits, discounted at a 10% annual rate, is US \$105.8 million.

In addition to the above, calculations of total expected economic benefits derived from the proposed program should include the anticipated savings resulting from a reduction in other endemic diseases, as well. Time precludes an updated

recalculation at this point, but an estimate of total costs resulting from tuber culosis using 1968-9 data, wages, and prices amounted to over US \$100 million annually for the country as a whole (at ₱4/US \$1),^{6/} of which the proportionate (to population) project area share, in the Bicol Region would have been US \$4.5 million per year. Cost estimates included: (1) Direct costs of diagnosis and care (₱2.0 million; (2) Indirect costs of educating children who die before employment (₱246,168); (3) Potential years of production forfeited due to premature death (₱385.5 million); (4) Indirect costs of lost wages and production due to illness (₱28.2 million); and (5) Indirect costs of increased caloric consumption due to fever (₱6.0 million in rice equivalent = 7,437.6 MT. times ₱800/M.T.)

Severe malnutrition in children can cause mental and physical retardation, lowering the productivity of the future labor force. With some 30% of all children in the project area suffering from rather serious malnutrition (2nd and 3rd degree), the future cost of inaction in terms of lost productivity to the economy would be substantial, a cost which will be significantly reduced by the nutritional aspects of the proposed program. A study conducted in the Philippines has shown the decline in school achievement associated with under nutrition and

^{6/}P.O. Woolley, Jr., M.D., M.P.H., et. al.

Synopsis: The Dynamics of Health, IV: The Philippines, Dept. of Health, Washington, D.C. July 1972, pp. 59-60. The calculations in this document contain several obvious mathematical errors, but it reports useful information with which we can recalculate for the Project Paper.

malnutrition.^{7/} Studies have indicated the work output for a healthy worker might be as much as 15-20% higher than for similar workers suffering from nutritional deficiencies due to insufficient food intake or a high worm load or (usually) a combination of both.^{8/} While an overall improvement in worker health would not necessarily lead directly to a 15-20% increase in total production in an economy with high rates of under-employment, it would increase output per worker employed, thereby reducing the effective wage costs per unit of production. This would make investment in the Bicol more attractive, especially for labor-intensive industries, and would make Bicol industries more competitive with the rest of the world, stimulating their expansion and increasing total employment.

If appropriate cost-benefit estimates can be derived from a successful integrated health campaign as proposed here, it is believed the purely economic benefits to the Bicol Region will far outweigh the projected costs, to say nothing about the humanitarian and "consumption" values involved. It must be recognized, however, that the provision of better community health is more than simply an investment in "human capital";

^{7/}Barry Popkin and M. Lim, "Nutrition and Learning: A study of the Effects of Malnutrition Among Rural and Urban Filipino Children" University of the Philippines School of Economics, August, 1975

^{8/}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; Darwin Karyadi and Samir Basta, "Nutrition and Health of Indonesian Construction Workers: Endurance and Anemia," Staff Working Paper No. 152, IBRD, Washington, D.C., April 1973; and Barry M. Popkin, Luz E. Dullin and Susan J. De Jesus, "The Effect of Anemia on Road Construction Workers Productivity," School of Economics, Univ. of the Philippines, Feb. 1976.

it is also a direct contribution to a better quality of life, a higher real standard of living, a higher level of real income (social welfare) for the "poor majority," and this is, after all, the ultimate goal of all developmental activity.

The following table is a preliminary attempt to estimate the present value of some of the economic benefits of the proposed project. The estimates will require some refinements for the PP and total cost estimates will be analyzed for comparison, but there is a clear indication at this point that the project will provide significant economic benefits to the Bicol population as well as social and humanitarian benefits.

Estimated Cost to Bicol Project Area Residents of Water-Borne Enteric Disease and Parasitic Infestation and Expected Savings due to Integrated Social Services Program, Projected for 30 years from Beginning of Program (1977) and Discounted to Present (1977) value.

(Millions of 1976 US Dollars)

Year	Total Annual Cost of Disease at 2.2% Population Growth Rate (US \$ Million)	Expected % Saved by Program	Expected Val. Saved by Program (US & million)	Present Value (in 1977) of 1 at 10% Discount	Present Value of Amount Saved at 10% Discount (US \$ Million)
1975	15,385	0	0		
1976	15,723	0	0		
1977	16,069	0	0		
1978	16,423	10.0	1.642	1.000	0
1979	16,784	19.0	3.189	.909	1.493
1980	17,153	27.1	4.648	.826	2.634
1981	17,531	34.4	6.031	.751	3.491
1982	17,916	41.0	7.346	.683	4.119
1983	18,310	46.9	8.587	.621	4.562
1984	18,713	52.2	9.768	.564	4.843
1985	19,125	57.0	10.901	.513	5.011
1986	19,545	61.3	11.981	.567	5.091
1987	19,975	65.2	13.024	.424	5.080
1988	20,415	68.7	14.025	.386	5.027
1989	20,864	71.8	14.980	.350	4.909
1990	21,323	74.6	15.907	.319	4.779
1991	21,792	77.1	16.802	.290	4.613
1992	22,271	79.4	17.683	.263	4.419
1993	22,761	81.5	18.550	.239	4.226
1994	23,262	83.4	19.401	.218	4.044
1995	23,774	85.1	20.232	.198	3.841
1996	24,297	86.6	21.041	.180	3.642
1997	24,831	87.9	21.826	.164	3.451
1998	25,377	89.1	22.611	.149	3.253
1999	25,936	90.2	23.394	.135	3.052
2000	26,506	91.2	24.173	.123	2.877
2001	27,089	92.1	24.949	.112	2.707
2002	27,685	92.9	25.719	.102	2.545
2003	28,294	93.6	26.483	.092	2.366
2004	28,917	94.2	27.240	.084	2.225
2005	29,553	94.8	28.016	.076	2.070
2006	30,203	95.3	28.783	.069	1.933
2007	30,867	95.8	29.571	.063	1.813
Total for 1977-2007:	\$703.561		\$518.503	.057	\$105.801

Note: See text for derivation of original cost estimate. Col. (1) grows at 2.2% a year. Col. (2) is assumed to grow each year by 10% of the difference between the previous year and 100. Col (3) = Col (1) x Col. (2). Col. (4) is reprinted from a table of present values. Col *5) = Col. (3) x Col (4).

Statistical Annex

The following tables show the relevant data and information used in the preparation of this Project Review Paper.

Table

1. Number of barangays, households and population figures
2. Ten leading causes of morbidity
3. Ten leading causes of mortality
4. Crude death and birth rates
5. Registered infant mortality rate
6. Water supply source by households *existing water facilities*
7. Waste Disposal Status
8. Health manpower/population ratio
9. Government health manpower/population ratio
10. Hospital beds-population ratio
11. Summary of Weight Surveys, Camarines Sur Province
12. Per Capita Gross Domestic Product by Region, CY 1971-4.

Estimated Project Cost: Bicol Integrated Health, Nutrition and Population Project
(In Thousand Pesos)

Item	Y E A R					Total	Dollar Equivalent ^{1/} (US \$000)
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>		
Personal Services	<u>462.23</u>	<u>1031.95</u>	<u>1463.95</u>	<u>1823.95</u>	<u>1607.95</u>	<u>6390.03</u>	<u>811.19</u>
Salaries/Wages							
Mobile Teams ^{2/}	87.66	204.54	204.54	204.54	204.54	905.82	
Project Management Office Personnel ^{3/}	37.56	37.56	37.56	37.56	37.56	187.80	
Diocesan Nutritionists ^{4/}	66.00	66.00	66.00	66.00	66.00	330.00	
CRS FFW Coordinators ^{5/}	13.20	13.20	13.20	13.20	13.20	66.00	
Drivers for HMT Supervisors ^{6/}	9.12	9.12	9.12	9.12	9.12	45.60	
Fixed Charges ^{7/}	20.29	31.39	31.39	31.39	31.39	145.85	
Incentive Allowances ^{8/}	84.40	94.14	94.14	94.14	94.14	460.96	
BHA Stipends ^{9/}	144.00	576.00	1008.00	1368.00	1152.00	4248.00	
Operations & Maintenance	<u>919.92</u>	<u>886.32</u>	<u>878.32</u>	<u>878.32</u>	<u>550.32</u>	<u>4113.10</u>	<u>529.19</u>
Travel Allowances ^{10/}	35.52	35.52	35.52	35.52	35.52	177.60	
Supplies/Materials ^{11/}	160.00	400.00	400.00	400.00	40.00	1400.00	
Gas & Supplies for Vehicles ^{12/}	40.80	80.80	80.80	80.80	80.80	364.00	
Sundries							
Training Costs ^{13/}	188.50	272.50	262.00	262.00	94.00	1079.00	
IECM Campaign ^{14/}	70.00	10.00	10.00	10.00	10.00	110.00	
Environmental Sanitation Survey ^{15/}	425.00	-	-	-	-	425.00	
Project Monitoring and Evaluation ^{16/}	-	87.50	90.00	90.00	290.00	557.50	
Capital Outlay	<u>7004.72</u>	<u>9718.68</u>	<u>5608.68</u>	<u>5608.68</u>	<u>315.00</u>	<u>28255.76</u>	<u>3671.34</u>
Physical Construction	6186.40	9124.20	5314.20	5314.20	315.00	26254.00	3409.35
Environmental Sanitation Program ^{17/}							
Level I Goals							
Water Supply Systems ^{18/}	1166.40	3499.20	3499.20	3499.20	-	11664.00	
Pit Privies with Water-sealed Bowls ^{19/}	4020.00	4020.00	-	-	-	8040.00	
Drainage ^{20/}	500.00	1500.00	1500.00	1500.00	-	5000.00	

Item	Y E A R					Total	(US\$000) ^{1/}
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>		
Level II Goals							
Chlorination of Drinking Water ^{21/}	-	30.00	90.00	90.00	90.00	300.00	
Secondary Drainage Systems ^{22/}	-	75.00	225.00	225.00	225.00	750.00	
Municipal Health Centers ^{23/}	140.00	-	-	-	-	140.00	
Barrio Health Stations ^{24/}	360.00	-	-	-	-	360.00	
Equipment	818.32	594.48	294.48	294.48	-	2001.76	261.99
Laboratory Facilities ^{25/}	300.00	-	-	-	-	300.00	
Scales and Grinders ^{26/}	21.56	-	-	-	-	21.56	
Transportation Equipment ^{27/}	330.00	220.00	-	-	-	550.00	
Mobile Team Equipment ^{28/}	60.00	80.00	-	-	-	140.00	
BHA Kits ^{29/}	98.16	294.48	294.48	294.48	-	981.60	
Office Equipment ^{30/}	8.60	-	-	-	-	8.60	
Total before Allowance for Inflation & Contingencies	<u>8386.77</u>	<u>11636.95</u>	<u>7950.95</u>	<u>8310.95</u>	<u>2473.27</u>	<u>38758.89</u>	<u>5011.72</u>
Allowance for Inflation ^{31/}	-	814.59	1152.89	1869.96	766.71	4604.15	582.31
Contingencies ^{32/}	1258.02	1867.73	1365.58	1527.14	486.00	6504.46	839.11
Total	<u>9644.79</u>	<u>14319.27</u>	<u>10469.42</u>	<u>11708.05</u>	<u>3725.98</u>	<u>49867.50</u>	
Dollar Equivalent ^{1/}	1285.97	1909.24	1308.68	1463.51	465.75	6433.15	6433.14
U.S. (P.L. 480 Title II Food Commodities) ^{33/}	(922.50)	(922.50)	(922.50)	(922.50)	(922.50)	(4612.50)	

8-11-76

1/ Exchange rate used: US\$1.00 = ₱7.50 in years 1-2 and US\$1 = ₱8.00 in years 3-5, assuming the project will start in 1977.

2/ Monthly compensation per team is

1 Physician	₱1,105
1 Nutrition Educator	665
1 Medical Technologist/Driver	665

There will be three teams in year 1 and an additional 4 teams in years 2-5 for a total of seven teams.

3/ Monthly compensation

Project Implementation Officer	₱1,650
1 Steno-Typist	600
1 Clerk-Typist	500
1 Driver	380

4/ Ten Diocesan Nutritionists at ₱550 each per month. Each nutritionist will be in charge of 1,800 mothers per year.

5/ Two Catholic Relief Services Food for Work Coordinators at ₱550 each per month.

6/ Two drivers for the 2 Provincial HMT supervisors at ₱380 each per month.

7/ 9.5 percent of basic salaries

8/ Includes:

- 13th month pay for above-mentioned personnel
- Honoraria per month (18 Project Management Office Core Group and Technical Support Group Members at ₱300 each)
- Cost of living allowance for 3 drivers at ₱50 each

9/ Stipends of ₱100 per month per BHA: 120 BHA's in year 1 and an additional 360 BHA's every year until year 4. However, in year 4, the local government will start sharing 50 percent of the stipends of the 120 BHA's appointed in year 1 and by year 5, the local governments will be paying for half of the stipends of the 480 BHA's working in year 2.

10/ Travel Allowances - Home Management Technicians

1 Regional HMT Supervisor	₱50 per month
2 Provincial HMT Supervisors	80 per month each
55 Municipal HMT Supervisors	50 per month each

11/ Includes

- Drug Assistance Program
 - Each of the 1,200 barangays will be given ₱1,000 for a self-liquidating Botica sa Barrio as soon as a BHA is hired.

2) Biological Immunization Program - ₱30,000 per year supplement to the Department of Health's immunization program based on the agency's target population outreach. The vaccines are BCG, DPT, CTPa and Tetanus Toxoid.

b) Project Management Office materials and supplies at ₱10,000 per year.

12/ For each mobile team: ₱10,000 per jeep per year for gas, medicine and materials (3 jeeps in year 1 and 4 in year 2). For PMO and provincial HMT supervisors' jeeps: ₱3,600 each per year for gas.

13/ Includes

- a) BHA training will cost ₱25 per person per day and will take 4 weeks. This already includes honoraria for line agency trainers and transportation allowances and meal tickets for the trainees. There will be 120 BHAs trained for year 1, 360 BHAs trained per year for years 2 to 4, and 120 BHAs for year 5 assuming a 10 percent attrition rate.
- b) BHA training manual will cost ₱50 each; 1,500 manuals will be printed in year 1 for a total of ₱75,000 and another ₱25,000 will be used for manual preparation; ₱10,000 per year will be needed for additional reproduction and/or upgrading.
- c) Training costs per mobile team for two weeks will be ₱1,500. This includes stipends for the mobile teams and honoraria for the trainers. The DOH, the POPCOM, and the NCP will handle the rest of the training for the teams.

14/ LCM materials production, reproduction and upgrading will cost ₱70,000 in year 1 and ₱10,000 per year in succeeding years.

15/ ₱180,000 for salaries of 50 researchers at ₱600 per month per researcher for six months and ₱20,000 for supplies; ₱225,000 for foreign consultants.

16/ A third party will be contracted and will be given ₱50,000 per year from years 2 to year 4 and ₱250,000 in year 5; ₱37,500 in year 2 and ₱40,000 in years 3-5 for foreign consultants.

17/ Calculations based on 1,000 barangays with populations between 500 to 2000 per barangay (average of 1,000) out of a total of 1758 barangays in the area. Ten percent of funds for level I goals made available in year 1 and 30 percent per year in years 2-4 except for pit privies construction (See footnote #19). Ten percent of the funds for level II goals made available in year 2 and 50 percent per year in years 3-5.

- 18/ Costs cover improvements of existing individual household water supplies or construction of new community-sized projects. Assumes average 3 projects per barangay for 100 barangays (average 1,000 people per barangay), average cost of each community type project at ₱3,000 each, payback through user fees over 5-year period. This item will also include sufficient funds to finance improvements of 6000 individual household water supply systems for the more remote families, at an average cost of ₱444 each.
- 19/ Assumes labor input by household. Loan basis for materials to construct pit privy with payback over two years. Cost based on 80 percent of households requiring new or improved facilities, pit privy plus toilet costing ₱300 each and average of 6 people per household, First two years of construction will be funded by the project with 10 percent or 13,400 households per year as targets. Equivalent construction will be undertaken in each succeeding year and will be funded from repayment funds.
- 20/ Assumes labor input from barangay, materials purchased from project funds. Based on ₱10 per meter of main drain and 500 meters of main drain per barangay. Payback from barangay share of tax revenues over a 5-year period.
- 21/ Cost of simple drip feed of porous pot type chlorinator at ₱100 per public water facility for all such facilities. The money is mainly for chemicals. The project will fund chlorination for the initial year only and the barangays are expected to continue chlorination at their own expense thereafter.
- 22/ Secondary drainage from side roads based on materials cost of ₱5 per meter, 600 meters per barangay and 25 percent (presumably richer) of the 1,000 barangays building such secondary drains payback also over a five-year period.
- 23/ Seven municipal health centers renovated at ₱20,000 each.
- 24/ Construction of 9 new Barangay Health Stations at ₱40,000 each outside of IBRD/GOP input sites.
- 25/ Upgrading of laboratory facilities in Legaspi and Naga to perform bacteriological and chemical analyses of water sources at ₱150,000 for each laboratory.
- 26/ Each of the 55 HMT's will be provided with 1 scale costing ₱92 and 1 grinder costing ₱300 or a total of ₱21,560.
- 27/ Jeeps for three mobile teams in year 1 and an additional 4 teams in years 2-5 as well as 3 jeeps for the 2 provincial HMT's supervisors and the project implementation officer will be provided costing ₱55,000 each, including handling and parts.
- 28/ Equipment for mobile team will cost ₱20,000 per team.

29/ BHA kits will cost ₪818 each and will be provided for the 1,200 BHA's

30/ For the use of the Project Management Office:

1 Conference Table and chairs ₪200

3 Tables at ₪200 each

2 Typewriters at ₪3,000 each

31/ Assumes inflation rate of 7 percent per year.

32/ Contingencies (15 percent of total)

33/ 6.15 million pounds of food commodities at U.S.\$.15 per pound per year.

Table 1. Number of barangays and households, and population figures^a in the proposed health program area as of May 1, 1975, by localities

Program area localities	No. of Barangays	No. of Households	Population (Both sexes)
<u>Camarines Sur</u>			
1. Baao	30	4,822	30,080
2. Balatan	17	2,079	13,113
3. Bato	33	4,332	28,247
4. Bombon	8	1,248	7,472
5. Buhi	38	7,350	44,256
6. Bula	33	5,914	36,863
7. Cabusao	9	1,628	10,392
8. Calabanga	48	6,671	40,161
9. Camaligan	13	1,539	9,823
10. Canaman	24	2,345	14,367
11. Caramoan	49	5,266	31,316
12. Del Gallego	32	2,294	13,717
13. Gainza	8	888	5,624
14. Garchitorena	23	2,569	16,442
15. Goa	34	5,588	33,814
16. IRIGA CITY	36	10,861	75,621
17. Lagonoy	38	5,557	33,392
18. Libmanan	75	10,856	66,164
19. Lupi	38	3,305	19,533
20. Nagarao	15	1,983	11,837
21. Milaor	20	2,062	13,174
22. Minalabac	25	4,359	27,012
23. Nabua	40	7,836	48,280
24. NAGA CITY	27	13,130	82,774
25. Ocampo	25	3,194	19,212
26. Paaplona	17	2,976	18,310
27. Pasacao	19	3,426	21,800
28. Pili	26	5,983	36,440
29. Presentacion	18	2,139	13,505
30. Ragay	38	5,453	32,503
31. Sangay	18	2,385	17,800
32. San Fernando	22	2,485	15,463
33. San Jose	29	3,591	21,715
34. Sipocot	46	6,291	39,178
35. Siruma	22	1,802	10,433
36. Tigaon	23	4,066	25,044
37. Tinambac	44	5,805	34,290
	<u>1,060</u>	<u>164,592</u>	<u>1,019,288</u>

^a

Source: National Census and Statistics Office (NCSO)

Table 1. Number of barangays and households (cont'd)

Program area localities	No. of Barangays	No. of Households	Population (Both sexes)
<u>Albay</u>			
1. Bacacay	56	5,568	40,710
2. Camalig	48	7,188	41,723
3. Daraga	54	10,521	62,987
4. Guinobatan	45	8,359	49,710
5. Jovellar	16	2,356	14,102
6. Libon	41	7,661	47,251
7. Liyao	55	10,023	61,802
8. Malilipot	18	3,415	21,307
9. Malinao	29	4,324	24,103
10. Manito	16	2,269	13,023
11. Oas	53	3,072	51,040
12. Pio Duran	29	5,022	30,308
13. Polangui	44	8,447	52,305
14. Rapurapu	35	3,564	21,907
15. Sto. Domingo	17	3,053	17,404
16. Tabaco	47	10,665	65,122
17. Tivi	26	4,027	24,207
18. LEGASPI CITY	69	14,666	88,004
	698	119,200	729,335
TOTAL	<u>1,758</u>	<u>281,792</u>	<u>1,748,003</u>

Table 2. Ten leading causes of morbidity in the proposed program area, by province and city, in 1975 ^a ^b

Causes and Locality	Rate (per 100,000 population)
<u>Camarines Sur</u>	
1. Influenza	529.91
2. Bronchitis	381.92
3. Gastro-enteritis & Colitis	372.28
4. Pneumonia (all forms)	291.67
5. Tuberculosis (all forms)	218.84
6. Whooping cough	33.22
7. Measles	24.39
8. Nephritis (acute)	21.60
9. Tetanus	17.53
10. Typhoid fever	15.33
<u>Iriga City</u>	
1. Gastro-enteritis and colitis	292.4
2. Pulmonary tuberculosis	193.5
3. Influenza	179.0
4. Broncho pneumonia and pneumonia	162.5
5. Upper respiratory infections	134.2
6. Bronchitis	84.7
7. Neoplasm	15.3
8. Measles	7.0
9. Whooping cough	5.8
10. Mumps	4.7
<u>Taga City</u>	
1. Pulmonary tuberculosis	775.90
2. Influenza	437.01
3. Gastro-enteritis	434.73
4. Pneumonia (all forms)	398.22
5. Typhoid	236.19
6. Meningococcal infection	33.08
7. Infectious hepatitis	33.08
8. Measles	27.38
9. Tetanus	20.53
10. Diphtheria	14.83

a

Excluding the municipality of Basud, for which no data were available
Source: DOH, Region V

b

This excludes the much higher incidence of under and malnutrition.
For example, the incidence of third degree malnutrition is 5,900
per 100,000 population.

Table 2. Ten leading causes of morbidity (cont'd)

Causes and Locality	Rate (per 100,000 population)
<u>Albay</u>	
1. Pulmonary tuberculosis	274.32
2. Gastro-enteritis	265.22
3. Influenza	224.75
4. Pneumonia	218.57
5. Cardio-vascular accident	86.94
6. Bronchitis	56.80
7. Hypertension	30.90
8. Whooping cough	24.08
9. Avitaminosis	22.27
10. Congenital debility	21.81
<u>Legaspi City</u>	
1. Influenza	2,687.78
2. Gastro-enteritis	2,546.12
3. Bronchitis	1,445.55
4. Broncho-pneumonia	1,306.77
5. Pulmonary tuberculosis	132.75
6. Pertussis	23.61
7. Cardio-vascular accident	21.55
8. Tetanus	19.50
9. Beri-beri	6.15
10. Measles	6.15

Table 3. Ten leading causes of mortality in the proposed program area, by province and city, in 1975.

Causes and Localities	Rate (per 100,000 population)
<u>Camarines Sur</u>	
1. Pneumonia (all forms)	195.95
2. Tuberculosis (all forms)	111.62
3. Disease of the heart	97.92
4. Gastro-enteritis and colitis	25.90
5. Tetanus (all forms)	18.12
6. Ill-defined causes	14.98
7. Asphyxia neonatorum	13.70
8. Bronchitis (acute)	12.54
9. Nephritis	9.40
10. Malnutrition	9.17
<u>Iriga City</u>	
1. Pulmonary tuberculosis	100.0
2. Broncho pneumonia and pneumonias	91.1
3. Arteriosclerotic heart diseases	65.9
4. Senility	62.4
5. Gastro-enteritis and colitis	28.2
6. Beri-beri	25.5
7. Acute bronchitis	17.0
8. Neoplasm	15.3
9. Meningitis	14.1
10. Avitaminosis	11.7
<u>Naga City</u>	
1. Pneumonia	156.32
2. Pulmonary tuberculosis	146.05
3. Gastro-enteritis	28.52
4. Meningococcal infection	21.67
5. Measles (due to complications)	13.59
6. Tetanus	12.55
7. Diphtheria	11.49
8. Typhoid	10.26
9. Dysentery	4.56
10. Acute Encephalitis	2.28

Source: DOH, Region V

Table 3. Ten leading causes of mortality (cont'd)

Causes and Localities	Rate (per 100,000 population)
<u>Albay</u>	
1. Pneumonia	124.05
2. Pulmonary tuberculosis	107.99
3. Cardio-vascular accident	86.94
4. Bronchitis	56.80
5. Hypertension	30.90
6. Gastro-enteritis	22.57
7. Avitaminosis	22.27
8. Congenital debility	21.81
9. Malignancy	17.87
10. Meningitis	13.63
<u>Legaspi City</u>	
1. Broncho pneumonia	104.64
2. Cardio-vascular accident	86.04
3. Pulmonary tuberculosis	79.05
4. Bronchitis	71.80
5. Coronary occlusion	39.01
6. Congestive heart failure	37.98
7. Gastro-enteritis	35.93
8. Malnutrition	25.64
9. Myocardial infection	24.62
10. Accidents	24.62

Table 4. Crude death and birth rates, by locality, in the program area in 1975.

Locality	Death rate ^a	Birth rate
Camarines Sur	7.00	39.68
Iriga City	6.00	27.36,
Naga City	7.75	42.97
Albay	7.26	36.14
Legaspi City	10.10	36.63

^a Death rate is per 1,000 population

Source: DOH, Region V

Table 5. Registered infant mortality rate, by locality, in the program area in 1975^{a/}

Locality	Live Births	Deaths under 1 year	Rate ^{b/} (per 1,000 live births)
Camarines Sur	34,461	1,285	36.36
Iriga City	2,323	105	45.20
Naga City	3,966	151	40.09
Albay	23,861	919	38.51
Legaspi City	<u>3,224</u>	<u>138</u>	<u>42.80</u>
T O T A L	<u>67,635</u>	<u>2,548</u>	<u>37.67</u>

^{a/} Source: Regional and City Health Offices

^{b/} The under registration of infant deaths is approximately 50%.

Table 6. Existing Water Facilities by Type, Number and Population Served in the Program Area (1975)

<u>Type of Facility</u>	<u>Number</u>	<u>%</u>	<u>Population Served</u>	<u>%</u>
Municipal Waterworks	33	0.09	428,017	24.20
Barrio Waterworks	88	0.23	61,900	3.50
Public Drilled Artesian wells	524	1.35	334,393	18.90
Shallow pump wells	28,072	72.50	310,354	17.50
Improved springs	569	1.47	193,569	10.90
Unimproved springs	1,406	3.63	216,692	12.20
Improved dug wells	3,785	9.78	112,132	6.30
Unimproved dug wells	3,961	10.23	100,952	5.70
Rainwater Storage Tanks	<u>279</u>	<u>0.72</u>	<u>11,712</u>	<u>0.70</u>
TOTAL	38,717	100.00%	1,769,721	99.9%

Source: DOH, Region V

Table 7. Waste Disposal Status, by locality, in the program area, 1975^a

<u>Province/City</u>	<u>Total Households</u>	<u>Households with toilets</u>				<u>Households Without toilets</u>	
		<u>Satisfactory</u> ^{1/}		<u>Unsatisfactory</u> ^{1/}		<u>No.</u>	<u>%</u>
		<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>		
1. Albay	119,200	20,408	17.1	38,812	32.6	59,980	50.3
2. Camarines Sur	127,235	52,446	41.2	32,284	25.4	42,505	33.4
3. Legaspi City	15,001	2,637	17.6	5,053	33.7	7,311	48.7
4. Iriga City	10,861	4,628	42.6	2,811	25.9	3,422	31.5
5. Naga City	14,680	9,725	66.2	2,455	16.7	2,500	17.0
TOTAL	286,977	89,844	31.3	81,414	28.4	115,718	40.3

^a Excludes the municipality of Basud, for which no data was available at the time of the review.

^{1/} Satisfactory includes water sealed toilets with or without septic bowls
Unsatisfactory refers to Pit Privies

Table 8. Combined government and private health manpower-population ratio, by locality and category of manpower in the proposed program area

Category of Manpower	Program area locality					Total by Category (all localities)
	Com. Sur	Albay	Iriga	Legaspi	Naga	
Physicians						
No.	118	107	25	48	83	382
% of total	31.0	28.0	6.5	12.6	21.7	100.0
Ratio to pop.	1:7,296	1:5,994	1:3,025	1:1,833	1:997	1:4,633
Nurses						
No.	66	49	15	29	72	232
% of total	28.5	21.1	6.5	12.5	31.0	100.0
Ratio to pop.	1:13,044	1:13,088	1:5,041	1:3,035	1:1,150	1:7,628
Midwives						
No.	97	55	9	20	23	206
% of total	47.1	26.7	4.4	9.7	11.2	100.0
Ratio to pop.	1:8,975	1:11,660	1:8,402	1:4,400	1:3,599	1:8,591
Sanitary Inspectors						
No.	60	25	2	5	12	105
% of total	57.1	23.8	1.9	4.8	11.4	100.0
Ratio to pop.	1:14,348	1:25,653	1:37,810	1:17,601	1:6,898	1:15,854
Dentists						
No.	40	40	4	11	16	112
% of total	35.7	35.7	3.6	9.8	14.3	100.0
Ratio to pop.	1:21,522	1:16,033	1:18,905	1:8,000	1:5,173	1:15,801
Health Educators						
No.	1	1	-	1	1	4
% of total	25.0	25.0	-	25.0	25.0	100.0
Ratio to pop.	1:860,893	1:641,331	-	1:83,004	1:82,774	1:442,430

Table 8. (Contd)

Category of Manpower	Program area locality					Total by Category (all localities)
	Com. Sur	Albay	Iriga	Legaspi	Naga	
Nutritionists						
No.	4	3	1	1	1	10
% of total	40.0	30.0	10.0	10.0	10.0	100.0
Ratio to pop.	1:215,223	1:213,777	1:75,621	1:88,004	1:82,774	1:176,972
Dieticians						
No.	4	2	-	2	2	7
% of total	14.3	28.6	-	28.6	28.6	100.1
Ratio to pop.	1:860,893	1:320,666	-	1:44,002	1:41,387	1:252,817
FP Motivators						
No.	37	37	5	6	8	133
% of total	57.9	27.8	3.8	4.5	6.0	100.0
Ratio to pop.	1:11,155	1:17,333	1:15,124	1:14,667	1:10,347	1:13,306
Total Health manpower (all categories)						
No.	464	319	61	123	218	1,191
% of total	39.0	26.8	5.1	10.3	18.3	100.0
Ratio to pop.	1:1,855	1:2,010	1:1,240	1:715	1:380	1:1,486
Population	860,893	641,331	75,621	88,004	82,774	1,769,721

Source: Health Manpower Survey 1973

Table 9. Government health manpower-population ratio, by locality and category of manpower, in the proposed program area ^a

Category of Manpower	Program Area Locality					Total by category (all localities)
	Car. Sur	Albay	Iriga	Legaspi	Naga	
Physicians						
No.	41	19	2	2	2	70
% of total	62.9	27.1	2.9	2.9	2.9	100.1
Ratio to pop.	1:19,566	1:33,754	1:37,810	1:44,002	1:41,387	1:25,282
Nurses						
No.	43	17	2	3	2	68
% of total	63.2	25.0	2.9	4.4	2.9	99.9
Ratio to pop.	1:20,021	1:37,725	1:37,810	1:29,335	1:41,387	1:26,035
Midwives						
No.	79	38	2	4	1	126
% of total	62.7	30.0	1.6	3.2	0.8	100.1
Ratio to pop.	1:10,897	1:16,877	1:37,810	1:22,001	1:82,794	1:14,045
Sanitary Inspectors						
No.	65	17	2	2	6	92
% of total	70.6	18.5	2.2	2.2	6.5	100
Ratio to pop.	1:13,245	1:37,725	1:37,810	1:41,002	1:13,796	1:19,236
Vaccinators						
No.	-	-	-	-	2	2
% of total	-	-	-	-	100	100
Ratio to pop.	-	-	-	-	1:41,387	1:884,860
Dentists						
No.	13	6	-	1	1	22
% of total	59.1	27.3	-	4.5	4.5	99.9
Ratio to pop.	1:66,222	1:106,888	-	1:88,004	1:82,774	1:80,442

^a

Include RPH and Provincial/City Health staff only

Source: Health Department

Table 9. (cont'd)

Category of Manpower	Program Area Locality					Total by category (all localities)
	Can. Sur	Albay	Iriga	Legaspi	Naga	
Total health manpower (all categories)						
No.	244	97	8	12	11	380
% of total	64.2	25.5	2.1	3.2	3.7	100
Ratio to pop	1:3,528	1:6,612	1:9,453	1:7,334	1:5,912	1:4,657
Population	869,893	641,331	75,621	88,004	82,774	1,769,721

Table 10. Hospital beds-population ratio, by localities and type of hospitals in the program area

Locality and type of hospital	No. of beds	Ratio
<u>Camarines Sur</u>		
Government hospital	245	1:4160
Private hospital/clinic	<u>459</u> 704	<u>1:2221</u> 1:1448
<u>Albay</u>		
Government hospital	275	1:2652
Private hospital/clinic	<u>701</u> 976	<u>1:1040</u> 1:747
<hr/>		
Government hospital (both provinces)	520	1:3363
Private hospital/clinic (both provinces)	<u>1,160</u>	<u>1:1507</u>
TOTAL (both types, both provinces)	<u>1,680</u>	<u>1:1041</u>

Source: DOH, Bureau of Medical Services

TABLE 11

Republic of the Philippines
Department of Health
NATIONAL NUTRITION SERVICE
Manila

SUMMARY OF WEIGHT SURVEYS
(As of September 1976)

BY MUNICIPALITY, CAMARINES SUR PROVINCE
APPROX. POPULATION 868,376

Total No. of Municipalities 35
Total No. of Barangays 978
Total No. of Families Surveyed 91,307

No. of Children Weighed 104,467
No. of Municipalities 34
No. of Barangays Surveyed 883
No. of Families Surveyed 91,307

B A R A N G A Y S	Total no. of Puroks/Pooks	No. of Puroks/Pooks surveyed	No. of Pre-school children weight (0-7 mon)	NUMBER OF CHILDREN WEIGHED UNDER EACH CATEGORY OF MALNUTRITION								% of MALNUTRITION		REMARKS	
				3rd Degree		2nd Degree		1st Degree		Normal					
				No.	%	No.	%	No.	%	No.	%	No.	%		
1. Baco	29	2,300	2,757	191	6.93	583	21.17	1,363	49.50	-	-	616	22.44	77.60	
2. Bato	32	7,205	4,900	363	7.39	955	19.45	2,086	42.45	-	-	1505	30.67	69.33	
3. Bula	33	5,215	6,477	742	3.73	1,206	18.61	3,244	50.48	-	-	1785	27.58	72.42	
4. Buhi	34	6,330	7,188	603	8.38	1,947	27.08	3,270	45.49	-	-	1368	19.05	80.95	
5. Bombon	8	888	1,273	30	2.35	315	24.74	699	54.90	-	-	229	18.01	81.99	
6. Cabusac	9	1,220	1,565	164	10.47	434	27.73	719	45.94	-	-	248	15.86	84.14	
7. Canaman	22	1,157	2,217	71	3.20	587	26.47	1,137	51.02	-	-	422	19.31	80.69	
8. Camaligan	13	1,073	1,381	26	1.88	298	21.57	834	60.89	-	-	223	16.16	83.84	
9. Gainza	8	782	682	22	3.22	169	24.78	359	52.63	-	-	132	19.37	80.63	
10. Garchitorena	23	1,365	2,611	122	4.67	571	21.86	1,233	47.22	-	-	685	26.25	73.75	
11. Goa	32	3,596	4,561	467	10.23	1,601	35.10	1,936	40.40	-	-	560	14.27	85.73	
12. Lupi	35	2,293	3,187	169	5.38	660	21.03	1,629	51.82	-	-	679	21.67	78.33	
13. Milaor	19	2,293	1,476	55	3.72	327	22.15	751	50.88	-	-	343	23.25	76.75	
14. Minalabac	25	2,861	2,689	122	4.62	625	23.68	1,290	48.88	-	-	602	22.82	77.18	
15. Nagerao	14	1,763	1,988	50	2.50	481	24.19	907	50.75	-	-	460	23.16	76.84	
16. Nabua	41	6,243	7,002	351	5.01	1,225	17.9	3,558	50.81	-	-	1,868	26.69	73.31	
GRAND TOTAL - - - - -															

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PREPARED BY:

s/t HELEN S. FRANCO
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TABLE 11 (contd)

Republic of the Philippines
Department of Health
NATIONAL NUTRITION SERVICE
Manila

Total No. of Municipalities
Total No. of barangays
Total No. of Families Surveyed

SUMMARY OF WEIGHT SURVEYS
(As of September 1976)
BY MUNICIPALITY, CAMARINES SUR PROVINCE

No. of Municipalities
No. of Barangays Surveyed
No. of Children Weighed

B A R A N G A Y S	Total No. of Pu- roks/Pooks	No. of Puroks/pooks Surveyed	No. of Pro- school chil- dren weighed (0-7 mon)	NUMBER OF CHILDREN WEIGHED UNDER EACH CATEGORY OF MALNUTRITION								% of MALNU- TRITION		REMARKS	
				3rd Degree		2nd Degree		1st Degree		O.W.		Normal			
				No.	%	No.	%	No.	%	No.	%	No.	%		
17. Uacngo	18	1,171	1,235	88	7.12	270	21.86	590	47.76	-	-	197	15.17	84.83	
18. Pamplona	17	2,597	3,008	357	11.86	910	30.57	1,276	42.42	-	-	456	15.17	84.83	
19. Pasacao	18	2,077	2,852	255	8.94	676	23.70	1,174	41.16	-	-	747	26.20	73.80	
20. Pili	26	2,224	3,120	101	3.23	668	21.43	1,648	52.82	-	-	703	22.54	77.46	
21. Kagay	34	4,167	4,428	235	5.29	1,176	26.49	2,185	49.18	-	-	842	18.99	81.01	
22. Sangay	16	1,648	1,724	261	15.13	581	33.70	671	38.98	-	-	211	13.08	86.92	
23. San Jose	29	3,071	3,580	164	4.58	991	27.68	1,714	47.87	-	-	711	19.87	80.13	
24. Sipocot	46	5,624	6,078	378	6.21	1,244	20.46	2,797	46.01	-	-	1,659	27.32	72.68	
25. Sirum	22	1,012	1,886	105	5.56	454	24.07	900	47.70	-	-	427	22.67	77.33	
26. Tigaon	23	2,684	3,366	281	7.75	844	25.07	1,520	45.18	-	-	741	22.03	77.97	
27. Lalatan	10/17	850	1,263	58	4.59	228	18.05	510	40.38	-	-	467	37.08	63.02	
28. Calabanga	14/42	4,087	3,772	193	5.11	876	23.22	1,845	48.91	-	-	908	24.09	75.91	
29. Del Gallego	9/32	509	674	11	1.63	163	24.04	375	55.22	-	-	130	19.14	80.84	
30. Lagonoy	22/38	2,104	2,658	161	6.05	702	28.71	1,298	48.88	-	-	467	16.37	83.63	
31. Libmanan	61/75	5,694	7,094	494	6.96	1,694	23.87	3,273	46.18	-	-	1,633	23.04	76.96	
32. San Fernando	13/22	1,470	1,866	76	4.07	402	21.55	964	51.66	-	-	424	22.72	77.28	
33. Tinambac	14/44	1,337	2,123	110	5.15	428	20.05	1,101	51.51	-	-	494	23.19	76.81	
34. Presentacion	10/18	1,057	1,856	239	12.97	575	30.98	748	40.30	-	-	294	15.90	84.10	
GRAND TOTAL	573	91,301	104,467	6,595	6.30	24,955	23.54	49,691	47.56	-	-	23,226	22.60	77.40	

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Table 12a

PER CAPITA GROSS DOMESTIC PRODUCT BY REGION, CY 1971-74
(At Current Prices)

Region	In Pesos				Index: PHILIPPINES = 100			
	1971	1972	1973	1974	1971	1972	1973	1974
PHILIPPINES	1324	1442	1797	2418	100	100	100	100
Ilocos	785	870	1210	1431	59	61	67	59
Cagayan Valley	757	938	1105	1325	57	65	61	55
Central Luzon	1096	1134	1401	1780	83	79	78	74
Southern Tagalog	2394	2521	3208	4421	181	175	179	183
Metro Manila	3442	3704	4645	6600	260	257	258	273
Rest of S. Tagalog	1370	1378	1840	2384	103	96	102	99
<u>Bicol</u>	<u>650</u>	<u>817</u>	<u>905</u>	<u>1187</u>	<u>49</u>	<u>57</u>	<u>50</u>	<u>49</u>
Western Visayas	1530	1604	2027	2677	116	111	113	111
Central Visayas	985	1148	1429	2016	74	80	80	83
Eastern Visayas	710	743	927	1304	54	52	52	54
Western Mindanao	806	901	941	1472	61	62	52	61
Northern Mindanao	1098	1267	1388	1775	83	88	77	73
Southern Mindanao	1490	1649	2100	2755	113	114	117	114
Central Mindanao	860	964	1108	1426	65	67	62	59

Table 12b PER CAPITA GROSS DOMESTIC PRODUCT BY REGION, CY 1971-1974
(At 1972 Prices)

Region	In Pesos				Annual Growth (In Percent)		
	1971	1972	1973	1974	1971-1972	1972-1973	1973-1974
PHILIPPINES	1414	1442	1525	1556	2.0	5.8	2.0
Ilocos	880	877	956	929	-0.3	9.0	-2.8
Cagayan Valley	815	938	914	910	15.4	-2.6	-0.4
Central Luzon	1208	1134	1128	1173	-6.1	-0.5	4.0
Southern Tagalog	2598	2521	2734	2902	-3.0	8.4	6.1
Metro Manila	3760	3704	4129	4510	-1.5	11.5	9.2
Rmn. of S. Tagalog	1462	1378	1406	1398	-5.8	2.0	-0.6
<u>Bicol</u>	<u>674</u>	<u>817</u>	<u>801</u>	<u>792</u>	<u>21.2</u>	<u>-2.0</u>	<u>-1.1</u>
Western Visayas	1628	1608	1709	1685	-1.5	6.6	-1.4
Central Visayas	1013	1148	1229	1236	13.3	7.1	0.6
Eastern Visayas	735	743	829	816	1.1	11.6	-1.6
Western Mindanao	922	901	863	918	9.6	-4.2	6.4
Northern Mindanao	1132	1267	1264	1132	11.9	-0.2	-10.4
Southern Mindanao	1541	1649	1789	1683	7.0	8.5	-5.9
Central Mindanao	881	966	881	833	9.4	-8.6	-5.4

Source: "The Regional Income Accounts of the Philippines, CY 1971-1974," National Economic and Development Authority (NEDA), Philippines, mimeographed, undated (available Oct. 1976).



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 FEJO, CESO II
 Acting Program Director

RES/linda
 11276

PROJECT DEVELOPMENT SCHEDULE
Integrated Health, Nutrition and Population Project

Activity	Year 1		Year 2		Year 3		Year 4		Year 5	
	First	Second	First	Second	First	Second	First	Second	First	Second
	Sem.	Sem.	Sem.	Sem.	Sem.	Sem.	Sem.	Sem.	Sem.	Sem.
Signing of Memorandum Agreement	X									
Creation of BRBCC-IRNPP Sub-Committee	X									
Creation of Project Management Office	X									
Development of Organizational Structure	XX									
Orientation of Line Agencies on Program Roles		XX								
Organization of Different Inter-Agency Groups		XX								
Setting up of BHA and Other Line Agency Personnel Training Center and Training Program		XX								
Development of Training Curriculum & Printing of Manual of Operation		XX								
Procurement of Materials & Equipment	XXX									
Environmental Sanitation Survey	XXXXXX									
Recruitment, Screening & Appointment of BHA's										
First batch (120)		XX								
Second batch (360)			XX							
Third batch (360)					XX					
Fourth batch (360)							XX			
Training & Fielding of BHA's								XX		
First batch (120)			XXXX							
Second batch (360)					XXXXXXXXXXXXX					
Third batch (360)							XXXXXXXXXXXXX			
Fourth batch (360)								XXXXXXXXXXXXX		
Fifth batch for attrition (120)									XXXXXXXXXXXXX	
Fielding of Mobile Teams										XXXX
First batch (3 teams)		X								
Second batch (4 teams)			X							
Launchings of BHA's			X							
Construction of Physical Infrastructure										
Construction of 120 Bc. Health Stations			XX							
Construction of Municipal Health Centers			XX							
Repair of 7 Municipal Health Centers			XX							
Upgrading of Laboratory Facilities			XX							

Construction of Sanitation Facilities
and Water Supply Systems

Level I Goals

- First 120 Barangays
- Second 360 Barangays
- Third 360 Barangays
- Fourth 360 Barangays

Level II Goals

- First 120 Barangays
- Second 360 Barangays
- Third 360 Barangays
- Fourth 360 Barangays

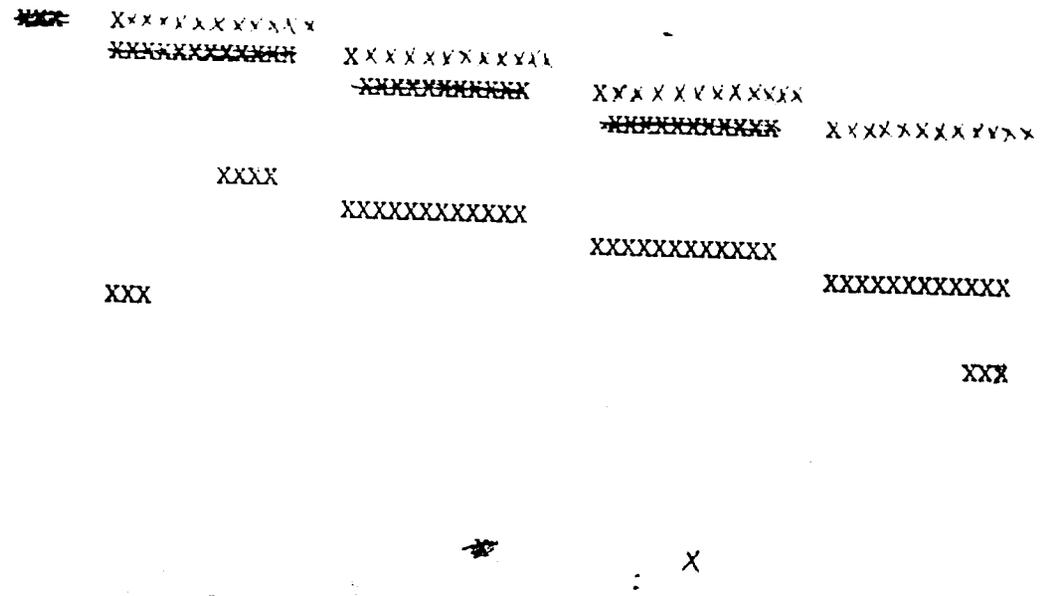
Social Survey Research Starts
Social Survey Research And Program
Evaluation Finalization

Immunization Program Starts
HMT's and Diocesan Nutritionists

Fielded

Absorption of BHA's
Local Government Start Sharing in
BHA Stipend

Full absorption of BHA's by Local
Government



Note: 1 X corresponds to one month.

4920303(5)
PD. AAD-579

A.I.D. Project No. 492-0303

492 030300 001

7p.

AMENDMENT NO. 1
TO PROJECT GRANT AGREEMENT
BETWEEN
THE REPUBLIC OF THE PHILIPPINES
AND
UNITED STATES OF AMERICA
FOR
BICOL INTEGRATED RURAL DEVELOPMENT PROJECT

Date Signed: September 29, 1978

492-0303

UNITED STATES GOVERNMENT

Memorandum

TO : Distribution

DATE: November 6, 1978

FROM : ASIA/PD/EA, Jay R. Nussbaum ^{Jm}

SUBJECT: PHILIPPINES - Project No. 492- 0303, Amendment No. 1 to
Project Grant Agreement, Bicol Integrated Rural Development
Project.

Attached for your information and files is a copy of
subject document.

Attachment: a/s

Distribution:

SER/FM/LD:ASmith
SER/FM/BFD:JO'Neill
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SER/CM/SD:JMurphy
AID Reference Center
DS/DIU ✓



THIS AMENDMENT NO. 1, entered into as of this 29th day of September, 1978, between the REPUBLIC OF THE PHILIPPINES ("Grantee") and the UNITED STATES OF AMERICA, acting through the AGENCY FOR INTERNATIONAL DEVELOPMENT ("A.I.D."),

WITNESSETH THAT

WHEREAS the Grantee and A.I.D. entered into a Grant Agreement No. 492-0303 (the "Agreement") on March 10, 1978, to provide \$780,000.00 for the Project;

WHEREAS an additional amount of \$17,000 is available for obligation to support achievement of project objectives through this Amendment No. 1;

NOW THEREFORE the Grantee and A.I.D. hereby agree to amend the Agreement as follows:

ARTICLE 3: FINANCING

Section 3.1. The Grant. This Section is hereby amended to delete "Seven Hundred Eighty Thousand United States ('U.S.') Dollars (\$780,000) ('Grant')" and substitute therefore Seven Hundred Ninety Seven Thousand United States ('U.S.') Dollars (\$797,000) ('Grant')."

Revised Annex 1 financial plan tables for the initial year are attached. The increased obligation of \$17,000 reflected in Table 1, provides for additional technical services of dollar funded consultants. These are further described in Tables 2 and 3. Tables 2 and 3 also record new revisions related to procurement and proposed dates to begin technical services. These revisions will facilitate the timely achievement of joint project objectives.

IN WITNESS THEREOF, the Grantee and the United States of America, acting through its duly authorized representative have caused this Amendment No. 1 to the Agreement to be signed in their names and delivered as of the day and year first above written.

UNITED STATES OF AMERICA

By: Peter M. Cody
Peter M. Cody

Title: Director
U.S. Agency for International
Development

REPUBLIC OF THE PHILIPPINES

By: Gerardo P. Sicat
Gerardo P. Sicat

Title: Minister of Economic
Planning, National
Economic and Development
Authority

SOURCE AND APPLICATION OF FUNDS (\$000)

(Project No. 492-0303)

TABLE 1 (Revised 9/78)

As of 1978

Project Inputs	Initial Obligation ^{2/} 1978	Incremental Funding by Fiscal Year			Total
		Future Years Anticipated ^{1/}			
		1979	1980	1981	
<u>AID^{3/}</u>					
Technical Services	597	480	410	240	1727
Dollar funded	(397)	(350)	(230)	(120)	(1097)
Local currency funded	(200)	(130)	(180)	(120)	(630)
Participant Training	50	60	40	-	150
Commodities	<u>150</u>	<u>140</u>	<u>70</u>	-	<u>360</u>
<u>Total AID</u>	<u>797</u>	<u>680</u>	<u>520</u>	<u>240</u>	<u>2237</u>
<u>GOP/BRBDP (\$1.00 = ₱7.5)^{4/}</u>					
Program Office Operations	427 ^{5/}	453	493	520	1893 ^{6/}
Project Development and Monitoring	1038 ^{5/}	1066	800	800	3704
Consultant/Specialist Support	48	48	32	20	148
Participant Training Transportation (Trust Fund A)	6	12	5	-	23
Other Participating Line Departments & Agencies ^{7/}	<u>408</u>	<u>300</u>	<u>200</u>	<u>200</u>	<u>1108</u>
<u>Total GOP</u>	<u>1927</u>	<u>1879</u>	<u>1530</u>	<u>1540</u>	<u>6876</u>
<u>TOTAL AID/GOP</u>	<u>2724</u>	<u>2559</u>	<u>2050</u>	<u>1780</u>	<u>9113</u>

- 1/ Subject to availability of funds and mutual agreement to proceed at that time
2/ Cumulative obligation/commitment as per date of basic Grant Agreement
3/ See Tables 2 & 3 for more detailed description (to be updated each fiscal year)
4/ See Tables 4 & 5 for more detailed description (to be updated each fiscal year)
5/ Approved under General Appropriations Act or Presidential Decree No. 1250 per Budget Commission
6/ Computed by increasing 1978 level by 7% inflation factor
7/ Actual releases will be dependent on outcome of feasibility studies and implementation schedules.

A.I.D. Input Summary FY 1978
Bicol Integrated Rural Development
(Project No. 492-0303)

TABLE 2 (Revised 9/78)*

I. <u>Technical Services</u> ^{1/}		
A. <u>U.S. Sources</u> (dollar funded)		
*1. Water Resources (including Watershed Management)		244.0
2. Rural Investment Promotion		60.0
3. Multi-donor IRDP Assessment		7.0
4. Project Design/Analysis		63.0
5. Socio-economic Survey Analyst		7.0
6. Water Supply/Sanitation		6.0
*7. Host Country Contract Training Specialist		10.0
*8. Contingency		-
Subtotal		397.0
B. <u>Philippines/Regional Sources</u> (normally peso funded)		
1. Contract Specialist		19.2
2. Rural Industry Specialist		18.7
3. Water Resources/Civil Engineers (3)		48.0
4. Soils Engineering and other		9.6
5. Regional Development Economist		12.0
6. Socio-economic Survey/Analysis		80.0
7. Ag College Project Repackage		1.6
8. Evaluation/Management Specialist		4.8
9. Bicol Applied Research		-
10. Contingency (Spatial planning \$5,000)		6.1
Subtotal		200.0
II. <u>Participant Training</u>		
1. Water Resources Development (AIT Diploma)	(2)	10.4
2. Environmental Engineering (AIT Diploma)	(1)	5.2
3. Water Resources Development (AIT M.S.)	(2)	8.0
4. Agribusiness/Rural Industry (U.S./M.S.)	(1)	13.2
5. Regional Planning/Rural Industry (U.S./M.S.)	(1)	13.2
6. Contingency		-
III. <u>Commodities</u>		
1. Excess Commodities (vehicles, office furniture and equipment); alternatively, new procurement		9.0
2. New Vehicles (pick-up trucks)		130.0
3. Technical Books		1.0
4. Water System Testing/Measurement Equipment		10.0
5. Contingency		-
TOTAL A.I.D. Input		

^{1/} Technical Services are further detailed in Table 3.

Contract Technical Services

TABLE 3 (cont.) (Revised 9/78)*

II. Philippines/Regional Sources (peso funded PSC, firms or institutions)^{1/}

A. Senior Filipino Consultants/ Specialists	*Proposed Starting Date	Mo.	P/mo. ^{5/}	Est. Cost ^{2/}	
				(P000) ^{2/}	(\$000)
1. Contract Specialist/Financial Analyst	10/78	24	(6,000)	(144)	19.2
2. Rural Industry	11/78	20	(7,000)	(140)	18.7
3. Irrigation Engineer/Water Management (Libmanan IAD I) ^{3/}	10/78	24	(6,000)	(144)	19.2
4. Irrigation Engineer/Construction (Bula IAD II)	10/78	18	(6,000)	(108)	14.4
5. Civil Engineer (Bicol Roads) ^{3/}	10/78	18	(6,000)	(108)	14.4
6. Soils and Other Specialized Engineering	open	12	(6,000)	(72)	9.6
7. Regional Development Economist (NEDA/trade & money flow studies)	10/78	18	(5,000)	(90)	12.0
8. C.S. ag College Project Repackage ^{4/}	open	2	(6,000)	(12)	1.6
9. Evaluation/Management	10/78	12	(3,000)	(36)	4.8
*10. Rural/Urban Spatial Planning	open	-	-	(45)	5.0
11. Fishery/Sea Farming (Rinconada/Sorsogon)		-	-	-	-
Subtotal A		148		(899)	118.9
B. Socio-economic Survey/Analysis Institutional and/or PSC		-	-	(600)	80.0
*C. Contingency		-	-	(46)	1.1
Total Philippines/Regional Sources		<u>148</u>		<u>(1545)</u>	<u>200.0</u>
III. Grand Total Contract Technical Services					<u>597.0</u>

- ^{1/} Grantee executed and administered contracts, subject to USAID Contract Officer approval and A.I.D. Handbook 11 provisions. Regional sources are primarily regional institutions within Philippines.
- ^{2/} P7.5 = \$1.00 (Peso amount rounded).
- ^{3/} Estimated contract amendment date if on-board consultant performance satisfactory.
- ^{4/} As possible Polytechnical Institute under IBRD fifth loan.
- ^{5/} Cost of individual consultants are expected to vary based on prior work experience and salary history, and reasonable overhead rate if a firm. Figures are best estimate for highly qualified people willing to work in the Bicol.
- ^{6/} Requirement pending non-availability of funds under A.I.D./W Urban Functions in Rural Development Project No. 931-11-899-210 (FY 76).