

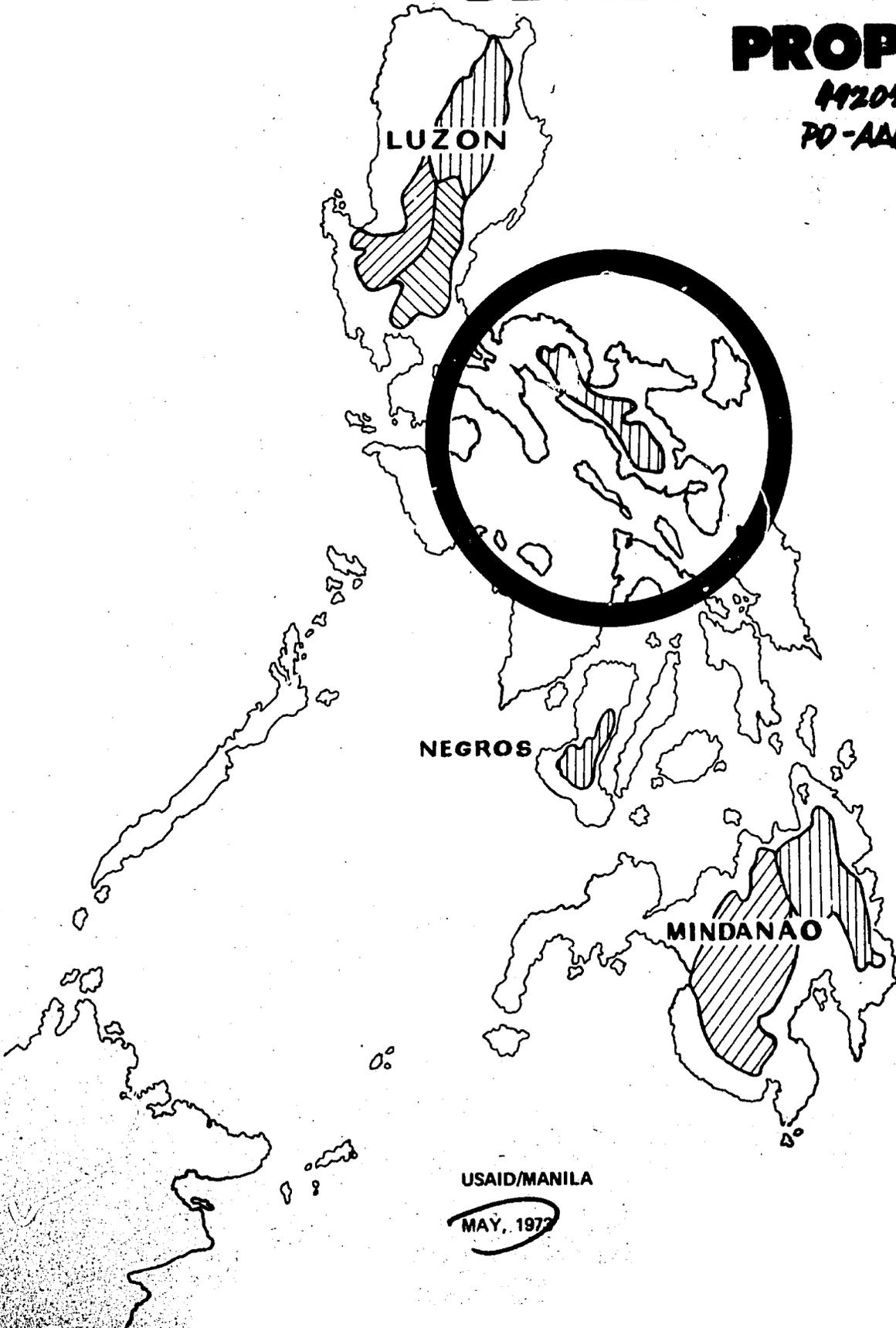
ENERG/DP/15/100

# BICOL RIVER BASIN DEVELOPMENT

4

**PROP**

80 P  
4920360 (E)  
PD-AAA-593-81



USAID/MANILA

MAY, 1972

## Proposed USAID Activities in Small Farmer Income Area

There is an increasing awareness in the Philippine Government of the need to increase the share of the economic product received by the small farmers of the nation. Development in a macro-economic sense has proceeded at a reasonable ~~pace~~ <sup>rate</sup>. Economic activity in a few urban areas is modern and sophisticated. However, the rural sector has been largely untouched by this overall growth, and vast numbers of rural Filipinos have seen little or no improvement in their daily lives over the last decade. This is particularly true for the tenant farmer cultivating rice and corn, the national staple crops. For this reason, the Mission has selected Rural Development as one of its two major assistance sectors, as reflected in the Development Assistance Paper prepared by the Mission in July of 1972.

The Philippine Government is presently mounting a complex of programs to attack the problem of low income levels in the countryside. The Mission is now proposing to collaborate with the Government in three of these undertakings, which would be complementary to the Local Development and Rural Electrification activities already underway. One of the undertakings is immediate, one is a combination of immediate and long range, and the third is essentially long range.

Under the Agricultural Income and Production Project, the Mission and the Government are proposing on a nationwide scale to increase significantly the income of the small farmer (primarily and initially rice and corn farmers and irrespective of whether his status is tenant or owner) by increasing his productivity. The anticipated expanded production -- a corollary benefit -- will help to achieve at least national self-sufficiency in the production of rice and corn and enable the Philippine economy to conserve valuable foreign exchange.

The Agrarian Reform Project, the second undertaking, is aimed at altering land ownership patterns and ultimately abolishing share tenancy, felt to be a major root-cause of the small farmer's meager income and a primary productivity constraint. It is anticipated that the agrarian reform program will result in greater income for the land reform beneficiaries and eventually also lead to increased production. The short-term aim of the program is simple land-transfer while the middle to long range objective is the creation of a complex of services and institutions to serve the land reform beneficiaries and make him a productive and viable factor in the economy and the political system.

The third joint Philippine/USAID activity, the Bicol River Basin Development Program, is a longer range effort which represents an innovative approach to rural development. By means of integrating and rationalizing all of the disparate development programs falling within a delimited geographic area and bearing on the income and production of the rural inhabitant, especially the small farm family, it is hoped that both domestic and external donor resources will be maximized and rural development objectives optimized. In the Bicol project, for example, land reform, agricultural credit, water resources, road development, rural electrification and other physical and social infrastructure programs will be meshed and harmonized through a system of unified management and planning.

The Mission finds these three rural development approaches attractive and is anxious to respond to the Government's request for assistance in each area. The attached PROP represents the proposal for one of these three activities.



REPUBLIC OF THE PHILIPPINES  
*Department of Public Works, Transportation and Communications*  
OFFICE OF THE SECRETARY  
M A N I L A

May 18, 1973

Mr. Thomas Niblock  
Director, United States Agency  
for International Development  
M a n i l a

S i r :

SUBJECT: Bicol River Basin Development Program

We are, indeed, pleased to note that the detailed operational plans for the implementation of the Bicol River Basin Development Program are being prepared jointly by your office and our staff. As you are probably aware, we attach high priority to this program being a first pilot exercise on the integrated area development concept that our government has adopted as a most rational and systematic strategy for using scarce resources to meet our complex developmental problems. We also view this project as an effective means of uplifting the depressed living status of the people in the basin and tapping the vast resource potentials of the area.

Since the USAID has actively participated in the development of the program from its inception stage, we look forward to your continued interest in helping us bring the project complex to its fruition, by way of extending the necessary technical and financial assistance in the conduct of feasibility studies and other project operations as well as in actual project implementation. As the integrated character of the project system should be preserved through all stages of program development up to actual operations, we hope that USAID financing of the program can also assure this wholistic multi-sectoral dimension to ensure maximum efficiency in results and to simplify the administrative requirements by dealing with one agency for financing of the entire complex of program inputs on an area-wide basis. Knowing our limited resource capabilities, we shall appreciate your consideration of this proposal.

May we take this opportunity to express our appreciation to you and your staff for the cooperation extended to our government.

Best regards.

Very truly yours,

  
DAVID M. CONSUNJI  
Acting Secretary

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**THE BICOL REGION &  
THE BICOL RIVER BASIN**



# FACE SHEET

**I. PROJECT IDENTIFICATION**

<b>1. PROJECT TITLE</b>		<b>APPENDIX ATTACHED</b> <input type="checkbox"/> YES <input type="checkbox"/> NO	
<b>BICOL RIVER BASIN DEVELOPMENT PROGRAM</b>		<b>2. PROJECT NO. (M.O. 1095.2)</b> 492-	
<b>3. RECIPIENT (specify)</b>		<b>4. LIFE OF PROJECT</b>	
<input type="checkbox"/> COUNTRY <u>PHILIPPINES</u> <input type="checkbox"/> REGIONAL _____ <input type="checkbox"/> INTERREGIONAL _____		BEGINS FY <u>1974</u> ENDS FY <u>1979</u>	
		<b>5. SUBMISSION</b> <u>20 May 73</u>	
		<input checked="" type="checkbox"/> ORIGINAL _____ DATE <input type="checkbox"/> REV. NO. _____ DATE CONTR./PASA NO. _____	

**II. FUNDING (\$000) AND MAN MONTHS (MM) REQUIREMENTS**

A. FUNDING BY FISCAL YEAR	B. TOTAL \$	C. PERSONNEL		D. PARTICIPANTS		E. COMMOD- ITIES \$	F. OTHER COSTS \$	G. PASA/CONTR.		H. LOCAL EXCHANGE CURRENCY RATE: \$ US _____ (U.S. OWNED)			
		(1) \$	(2) MM	(1) \$	(2) MM			(1) \$	(2) MM	(1) U.S. GRANT LOAN		(2) COOP COUNTRY	
										(A) JOINT	(B) BUDGET		
1. PRIOR THRU ACTUAL FY													
2. OPRN FY													
3. BUDGET FY <u>74</u>	405	25	12	40		85		255	51			17,000	2,300
4. BUDGET +1 FY <u>75</u>	405	25	12	50		60		270	60			15,000	2,300
5. BUDGET +2 FY <u>76</u>	75	25	12	40		10		*				10,000	2,300
6. BUDGET +3 FY <u>77</u>	46	25	12	21		-		*				8,000	2,300
7. ALL SUBQ. FY	50	50	24	-		-		*				18,000	4,600
8. GRAND TOTAL	981	150	72	151		155		525	111			68,000	13,800

**9. OTHER DONOR CONTRIBUTIONS**

(A) NAME OF DONOR <b>Ford Foundation</b>	(B) KIND OF GOODS/SERVICES <b>Financing Socio-Economic Research and Evaluation</b>	(C) AMOUNT <b>\$150,000</b>
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**III. ORIGINATING OFFICE CLEARANCE**

1. DRAFTER <i>Frank W. Sheppard, Jr.</i> <b>Frank W. Sheppard, Jr.</b>	TITLE <b>AD/AD/ Prog. Analyst</b>	DATE <b>18 May 73</b>
2. CLEARANCE OFFICER <i>L. Tinsler</i> <b>Thomas C. Niblock</b>	TITLE <b>Director, USAID/Phil</b>	DATE

**IV. PROJECT AUTHORIZATION**

**1. CONDITIONS OF APPROVAL**

\*A revised PROP will be prepared during the last quarter of FY75 to program added consultancy requirements as identified.

**2. CLEARANCES**

BUR/OFF.	SIGNATURE	DATE	BUR/OFF.	SIGNATURE	DATE

**3. APPROVAL AAs OR OFFICE DIRECTORS**

SIGNATURE	DATE
TITLE	

**4. APPROVAL A/AID (See M.O. 1025.1 VI C)**

SIGNATURE	DATE
ADMINISTRATOR, AGENCY FOR INTERNATIONAL DEVELOPMENT	



## **THE BICOL RIVER BASIN DEVELOPMENT PROGRAM**

### **A. RATIONALE**

"Still another problem that developing nations must face is the need for financing integrated area development, as distinguished from the necessarily slow, often ineffective strategy of financing specific projects. It seems to me that the advantages of the latter approach, if any, are largely on the side of the donor or the assisting country. On the part of the recipient, harmony and the sense of wholeness are often sacrificed for the illusion of progress."

President Ferdinand E. Marcos  
Address to the Asian Development Bank  
April 26, 1973

#### **1. Summary**

The Bicol River Basin Development Program is a land-reform oriented area development program. It represents the first Philippine government effort in integrated planning and program implementation on an area versus sectoral or project basis. The program is the product of an interagency, multidisciplinary effort prepared under the leadership of the Secretary of Public Works and the Secretary of the Department of Agriculture and Natural Resources.<sup>1</sup> The selection of the area for development follows from the coincidence of the assets of a rich agricultural base and a progressive farm community, on one hand, and problems of high tenancy, periodic flooding and deficient infrastructure on the other. The 312,000-hectare basin lies in one of the nation's key agriculture areas as identified by the Department of Agriculture and Natural Resources and is one of six priority areas covered by the government's accelerated land reform program. The Bicol River Basin Program has been incorporated into the four-year (FY 1974-77) development program of the National Economic Development Authority as the government's initial pilot effort in inte-

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<sup>1</sup>See "Bicol River Basin Development Program" (Feb. 73), and "Report on the Province of Camarines Sur and the Lower Bicol River Basin" (Sep. 72). These two reports will be referred to in the text of the PROP as the February report and the September report, respectively. The copies of each report are available as Annexes 4 and 5 of this PROP.

grated area development. To meet the program's primary goals of increased per capita income, higher productivity and more equitable income distribution among the small farmers living within the target area, a development package has been proposed consisting of complementary inputs in production organization and crop diversification, tenure reform, livestock and fisheries, credit and extension services, flood control, irrigation, roads, and electrification.

USAID support to the Bicol River Basin Development Program is designed to:

(a) Assist the Government in their effort to increase per capita net incomes in the program area, primarily focused on the farm community. This support will involve a range of specialized technical services from hydrology and on-farm water management to agribusiness as well as on-the-job and overseas training for the Program's personnel.

(b) Assist the Government develop and test an organizational framework and systems capability for carrying out an integrated, multi-project area development program with the Bicol River Basin as the geographic management unit. USAID support for this objective will involve technical consultancy in systems engineering and planning, overseas and on-the-job training and modest commodity support for the Program Office.

## 2. Background

Traditionally, Philippine development plans have been heavily skewed to national economic development where growth has been the overriding developmental criterion; growth has been obtained largely at the expense of social welfare. While the national economy has advanced at a respectable rate, marked and growing differences in social and economic conditions, not only among social classes but also among geographic regions, have become apparent. The majority of the country's masses continue to suffer from low incomes, while a small minority becomes increasingly more wealthy. Similarly, a few areas like Metropolitan Manila have become increasingly more progressive while other regions, such as the Bicol Peninsula, continue to lag behind. Dualism in the country's economy exists not only in terms of sectors, but is manifest as well in a territorial sense.

The extent of regional disparities in the economy may be gleaned from the following demographic economic trends (Table 1).

Government planners and administrators have come to grips with the need to address the increasing dualism in the economy. The government's recently completed medium-term four-year Development Program (FY 1974-77) has been designed, not simply as a tool to promote economic efficiency in the allocation of resources to enable the generation of high national income, but has been consciously designed as well as a tool to attain the equally vital objective of a more equitable distribution of income among social classes and among geographic areas.

To achieve these dual, and sometimes conflicting objectives, the government has turned toward a comprehensive systems approach to planning which provides for the integration of physical development with economic, social, service, and financial aspects of development interlinked through a common framework plan for a given area. This integrated approach is being pursued at the national and subnational (regions or parts thereof) levels. It is a multidiscipline and multidimensional exercise utilizing space as the medium for integration.

Table 1

Area*	1970 POPULATION		1969 VALUE ADDED		Income Per Capita (1966) (₱)
	Size (1,000)	Growth Rate Per Annum (%)	Amount (₱M)	Growth Rate Per Annum (%)	
Metropolitan Manila	3,277	4.7	9,977.0	6.1	955
Ilocos	1,259	1.7	358.2	3.3	303
Cagayan	2,037	3.3	1,061.1	4.6	226
Central Luzon	5,100	3.1	1,790.8	4.1	416
Southern Tagalog	3,880	3.9	2,492.5	5.0	687
Bicol	2,967	2.2	908.4	5.3	331
Western Visayas	4,501	1.5	2,086.8	3.7	351
Eastern Visayas	4,700	1.6	1,680.3	5.2	279
N & E Mindanao	3,016	3.5	1,588.5	7.2	364
S & W Mindanao	4,947	4.1	2,587.0	7.2	327
<b>PHILIPPINES</b>	<b>36,684</b>	<b>3.0</b>	<b>24,523.4</b>	<b>5.5</b>	<b>415</b>

\*These are statistical areas defined prior to the Government's new regional delineation.

SOURCE: SWHP and DPWTC, 1972.

The Bicol River Basin Development Program represents the first integrated area development program to be brought to the point of implementation under the government's area approach planning criteria. The origin of the program itself merits discussion as it brings into perspective the current and historical role of USAID in promoting rural development in the Philippines.

The Bicol River Basin Development Program represents a further refinement in Government and USAID strategy to reach rural areas with substantive development undertakings. The program has conceptually evolved from a similar USAID-supported, but less complex, experience in integrated development in the province of Nueva Ecija. Whereas the Nueva Ecija Program embraced the integration of two agricultural service agencies, the Department of Agrarian Reform and the Department of Agriculture and Natural Resources, with the provincial government, the Bicol River Basin Development Program has assumed a broader development perspective by embracing the agencies responsible for the physical development of the country along with the service sector and the provincial government. Within the framework of the Bicol River Basin Program physical as well as agricultural and service-oriented planning and program implementation assume a unified, cross-sectoral dimension previously missing at the regional or subregional levels.

Likewise, through the integrated area development approach, the role of local governments in the economic development of their region, an area of historical and current interest to U.S. development agencies, comes into clearer perspective when placed in the context of long-range objectives and development strategy defined in the larger context of regional (or subregional) framework plans. In sum, the Bicol River Basin Development Program is the culmination of years of experience on the part of the GOP and the USAID in fostering rural and local development. At the same time the Program, and the integrated area planning concepts which form its base, represents the beginning of a second and more complex stage of Philippine institutional and economic development. The adoption by the Government of the area development concept, as embodied in the Bicol River Basin Development Program, as national policy marks a distinct improvement over the previous procedure of planning along sectoral and/or agency lines and on a project-by-project basis.

### 3. The River Basin Model and Integrated Area Planning

Beyond the general concept of area development and integrated planning, the Bicol River Basin Program represents a specific form of area development--the river basin model--which appears to be particularly well suited to national economic and social objectives and the physical realities of the Philippine rural sector. In the Philippines, subregional programs focused on the major river basin watershed areas can yield substantial economic as well as significant social benefits, consistent with the dual objectives of growth and welfare enunciated in the Four-Year Development Program.

Within the context of Philippine agriculture the nation's seven major river basins constitute the majority of rich, accessible, and potential irrigable lands; the river basins account for production of more than half of the nation's principal food staples--rice and corn. In social terms, the vast majority of small rice and corn farmers to be benefited from tenure improvement as a result of the Land Reform Program lie within the nation's complex of river basins.

As an illustrative case, the Camarines Sur portion of the Bicol River Basin, (the area selected for the initial first phase of the River Basin Program) contains 65,000 hectares of the 80,000 hectares that are potentially irrigable within the province. In addition, 85% of the identified rice and corn sharetenants in Camarines Sur are within the watershed area of the Basin. The River Basin, on the other hand, occupies 38% of the land area within the province.

The river basin model was selected as the logical geographic management unit for an area development program because of the opportunity to mesh economic, production-oriented objectives with social welfare objectives. As a specific case, the Bicol River Basin was in turn selected for development because of its attractive economic possibilities within a regional setting otherwise characterized for its lack of economic potential. Within the regional context the development of the Bicol River Basin is expected to function as a growth pole to stimulate development throughout the region.

The Interagency Committee which prepared the February report was concerned about the economic implications at the farm, and national levels given the rather large capital

requirements of the program. Within the constraints of time and the limited data base available each of the component projects of the River Basin Program were subjected to financial and economic feasibility analysis. The analysis was undertaken not for the purpose of making final judgments or investment decisions regarding each project or the entire package of projects. Rather, the analysis was undertaken to gain a first approximation of the overall viability of the integrated area development concept and the individual component projects which constitute the River Basin Program. The Interagency Committee found the benefits both at the farm level and to the national economy sufficiently attractive to recommend formal program organization and the financing of major feasibility studies. The detailed economic analyses can be found in appropriate sections of the February report.



## **B. THE PROGRAM GOAL**

### **1. The Goal Statement**

a) The primary goal of the Program is to contribute to the socio-economic improvement of rural areas and lower income groups in the Philippines, specifically the geographic area defined by the Bicol River Basin and the farm community within the Basin Watershed.

b) A simultaneous objective is to develop and test a decentralized regional planning and development strategy built around an integrated area development River Basin Program that is replicable in other regions of the Philippines.

### **2. Measurement of Goal Achievement**

a) An initial socio-economic baseline survey of the Bicol River Basin program area, followed by annual socio-economic surveys, will indicate progress toward the stated goal.

b) The degree to which the Bicol River Basin planning strategy and area development model is replicated in other major river basin areas of the Philippines will demonstrate the viability of the Bicol River Basin model.

### **3. Assumptions of Goal Achievement**

a) The government acts to implement the approved government reorganization plan to effectively decentralize planning and project implementation to regional and subregional levels.

b) The concept of integrated area development with its implicit assumptions regarding concentration of resources in delimited geographic areas is politically acceptable.

c) Among areas and river basins, the Bicol Region generally and the Bicol River Basin specifically, rank sufficiently high in government priorities to ensure at least the minimum resource allocations required for successful program implementation.

d) Indicated investments will result in economic betterment in the lives of lower income groups.

**PROGRAM PURPOSE**

## C. THE PROGRAM PURPOSE

### 1. Statement of the Purpose

The purpose of the project is twofold. It is to:

- a) increase per capita net incomes in the program area, primarily focused on the farm community.
- b) develop and test an organizational framework and systems capability for carrying out an integrated, multi-project area development program with the Bicol River Basin as the geographic management unit.

### 2. Conditions at the End of the Project (1 Jun 79)

a) By Year 6 increase per family net incomes:

- (1) of 35,000 farm families by ₱500 (or 33%) per annum from crop production;
- (2) of 2,000 farm families by ₱700 (or 47%) per annum through semi-commercial livestock production;
- (3) of 1,500 families by ₱900 (or 60%) per annum through a supervised inland fisheries production program;
- (4) of 35,000 former sharetenants through savings of ₱60/hect./crop season (or 4%) as a result of the land transfer program.

b) The existence of a project organization and management structure for the Bicol River Basin Development Program which has demonstrated its capability to systematically plan, manage, and monitor a multi-project, multi-disciplined integrated area development program.

### 3. Basic Assumptions

#### Crop, Livestock, and Fish Production

- a) Production incentives for palay are operative and technology for crops other than rice is developed and adapted to region.

- b) The expansion of supervised credit in program area can be adequately controlled to insure repayment rates of at least 90%.
- c) When crop failures occur, rural bank refinancing is available for affected farmers.
- d) Inland fisheries technology can be adapted to the region.
- e) Private and cooperative sectors respond adequately to ensure success of rural bank expansion program and agribusiness program.

#### Land Reform

Landlord retention limit will be reduced to below seven hectares by Year 6.

#### Infrastructure

Infrastructure program is implemented without major delays and all major elements are complete by end of FY79.

#### General: The River Basin Area Development Model

- a) The River Basin Program Office receives adequate support from the GOP in the form of professional management, technical expertise, and budget outlays and that implementing powers of the project office are sufficiently strong to carry out an integrated program.
- b) The River Basin Program receives technical assistance grants and development loans from foreign donors on a timely basis and funding levels for both grants and loans are set at realistic levels in terms of the Program's stated goals.



## **OUTPUTS**

## D. PROGRAM OUTPUTS

<u>Outputs</u>	<u>Indicators</u>	<u>Targets</u> (Cumulative Total)
a) Issuance of Land Transfer Certificates to former tenants.	Number of Land Transfer Certificates issued by end of FY76.	35,000 (out of possible 40,000).
b) Organization of new rural banks.	Number of new rural banks established by FY77.	20
c) Organization of farmers into compact farms.	Number of compact farms organized by FY79.	2,350 (compared with 250 existing CFs, 12/72).
d) Annual training for extension technicians and farmers in supervised credit, production organization, crop technology, water management, and mechanization.	Number of extension technicians and CF Coordinators trained annually by FY79.	(Annually) 170 technicians 700 CF Coordinators
e) Annual extension of supervised credit to compact farmers.	Number of farmers served annually by FY79.	35,000; collection default rate: 90/10
f) Establishment of semi-commercial cattle and swine production projects.	Number of new semi-commercial cattle & swine projects by FY79.	2,000
g) Construction and operation of slaughterhouse and cold storage facilities.	Completion of facilities by FY75.	Completed slaughter and cold storage complex.
h) Construction & operation of fisheries demonstration and fingerling production center.	Completed facility by Year 2	1 fisheries center.

*How useful is this info going to be? all quantitative to qualitative*

<u>Outputs</u>	<u>Indicators</u>	<u>Targets</u> <u>(Cumulative Total)</u>
i) Establishment of small-scale inland fisheries project.	Number of family-size inland fisheries projects by FY79.	1,500 projects
j) Development of new irrigation systems.	Hectarage of new double-cropped areas by FY79.	20,000 has. (compared to 15,000 has. double-cropped in 1972).
k) Construction of flood control facilities.	Number of hectares protected by FY79.	42,000 has.
l) Construction of secondary road system.	Number of kilometers secondary roads constructed by FY79.	400 kms.
m) Construction of Quirino Highway.	Number of kilometers constructed by FY77.	75 kms.
n) Establishment of a rural electric cooperative system in the River Basin.	Number of people served with electric power by FY79.	200,000
o) Added palay (rice) production.	Incremental production with BRBDP vs. without the Program by Year 6.	3 million cavans annually.



**E. PROGRAM INPUTS**

	<u>Kinds of Inputs</u>	<u>Magnitude of Inputs</u>	<u>Date Scheduled for Delivery</u>
<b>I. U.S.</b>	(See Face Sheet for Cost Figures)		
<b>A. T.A. Personnel</b>			
<b>1. Direct-hire</b>			
(a)	Management/Planning Advisor	1 each year	FY 74-79
(b)	Management Systems Advisor*	6 mo./p.a.	FY 74
<b>2. Contract Services</b>			
(a)	Long-term Technicians		
(i)	Crop Diversifica- tion Technician (IRRI)	1 each year	FY 74-75
(ii)	On-farm Water Manage- ment Technician	1 each year	FY 74-75
(b)	Short-term Consultants		
(i)	Systems Engineering & Systems Planning Team	30 mm life of project	FY 74-75
(ii)	Agribusiness Team	18 mm life of project	FY 74-75
(iii)	Irrigation Service and On-farm Water Management Team	14 mm life of project	FY 74-75
(iv)	Inland Fisheries Team	8 mm life of project	FY 74-75

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\*Funded under Technical Support.

<u>Kinds of Inputs</u>	<u>Magnitude of Inputs</u>	<u>Date Scheduled For Delivery</u>
<b>B. <u>Commodities</u></b>		
1. Office & Planning Equipment	\$25,000	FY 74
2. Computer Support Equipment (Encoding machines)	\$120,000	FY 74-75
3. Excess Property	Dependent on availability	FY 74-79
<b>C. <u>Participant Training</u></b>		
1. <u>Long Term</u>		
(a) Systems Analysis & Regional Planning (MIT)	One 24-mm masters level	FY 74-75
(b) Water Resource Planning	Two 24-mm masters level	FY 74-77
(c) Water Resource Management	One 24-mm masters level	FY 75-76
2. <u>Short-term Training</u>		
(a) Program Management Observation Tour	Ten 1-mm Third- Country (River Basin)	FY 74
(b) Water Management	Three 3-mm Third-Country	FY 74
	Two annually . 3-mm Third Country	FY 75-76
(c) Surface Water Hydrology	Two annually 6-mm USA	FY 74-75
(d) Flood Control	One 6-mm USA	FY 75
(e) Water Resource Economist	One 6-mm USA	FY 75
(f) Hydrogeology	Two annually 6-mm USA	FY 75, 76, 77
<b>D. <u>Development Loans as Identified</u></b>		
		FY 75-79

<u>Kinds of Inputs</u>	<u>Magnitude of Inputs</u>	<u>Date Scheduled For Delivery</u>
II. <u>GOP/US</u>		
P.L. 480 Camarines Sur Special Loan Fund	#68 million	FY 74-79
III. <u>GOP</u>		
A. Program Budget	#1.5 million p.a. (average)	FY 74-79
B. Project Support Services	#.8 million p.a. (average)	FY 74-79
IV. <u>Other Donors</u>		
Socio-Economic Research & Evaluation	\$25,000 p.a. (average)	FY 74-79

**COURSES OF ACTION**

## F. FUTURE COURSES OF ACTION

### 1. Organization

In recent months, the GOP has made several key decisions which will influence the outcome of the Bicol River Basin Development Program. The government has made it a matter of policy to promote regional development through the implementation of integrated area development programs. In this regard the GOP has recently released, as an annex to the medium-term four-year Development Plan, a volume titled Regional Development Projects. The volume lays out the government's long-range physical planning strategy as well as the GOP's rationale for promoting integrated area development programs. The Bicol River Basin Development Program is a major component program of the report.

Secondly, the President has signed an Executive Order creating the Bicol River Basin Council, to determine policy and oversee management of the River Basin Program. Concurrently, the President appointed a respected businessman, Atty. Oscar Ravanera, as the Executive Director of the Program and released the first year's budget as outlined in the February report.

The Bicol River Basin Council created by Executive Order has a Board of Directors composed of the Secretary of Public Works, Transportation and Communication as Chairman, the Secretary of the Department of Agriculture and Natural Resources as Vice-Chairman with the Director General of the National Economic Development Authority, the Secretary of the Department of Agrarian Reform, the Secretary of the Department of Local Government and Community Development, the Provincial Governor, and the Program's Executive Director, as members. Integrated program control of Bicol River Basin development will be effected through the Council and the Executive Director who is the senior government representative in the program area. The Executive Director, through the Council, has been vested the power to review and approve/disapprove plans and proposed expenditures of funds of all participating agencies to insure program integration. Likewise, the locus of River Basin long-range and project specific planning will be centered around a Program Office specifically created to oversee planning and management of the River Basin Program. The Program's Policy Council and office structure is outlined in Annex 3.

Of importance is the presence of a strong multi-disciplined planning staff and the four deputy directors for social infrastructure, physical infrastructure, planning, and budget and administration. The legal powers and budget control measures granted the Program when coupled with executive leadership, the decentralized organizational structure and professional competence of the technical staff, will enable program management to design, manage, and monitor the entire development program on an integrated basis.

The GOP's commitment to regional and integrated area development generally and the commitment to the BRBDP specifically represent policy decisions which in all likelihood would not have been made in the highly politicized climate which surrounded developmental activities in pre-Martial Law days.

This commitment on the part of the government to the area development concept will require some fundamental changes in field level implementation of the programs. As the first area development program to be moved from plan to implementation, the Bicol River Basin Development Program is in an excellent position to serve as a "field laboratory" where new ideas can be tested and experience gained in the implementation of a geographically delimited, yet complicated, river basin area development package.

Organizational work and staff recruitment are well under way and, as reflected in the attached Program Implementation Network (PIN) (Annex 2), represent activities targeted for completion on or before June 30, 1973. In addition to the organizational activities now under way, the GOP has sought and AID has favorably responded with an initial FY73 T.A. grant on a preproject basis. Funds are being used for consultancy, short-term training for program management, and for commodity support for the Program Office. The formal USAID-supported River Basin Program will commence with FY74 as indicated in the Program Implementation Network.(PIN).

Within the Philippine administrative and development environment, this project is without local precedent. Its pilot nature and comprehensive scope will require flexibility on the part of the Government and USAID in tailoring the program to the actual field environment. Consequently, while this PROP is written on the basis of a six-year program timeframe, the

Technical Assistance Consultancy component is as yet not fully defined. It is proposed that a revised PROP covering the T.A. consultancy component for FY76 through FY79 be prepared after completion of the FY75 annual program evaluation (PIN Activity 86). The Mission seeks approval of the entire six-year PROP with the specific proviso that the Technical Assistance Consultancy requirement be the subject of a PROP revision during FY75.

## 2. Implementation Plan Highlights

The Program Implementation Network (Annex ) defines in general terms the major areas of activity over the next two fiscal years FY74 and FY75 (which also generally coincides with the annual crop cycle in the program area). Overall program activities for FY74-75 are subsumed within the context of four major areas: Program Management and Planning, Evaluation, the Social Infrastructure Program, and the Physical Infrastructure Program.

The total network of activities presents the overall GOP Program. USAID advisory inputs will be targeted on specific project activities. One full-time direct-hire technician will serve as the USAID Management/Planning Advisor, supported on a half-time basis by one direct-hire Management Systems Advisor during FY74. The profile of currently identified USAID grant Technical Assistance is presented along the bottom of the Program Implementation Network and discussed in the narrative section of the PROP (Section F.3).

### a. Program Management and Planning

#### (1) Program Management

During the last quarter of FY 73 and first quarter of FY74, Program Management will focus on recruiting staff and organizing for implementation. A Program Office will be established temporarily in Naga City until such time as permanent quarters are constructed by the Provincial Government and the Department of Public Works in Pili, the official provincial capital of Camarines Sur.

Initial management focus will be on implementation of the Social and Physical Infrastructure impact activities outlined

in the February 1973 report (the specific activities are discussed below under the Social and Physical Infrastructure Programs, respectively). Concurrently, management will focus on the design and installation of the overall program Management Information System (MIS) to effectively support and control the several field programs. For the design and development of the MIS, the project management will rely heavily on the Department of Agriculture and Natural Resources Computer Service Center who in turn will subcontract with a private software firm to assist in the MIS design and installation. The Management Information System will be used as a centralized data source to support project activities and feasibility work being carried out by the Program as well as to monitor the progress of specific program components. A small full-time staff detailed from the DANR Computer Center will be located in the Program Office; however, all processing will be carried out at the Computer Service Center in Quezon City.

## (2) Planning

The Plans and Program Division will be the center for developing overall plans for River Basin Development as well as providing guidance to action agencies to insure that specific operational plans of the participating line agencies are in consonance with and integrated into the overall network of developmental activities. The Program Office, through the Plans and Program Division, will be vested with the power to review and subsequently approve/disapprove action plans and budgets of all line agencies represented on the Council's Board. Largely through its overall planning responsibilities and review powers the integration of River Basin development activities will be achieved. Given its central role the establishment of the Plans and Programs Division will receive priority attention during the early organizational phase.

A key contract between the Program Office and the University of the Philippines College of Agriculture (UPCA) and the University of the Philippines Institute of Planning (UPIP) will measurably strengthen the capabilities of the Plans and Programs Division. The UPIP/UPCA Technical Assistance Group (TAG) will insure the availability of high calibre physical and agricultural planning expertise as well as resource personnel to support the Compact Farm Training Program (CFTP) and to carry out a range of agricultural and compact-farm oriented research activities. The TAG project is a four-year effort which will gradually phase out as capabilities of the Planning

Division and the CFTP increase.

The Plans and Programs Division will initially focus on bringing to an operational level various impact projects outlined in the February report, but will move as its capability improves and data base increases into long-range planning for River Basin development.

It is important to note that the management and planning structure has been designed to complement and increase the capabilities of existing national and local agencies in meeting their assigned responsibilities--and will not displace existing agencies but rather integrate their activities and provide an overall management and planning umbrella which will ensure the implementation of a more dynamic and larger scale development program in the program area.

### (3) Feasibility Studies

Before peso and dollar financing can be arranged for several projects identified in the February report, feasibility studies will be required. The Plans and Programs Division will be the focal point for all feasibility teams under contract with the Program whether local or foreign.

An AID feasibility loan is now being negotiated between the government and AID. Up to \$1.25 million of the \$2.0 million credit line has been earmarked for Bicol River Basin studies as required in the following areas:

- . agribusiness
- . water resources (including flood control)
- . transportation

The AID grant Technical Assistance program outlined in this PROP is designed in part to complement and support the various feasibility studies to be financed under the \$2.0 million credit line. A major portion of FY73 program funds are to be used to secure technical assistance in preparing technical scopes of work for major studies in water, transport, and power. Likewise, a portion of FY73 and FY74 funds are to be used to prepare agribusiness prefeasibility studies for a number of commodity systems in the program area as well as the preparation of a small-scale compact farm mechanization project.

b. Evaluation

Measurement of the Program's progress toward its stated goal will be accomplished through a contract with the Institute of Philippine Culture (IPC) in conjunction with a local university in the program area. An initial socio-economic baseline survey and annual follow-on studies will specifically measure the Program's impact and generate recommendations for improving the Program's performance. An annual program review and evaluation will be institutionalized as part of the overall management system. Enclosed as Annex 1 is a copy of the proposed IPC evaluation project.

To support Program Management in assessing field implementation of the various projects on a monthly basis USAID will provide funding to cover contract costs with a disinterested third party in order to provide the Council, the Executive Director, and USAID field performance information on a current and continuous basis.

c. Social Infrastructure Program

The package of projects clustered under the Social Infrastructure Program is generally more fully developed than the specific projects identified under the Physical Infrastructure Program. To a large extent, additional feasibility work beyond the February 1973 report is not a precondition to implementation of social infrastructure activities as is the case for most projects under the Physical Infrastructure Program. These social infrastructure projects represent the impact activities capable of generating substantial short-run tangible benefits. Consequently, program management will emphasize implementation of these activities during the initial two years of operation. Each project activity is briefly discussed below. Detailed discussion and analysis of project activities can be found in the February 1973 report.

(1) Compact Farm Program

Initial emphasis in the area of production will focus on the organization of approximately 700 Compact Farms annually during FY 74 and FY 75. During FY74, additional extension workers will be recruited and trained along with Compact Farm Leaders through a Compact Farm Training Program (CFTP) which will be organized. The Compact Farm Training Program and

preparation of the necessary training materials, field demonstrations, etc. will be handled by the TAG in conjunction with the local extension service, NIA, the Church, and the rural banking system. Training emphasis will focus on production technology, production organization, supervised credit, irrigation service and on-farm water management and farm mechanization. The UPCA has already initiated a farm management study of existing compact farms in the project area to determine the optimal organizational structure and field conditions for compact farm success. With the formal organization and funding of the TAG, operations-oriented field research in support of agricultural and compact farm development in the project area will be accelerated.

(a) Agribusiness Project

In support of the crop, livestock and fisheries projects generally and the compact farm program, specifically, the Program Office, in conjunction with the TAG, the DANR Marketing Research Unit, the Greater Manila Terminal Food Market (GMTFM), and the private sector in the program area will launch an agribusiness development project during FY74 and FY75. This project will seek to develop an economically sound and balanced agribusiness structure, from the supply of farm inputs through production and first assembly of farm produce to final processing and distribution of food products. Initial feasibility emphasis will focus on establishing a framework for (1) collection and organization of base data; (2) developing realistic project projections; (3) formulating the workable specific alternatives for the area; (4) evaluating the alternatives and selecting the most feasible total agribusiness system; and (5) formulation of a time-staged program to develop the system.

The framework to be developed will encompass all components of needed agribusiness in the River Basin. These will include, but not necessarily be limited to:

- . production under the compact farm concept of crops, cattle, swine, and fish;

- . drying, transport, storage processing, and marketing of rice, and other grains produced in this Program area;

- . manufacture and distribution of livestock feeds;
- . preparation, distribution, and utilization of seeds, fertilizers, pesticides, farm tools, and machines and other farm inputs;
- . livestock slaughterhouse and meat processing;
- . processing of fish and fish products.

(b) Irrigation Service and On-Farm Water Management Project

Compact Farms will be organized exclusively in areas with assured supply of water during the first two years. In this regard, particular emphasis will focus on developing the compact farm as an effective farm level organization through which the National Irrigation Administration (NIA) can wholesale water and which, in turn, will assume responsibility for management of irrigation systems, distribution of water and improvement in on-farm irrigation practices. The water management program to be carried to compact farmers through the CFTP will dovetail with the water resource impact project under the Physical Infrastructure Program. Under the Physical Infrastructure effort existing, national and communal gravity systems will be rehabilitated and upgraded to include increased numbers of turnouts and control structures. During FY74 three pilot areas will be selected for initial implementation of the irrigation service and water management project. The National Irrigation Administration's water management staff will be responsible for the design of the project and the training of all field personnel through the CFTP. The project will be expanded systematically in FY75 and subsequent years after the result of the initial pilot operations have been assessed.

(c) Crop Diversification Project

In FY74 a crop diversification program will be initiated by the project involving the Philippine Council for Agricultural Research, the TAG, the Bureau of Plant Industry, IRRI, and the Bureau of Agricultural Extension aimed at providing viable crop alternatives for compact farmers in addition to rice. Appropriate research will be initiated at the various experiment stations in the

program area with field demonstration with cooperating Compact Farm groups as appropriate. As appropriate technologies are adapted to the program area, the Program Office will initiate systematic campaigns to extend the technology to Compact Farm groups. During FY74, as part of the agribusiness studies, market opportunities for new crops will be explored and determination made of the storage, processing, and marketing support needed to develop viable new commodity systems in the program area.

(d) Compact Farm Agricultural Equipment and Mechanization Project

IRRI has been involved for a number of years in a program of machinery development for small farm tropical conditions found in rice growing areas of Asia. The focus of this applied research effort has been the development of small scale intermediate level technologies which are capable of being manufactured in developing countries and are suitable for use by farmers owning or operating farms from 2 to 10 hectares. Given the introduction of the high yielding rice technology and expanded use of chemical fertilizers seasonal demand for labor has increased, particularly on those tasks for which there exist few or no alternatives to traditional cultural techniques. Lack of suitable improvements in these tasks has resulted in the emergence of a number of production constraints which impede further intensification of cropping and results in less than optimal returns to farmers. In response to this need, IRRI has developed a number of machines which are capable of providing increased labor productivity with low investment requirements without large-scale labor displacement or high operational costs.

The province of Camarines Sur and particularly the Bicol River Basin, leads the nation in the adoption of HYV technology. Labor shortages at particular points in the production cycle are acute<sup>1</sup> there seems to be no question of the need for mechanization but rather the correct strategy that must be followed to enhance productivity without large-scale labor displacement in the River Basin watershed. Without a well conceptualized, area specific program, however, it is unlikely that mechanization will proceed rapidly in the Basin area due to a number of

constraints. First, the average size tenanted rice farm of one hectare in the Basin is extremely small. As a consequence, the average farmer does not have an adequate resource base to purchase equipment and the prospects of necessary financial support from his landlord, given implementation of the land reform program, is no longer a serious option. Secondly, while machinery is marketed in the area, there is only limited capability to provide follow-on service for the IRRI type machinery developed to date.

Consequently, during FY74-75 as part of the agribusiness activities of the Program Office supported by the TAG and IRRI, a concerted attempt will be made to model the compact farm organization into an efficient unit for small scale mechanization. In addition, attention will be focused on developing the private sectors' machinery service facilities in the program area. Given these two prerequisites it is expected as part of the rural banking supervised credit program that an extensive small scale machinery loan program for compact farms can be initiated drawing upon IBRD farm mechanization loan funds. Over the longer term, attempts will be made to develop the private sector to the point where it can locally manufacture the appropriate equipment or component parts thereof.

(e) Livestock and Fisheries Program

FY74 and FY75 activities in support of livestock and fisheries development will be primarily production oriented. Feasibility studies for livestock slaughter and cold storage facilities will be undertaken and the technical feasibility of extensive inland fisheries development in the Basin area will be determined. Production-oriented training for livestock technicians and farmers will be carried out under the auspices of the CFTP and rural banking financing for semi-commercial operations will be expanded. By the end of the FY74, an expanded livestock production program linked with slaughter and processing facilities should be ready for implementation after completion of loan negotiations for construction of appropriate structures. The specific compact farm oriented livestock models for swine and cattle are discussed in appropriate chapters of the February report.

Fish pen projects, financed by the rural banking system, in the three lakes of the Basin will be the major thrust of the fisheries project during FY74 until the feasibility of extensive small scale fishpond development on lands marginal to crop production is determined and the technical problems connected with construction and financing of a fingerling production and demonstration center are resolved. Likewise, the specifics of this project are contained in the February report.

(2) Land Reform

The Department of Agrarian Reform's Operation Land Transfer will continue the rapid conversion of approximately 40,000 sharetenants in Camarines Sur to amortizing owners (provided the GOP extends its land reform program to below seven hectares) during FY74 and FY75. Specific support for Operation Land Transfer under the Program Office will take the form of aerial photographs which greatly facilitate parcellary mapping operations of the government field survey teams. During FY74 and 75, emphasis will be placed on organizing newly converted sharetenants into the compact farm complex and integration of DAR into the program's Management Information System. The orientation of the Bicol River Basin Development Program, while not limiting its support to former sharetenants only, is designed basically as a mechanism to bring about substantive Agrarian Reform by concentrating resources on the development of a viable small farmer support system linked with necessary physical infrastructure facilities in the project area.

(3) Agricultural Credit and Rural Bank Expansion Program

The institutional short-, medium- and long-term credit requirements of the Compact Farm Development Program, the Livestock Program, Fisheries Program, and various agribusiness activities to be developed, will be met through the rural banking system. For this purpose, a loan fund, known as the Camarines Sur Special Loan Fund, will be established by the Central Bank. The fund will be capitalized by the GOP drawing upon peso generations from appropriate U.S. loans or other sources. Incremental Seed Fund requirements, (i.e. the minimum necessary capital the Central Bank must actually place with rural banks as Special Time Deposits) for FY 74 and 75 have

been calculated and are respectively ₱17 million and ₱15 million. The six-year peso Seed Fund requirement has been calculated and is ₱68 million. Additional required funds will be generated through the rediscount window of the Central Bank.

To meet the institutional credit requirements of the various projects, it will be necessary to organize 20 new rural banks in the project area during FY74, 75 and 76. The Central Bank Department of Rural Banks has designed an incentive program to encourage the establishment of more rural banks in the target area. The incentive takes the form of attractive government capital contributions in the form of non-voting preferred shares in these rural banks. In the case of existing rural banks previously unmet Central Bank Counterpart obligations will be promptly paid in upon implementation of the River Basin Program. As calculated the three-year counterpart obligation of the Central Bank to the existing and proposed banks is approximately ₱5 million. Details of the credit program along with implementing guidelines are now being developed, preparatory to initiation of the rural bank expansion program and supervised credit activities in early FY74. The credit portion of the Program in effect is a more intensive version of the Masagana 99 supervised credit scheme outlined in the Agricultural Income and Production PROSP.

During the initial three years of operation a special Central Bank/Rural Banks Department team will be detailed to the Program Office to carry out the necessary rural bank organizational campaign. To augment the existing force of supervised credit technicians, 22 supervised credit technicians will be hired and trained during FY74. Half of the technicians will be employed by the government and half by the participating rural banks; an additional 22 technicians will be recruited in FY75 to ensure that a ratio of 1 technician per 15 compact farms is maintained. A total of 168 technicians will be required by the sixth year of the program. This will entail recruitment over six years of an additional 83 technicians beyond the current extension force in the province of Camarines Sur. To ensure performance, government technicians will be directly under the supervision of specific rural banks. Likewise, an attractive monetary incentive program for technicians has been developed to further insure the successful implementation of the supervised credit program. Finally, all supervised credit technicians as well as compact farm leaders will receive annual or semi-annual training under the auspices of the Compact Farm Training Program.

Given the time lag necessary to organize compact farms and train compact farm leaders and extension workers in proper credit practices, significant expansion of the supervised credit program above existing levels will not take place until the Palagad or second crop season of FY74 after completion of the first organizational phase and training cycle of the Compact Farm Training Program. By Year 6, the Compact Farm supervised credit program area of coverage is expected to reach 59,000 hectares representing approximately 43% of the hectareage planted to rice in the province of Camarines Sur.

d. Physical Infrastructure Program

The Physical Infrastructure Program as currently defined is focused on the development of the water resource base and the transportation and power sectors within the River Basin. The infrastructure program during the first year of operation will focus on implementation of impact projects on one hand and initiation of a series of feasibility studies on the other. It is projected that sufficient feasibility work will have been completed by the first quarter of FY75 to enable development of a dollar loan package composed of discrete projects in the areas of flood control, irrigation, primary and secondary road development, rural electrification (basin-wide) and in agribusiness as presented under the Social Infrastructure Program. As an initial strategy the GOP and USAID/Manila envision a series of (up to three) loan packages over the six-year first phase of the River Basin Program. In this manner, within the context of the overall framework plan for the Basin's development, visible planning targets will be set so that feasibility studies and financing and implementation of specific projects are time-phased to insure the continuous development of the Basin's infrastructure.

(1) Transportation

During FY74 feasibility studies will be undertaken which ultimately will lead to the development of a comprehensive transportation program for the Bicol River Basin, linked to the government's overall transportation program for the Bicol Region.

Initial transportation studies will focus on bringing the Bureau of Public Highways' Quirino Highway prefeasibility report to feasibility grade status preparatory

to financing; the development of a comprehensive secondary road project for the River Basin; and finally, a feasibility investigation for port development at Balatan on the Ragay Gulf.

During FY74 the Bureau of Public Highways will focus on completion of the Manila South portion of the Pan-Philippine Highway which is the main trunk line through the River Basin (this project funded by the Japanese is an ongoing project; its early completion will enable the BFH to turn attention to the Quirino Highway and secondary road development in the River Basin). Also during FY74 and on into FY75 the provincial government will concentrate on the rehabilitation of approximately 224 km. of secondary road financed under the \$50 million USAID Disaster Relief Program. As a member of the USAID-supported Provincial Development Assistance Program (PDAP) the provincial government's engineering capability will be expanded and upgraded. Now under way, as part of the PDAP program, is the construction of a provincial equipment pool, which when completed will enable the Provincial Engineer's Office to undertake a portion of the proposed secondary road project the feasibility for which, as noted above, will be carried out during FY74. Financing for the expanded secondary road system will be arranged as part of the first loan package. Construction will commence upon completion of the disaster rehabilitation program. Upon completion of the Quirino Highway and Balatan Port studies, Development Loan financing will be proposed as appropriate during FY75 and FY76.

## (2) Water Resources

The National Irrigation Administration under the planning guidance of the Program Office will focus its efforts during FY74 and FY75 in three well-defined areas. First, detailed engineering designs for rehabilitation of several national and communal systems will be completed and construction, financed from proceeds of the \$50 million USAID Disaster Relief Grant, will commence. Second, under the auspices of the Program Office, comprehensive water resource (irrigation and flood control) feasibility investigations will be initiated. A two- and one-half year timeframe will be necessary to complete all feasibility investigations, but as in the case of the transport studies, specific individual projects will have been identified and sufficiently investigated to proceed with Development Loan financing during the first quarter of FY75. Under preproject FY73 funding, USAID is providing

consultants to assist the GOP prepare the necessary technical scopes of work for the water resources feasibility contracts. Finally in FY74 and 75, as a major underpinning of the irrigation development scheme, the NIA, supported by the Technical Assistance Group and the Compact Farm Training Program, will initiate its irrigation service and on-farm water management project as discussed under the Social Infrastructure Program.

### (3) Power

The National Power Corporation is presently planning to develop two geothermal units of 20 MW each in Tiwi, Albay, along with 305 kms. of 69 KV transmission lines from the Tiwi Plant to various points in Camarines Sur, Albay, and Sorsogon. The NPC has estimated that the Tiwi Geothermal has a potential of more than 500 MW. The Tiwi Geothermal Plant is expected to be integrated into the Luzon grid at the latest by 1976 when transmission lines from Laguna Province are extended to Naga City and interlinked with the Tiwi transmission grid which will be constructed through the heart of the Bicol River Basin.

Given the coincidence of the Geothermal generation and transmission project and the implementation of the Bicol River Basin Development Program, a feasibility study will be initiated by the National Electrification Administration during FY74-75 aimed at development of a Basin-wide rural electric cooperative program. In this manner, the planned electrification of the River Basin will be tightly integrated with surface and ground water pump irrigation projects developed under the water resources program. Development Loan funds may be appropriate to finance one or more combined rural electric cooperative pump irrigation projects over the life of the Bicol River Basin Development Program.

### 3. Narrative Statement

To achieve the identified program outputs, a Program Office and management structure as shown in Annex 3 will be established and staffed by the government. A competent and respected Executive Director from the private sector has been hired to direct the program. Peso and human resources are currently being mobilized. The Program is expected to be operational before June 1973.

The Program outputs will be achieved as a result of successful implementation of the various projects and programs to be carried out under the auspices of the Bicol River Basin Council and its Program Office. Successful implementation necessarily connotes that each project's technical underpinning is feasible and that the management of the project's delivery system is adequate. Therefore, preconditions to the attainment of the Program's purpose largely revolve around the effectiveness of Program's management and at the technical level, the soundness of the individual project's technical base.

The GOP has taken both managerial and technical factors into consideration in preparing the February 1973 Bicol River Basin Development Program report and is cognizant that much additional technical work remains to be accomplished. The Government has also recognized the importance of management and has provided sufficient budget support (see February report, p. 113) for managerial and technical positions in the Program organizational structure which are considerably above the civil service wage levels. Likewise, the Government has made provisions to tap the available reservoir of technical expertise in the country by providing funding under the Project Support Service component of the Program as outlined in the February 1973 report (p. 114-123).

The government has on several different occasions formally requested USAID technical assistance in the development of the River Basin Program. Perhaps most important has been the government's indication that \$1.25 million of the \$2.0 AID-financed feasibility loan credit line now under negotiation has been earmarked for selected studies in the River Basin. As indicated on the Program Implementation Network feasibility loan funds will play an important role in bringing the infrastructure program to the point of implementation.

Given the magnitude of envisioned investments in the program area, the Government has requested and developed with USAID a grant Technical Assistance program. The major emphasis of the program resolves around managerial and technical consultancy and short- and long-range training for key project personnel. A modest commodity support program to properly equip the River Basin's Program Office has also been requested.

While the T.A. program is envisioned to be carried over the six-year first phase of the Program, it was not possible to develop a detailed technical assistance program for more than two years given the need for clearer project definition and feasibility analysis. Consequently, only those T.A. requirements clearly identifiable at this point in time have been indicated in the input section, the face sheet, the Program Implementation Network, and this narrative statement. It is expected that upon completion of the FY75 annual project review remaining technical assistance requirements will have been identified. At that time a revised PROP will be submitted covering technical assistance requirements for the last four years.

a. Program Management and Planning

The GOP/USAID technical team which prepared the River Basin Program has continually stressed the importance of developing a management organization with adequate planning and systems control capability. To insure this development, the Government will tap, through the Technical Assistance Group, and the Department of Agriculture and Natural Resources Computer Service Center (p. 114, February report) high calibre planning and operations research expertise.

In addition, at Government request, USAID will provide during FY74 and FY75 fifteen man-months yearly of systems engineering and systems planning expertise. The systems engineering and planning team (see team profile on Program Implementation Network) will determine the framework and data base requirements and data collection procedures necessary to carry out a systems analysis of the basin-wide water and associated land resources development program. At one level, the systems engineering and planning contract will facilitate the understanding of overall interrelationships between projects. At a more operational level, it will support program management in their attempt to manage and control a number of individual projects which together form the Bicol River Basin Development Program. In this regard, the systems engineering and planning teams will develop methodology for carrying out the various sector or specific project feasibility studies to ensure that the feasibility formats are structured so that interrelationships in technical and economic terms can be properly taken into account. After completion of their annual field assignments the systems consultants will conduct a one-month short course in systems engineering and planning for project and other interested personnel.

On a longer term basis USAID will provide at government request the full-time services of a direct-hire management planning advisor for the six-year life of the Program, and half-time services of a direct-hire management systems advisor for FY74 only. In addition to managing USAID assistance and providing substantive management planning assistance to Program Management, the USAID direct-hire will be responsible for identifying the post- FY75 T.A. requirements and preparing the PROP revision and other appropriate documentation.

b. Social Infrastructure Program

The balance of T.A. grant funding will be carried under the Social Infrastructure Program. It is expected that all Technical Assistance requirements for the Physical Infrastructure Program can be handled under the \$2.0 million AID feasibility loan fund. Briefly described below are the areas and man-months of grant T.A. as programmed on the Program Implementation Network. Funding requirements are shown on the face sheet and input section of the PROP.

(1) Technical Assistance Consultancy

(a) Agribusiness Project

In support of the River Basin Program, USAID will provide at the government's request during FY74 and 75, 18 man-months of consultancy in agribusiness. The objective of the consultancy is to (1) develop viable agribusiness projects suitable for local and/or foreign financing in the project area; and (2) to leave behind a reservoir of knowledge within (a) the Program Office; (b) the TAG; and (c) the counterpart consulting firm contracted by the GOP to work with the U.S. agribusiness firm.

(b) Irrigation Service and On-Farm Water Management Project

As more irrigated hectarage comes into production, the National Irrigation Administration (NIA) is increasingly cognizant of the need for NIA to stop retailing water to farmers, its current practice, and proceed to the more desirable practice of wholesaling water to irrigators associations. The NIA, as demonstrated by its own records as well as those of UPCA and IRRRI, is also aware of the need to greatly improve on-farm water management practices within irrigation systems if those systems are to approach optimal levels of water-use efficiency.

Under the Irrigation Service and Water Management Project both of these needs will be addressed by the NIA and the Program Office in the project area. As discussed earlier in this PROP and at length in the February report the compact farm unit is seen as a means for securing improved on-farm water management, and through the federation of Compact Farms creation of efficient irrigation associations capable of handling the retail operations of water distribution. Given the central importance of water management to the entire River Basin Program, the government has requested USAID to provide during FY74 one long-term water management specialist along with 14 man-months of specialized irrigation service and on-farm water management technical expertise to assist in the development of three pilot irrigation service and water management projects and the follow-on expansion of the project to other irrigable areas in the program area. The technicians will also consult with the Compact Farm Training Program to help develop a supporting training effort both for farmers and water management technicians.

(c) Crop Diversification Project

Long-range sustained income increase for most rice farmers in the project area will be partially dependent on the farm community's ability to develop alternative and complementary cropping patterns to supplement the cultivation of rice. New production enterprises must be identified and adapted to the program area. The government has requested USAID to provide a crop diversification consultant, preferably contracted through IRRI, to work for 24 man-months in the program area under the Program Office and in conjunction with the PCAR, the Bureau of Plant Industry, the NIA, and the Bureau of Agricultural Extension.

(d) Livestock and Fisheries Program

The development of Inland Fisheries targeted on 5,000 hectares of lands marginal to crop production represents an entirely new agricultural activity in the River Basin Watershed. Additional adaptive research needs to be carried out on appropriate freshwater species and the local fisheries extension force needs to be upgraded through training. The GOP has requested that USAID make available on a short-term basis advisory assistance on

fish culture and training of extension workers. Arrangements will be made with government inland fisheries adaptive research projects to provide technical guidance in developing and testing production technology to be used in the Basin area. USAID will provide short-term consultancy for up to 4 man-months annually during FY74 and FY75 in the area of fisheries marketing.

(e) T.A. Consultancy Funding and Review

Given the multiplicity of project activities and their specialized nature, it has been difficult to pinpoint the type and amount of needed technical consultancy with precision. Consequently, item G (PASA/Contract) on the PROP face sheet has been increased 25% over the estimated costs of consultancy explicitly identified in this PROP to cover additional services that may be necessary during FY75.

The two-year (FY74-75) grant Technical Assistance program will be reviewed during the annual project evaluation during the fourth quarter of FY75. At that time an assessment will be made of additional Technical Assistance requirements for FY76-79. A revised PROP will then be prepared to incorporate the necessary T.A. inputs.

(2) Participant Training

A four-year participant training program has been designed for project personnel. The emphasis, through short-term and long-term training, will be to develop a professional cadre, to the extent possible, of Bicolanos who will fill vital technical roles in the long-range development of the River Basin and region. A detailed breakdown of the training program is presented in the Input Section of the PROP.

(3) Commodity Support

To support the development of a strong Program Office a modest complement of office equipment is programmed for FY74 to support the various departments. Additionally, in support of the engineering and planning systems component of the program the provision of key-to-tape encoding equipment for the Department of Agriculture and Natural Resources Computer Service Center has been programmed for FY74-75.

(4) Development Loans

As soon as sufficient technical and economic information on various projects becomes available the Program Office, in conjunction with the USAID, will prepare necessary supporting documents and Capital Assistance Papers for loan financing. Over the life of the River Basin Program it is expected that up to three loan packages (composed of one or more projects) will be prepared for dollar financing.



## ANNEX 1

### AN EVALUATION AND MONITORING SYSTEM TO ACCOMPANY THE BICOL RIVER BASIN DEVELOPMENT PROGRAM

Proposal submitted December 18, 1972 to the Camarines Sur Interagency Survey Team by the Institute of Philippine Culture in behalf of the IPC and the Research and Service Center, Ateneo de Naga

This proposal includes three main divisions: I, a background statement; II, the suggested program of research; and III, an estimated budget.

#### BACKGROUND

Currently in the planning stage, but possibly to be inaugurated as early as July 1973, is a rural and agricultural development program aimed at transforming the Bicol River Basin from Lake Bato north. This area includes principally both cities and 21 (out of 35) municipalities of Camarines Sur.

#### Land-Use Regions of Mainland Bicolandia

Within the mainland areas of Camarines Norte, Camarines Sur, Albay, and Sorsogon five regions may be distinguished on the basis of rainfall zone, physical landscape, soil, and

predominant crops.<sup>1</sup> These land-use regions, numbered as they appear in Map 1, are the following: (1) Bicol River meander zone, (2) Bicol Plain, (3) Sipocot Valley, (4) Partido-Tabaco, and Bulusan uplands, (5) General coastal regions (Table 1).

The predominantly wet-rice regions (1 and 2) occur in the Bicol River Valley where there is a heavy clay subsoil to prevent loss of soil water by seepage and percolation. Smaller wet-rice enclaves are found in scattered moist lowlands more restricted in area, notably the Daet Plain (Camarines Norte), Lagonoy River Plain (Camarines Sur), Legaspi Plain (Albay), Bulan and Cadacan River Valleys (near Irosin, Sorsogon), and the Oco River Plain in northeast Catanduanes.

Dry rice (region 3) occupies most of the cultivated land in only two municipalities, Lupi and Sipocot in the Sipocot River Valley, an upland plain northeast of Canaman. In Sipocot and Lupi the percentages of cultivated land given over to dry rice cultivation are low when compared to the degree of predominance which can occur where wet rice or coconut is the first crop.

Volcanic regions in the Bicol area are known for the cultivation of abaca, or Manila hemp (Musa textilis). There is a single large region for this crop extending from Mt. Isarog

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<sup>1</sup> See Appendix 1, "Landscape types of the Bicol Area". By the "Bicol" area (spelled with b) is meant those parts of the six provinces of Bicolandia where some form of Bicol, recognized as such by residents of Naga, is the mother tongue. It extends from Sorsogon Bay in the south to just above Daet (Camarines Norte) in the north, and includes Catanduanes and other islands to the east of the mainland, but not those to the west.

TABLE 1  
LAND-USE REGIONS OF THE BIKOL AREA

Region number	Name	Rainfall zone	Principal landscape types	Predominant crops
1	Bicol River meander zone	4, 2	II	<u>Wet rice</u>
2	Bicol Plain	4	II, III	<u>Wet rice</u> and coconut
3	Sipocot Valley	4	III, IV	<u>Dry rice</u> and coconut
4	Partido-Tabaco, and Bulusan uplands	2	III, IV	<u>Abaca</u> , and wet rice or coconut
5	General coastal regions	2, 4	III, IV	<u>Coconut</u> , and wet or dry rice

Symbols: for rainfall zones: 2 - always wet, but maximum rainfall from November to March; 4 - no dry period, but minimum rainfall from March to May; for landscape types: II - moist lowland plains; III - dry open lowlands and slopes; IV - rough and hilly uplands. See Appendix 1.

(east of Naga City) in the north to Mt. Mayon in the south, including smaller extinct volcanoes such as Mt. Iriga and Mt. Malinao.<sup>2</sup> Another and smaller enclave is found on the slopes of Mt. Bulusan

<sup>2</sup>There is only one active volcano in the Bicol area, Mt. Mayon (7943'), the finest known example of the cinder-cone type. The other volcanoes are these: Mt. Labo (3092'), between Camarines Norte and Camarines Sur; Mt. Isarog (6182'), which until the construction of all-weather roads some 50 years ago contributed to block communications between eastern and western Bicolandia at this latitude; Mt. Iriga (3927'), traditional home of the flying awang, or witches, and actual residence of several thousand semi-negroid hill people (see Lynch 1948, 1949); Mt. Malinao (5079'), and Mt. Bulusan (5115') in Sorsogon.

and to the north of it in Sorsogon, while abaca grows as a minor crop on the slopes of Mt. Labo and in central Catanduanes. Sensitive as it is to soil and climate conditions, abaca seems to thrive in the moist, mellow loams of volcanic origin under rainfall regime 2.

Region 4, the abaca land-use region, was dispersed in several locations within the Bicol area; region 5 can be called generalized, for this region of predominant coconut cultivation is found everywhere except in regions 1-4, or practically everywhere except in river valleys (wet rice), volcanic soil (abaca), and a limited region of upland slopes (dry rice).

#### The Bicol River Basin Development Program

Prepared to begin operations by July 1973, and to continue them for a period of six years, the Bicol Basin Development Program has the following major goals; namely, (1) to increase agricultural productivity; (2) to increase employment opportunities for the majority of the farm population; and (3) to increase the per-capita income of farm families. These goals are to be achieved primarily in the two cities and 21 municipalities on which the Program's efforts will at least initially be focused.

The means taken to achieve these goals will be many, but the principal ones will be the following: (1) the systematic organization of the agricultural production base into economic-sized operating units (cooperative compact farms); (2) the

development of an efficient credit program for small farmers; (3) development and efficient management of provincial water resources (irrigation and flood control); (4) accelerated accomplishment of the conversion of share tenants to amortizing owners under the nation's agrarian reform program; (5) a more efficiently organized support system for farmers (including assistance for crop and livestock production and marketing); (6) an accelerated road-construction program; (7) more efficient collection of real property taxes; and (8) an electrification program.

Accomplishments in all eight of these areas must be measured not only in their own terms (to see to what extent the means have been taken), but also in terms of the three major goals of increased productivity, employment, and per-capita income (to see if by these means the goals are being achieved). With this fact in mind, the Institute of Philippine Culture (IPC) was invited by the Camarines Sur Interagency Survey Team to propose how it would go about accomplishing the research implied by this measurement, or evaluation, task.

The balance of this document represents the IPC's response to that request, which it offers on its own behalf and in the name as well of its affiliated organization in Naga City, the Research and Service Center, Ateneo de Naga. It is expected

that, should this research proposal be approved, the base of operations will be at the Research and Service Center, with auxiliary analysis functions performed at the IPC, Quezon City.

### RESEARCH PROPOSAL

The plan presented here is meant to get underway as quickly as possible, in preparation for a baseline survey in May and June 1973. After that, it envisions continuation for a period of six years, or until the end of Fiscal Year 1979.

Elements of the proposal are these: (1) identification of the research problem; (2) hypothesis and assumptions; (3) conceptual variables; (4) empirical variables; (5) research method; (6) data-gathering plan; and (7) time schedule. The estimated budget will be found in the third major section of this document.

#### Identification of the Research Problem

1. In general, the purpose of the research is evaluative, that is, to gauge the success of the Bicol River Basin Development Program (hereafter referred to as the BRBDP).

2. In particular, the purpose of the research is to establish in largely quantitative terms to what extent the eight major inputs of the BRBDP listed above (and others to be specified at a later date) have contributed to improvements that may occur in the target cities and municipalities--especially those improvements observed in the three developmental variables of agricultural productivity, employment, and income.

3. Aside from this evaluative function, the research organization will also be expected to feed back to personnel of the BRBDP (and, through them, to agency and municipal officials), the results of the ongoing studies. It is with this double purpose in mind--up-to-date monitoring and reporting-- that two surveys are planned per year, and not just one.

4. For purposes of illustration (exact specification will follow a pilot study to be conducted before the first baseline study), certain variables are listed under "Conceptual variables", below. In general, however, the variables to be studied and reported on will fit into one (or more) of the 21 cells in the following matrix.

Level and category of variable	Function of variable		
	Independent	Intervening	Dependent
<u>Respondent</u>			
Sociological	Cell 1	Cell 2	Cell 3
Psychological	4	5	6
Behavioral	7	8	9
<u>Municipal</u>			
Background	Cell 10	Cell 11	Cell 12
Behavioral	13	14	15
<u>Agency</u>			
Institutional	Cell 16	Cell 17	Cell 18
Individual	19	20	21

The "functions" of the variables distinguished here are three: that of the independent variable, the dependent variable, and the intervening variable. A dependent variable is a "pay-off" variable (for example, per-capita income), a significant increase in which will be taken as a success indicator for the BRBDP or some portion of its overall plan. An independent variable is a prime mover of some kind, hypothesized to lie behind the success recorded by the observed level of the dependent variable (for example, the completion of a feeder road connecting outlying barrios to a central market site). An intervening variable is a connecting, catalytic, or damping variable which serves to activate the independent variable in relation to a particular subject or site (an example might be participation by a respondent in an existing marketing system; net income might be the dependent variable, and the market system's extension into the respondent's municipality the independent variable).

#### Hypotheses and Assumptions

1. Hypotheses. Basically, two different hypotheses are suggested: (a) the null hypothesis, which states that, in terms of development variables, there is no significant difference between those municipalities and respondents which are participating in BRBDP development innovations and those which are not; and (b) the correlational hypothesis, which states that the improvement of municipalities and respondents, in terms of development

variables, varies directly with their participation in the Bicol River Basin Development Program.

2. Assumptions. Aside from the usual practical assumptions one must make about the validity of self-reported observations (respondent data) and the likely level of response error, the following two understandings deserve explicit mention. It is assumed:

- a. That an error tolerance of 7 percent and a 95-percent confidence limit are agreeable for purposes of the annual surveys; and for the midyear surveys, a tolerance of 10 percent (confidence limit, 95 percent).
- b. That the study will be limited to the two cities and 21 municipalities listed in the sampling design and that no additional controls will be included.

#### Conceptual Variables

The variables with which the research is concerned may be divided, first, into (1) respondent, (2) municipal, and (3) agency variables. Respondent variables may be (a) sociological, (b) psychological, or (c) behavioral. Agency variables may be characteristics of (a) institutional or (b) an individual.

1. Respondent variables are selected characteristics of individual respondents or respondent households.<sup>3</sup>

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<sup>3</sup> Selection will be based on the likelihood that a particular variable will be significantly related to the development which is to be measured. The same criterion will guide the selection of municipal and agency variables.

Three kinds of variable will be asked for:  
(a) sociological (census-type data, including among other items/income and expenditures, housing, and for the farm sample/farm data),  
(b) psychological (knowledge, opinions, beliefs, feelings, attitudes, and standards of action),  
and (c) behavioral (activities, including for the farm sample/farming activities and accomplishments, especially productivity).

2. Municipal variables are selected characteristics of a particular municipality or city. Two kinds of variables will be asked about: (a) background (location, land-use pattern, municipal class, population, size, density, farm-related variables, services and facilities available see Fujimoto 1965, and so on), and (b) behavioral (evidences of community solidarity; cooperation and involvement with BRBDP development activities; other development activities, and so on).
3. Agency variables are selected characteristics of certain institutions which are expected to assist one way or another in the development program. Included here would be (a) institutional variables, describing the institution as such (e.g., for a rural bank, its loan record for a given period) and (b) individual variables, about employees of the institution (e.g., the activity schedule of a particular extension agent, or his opinions regarding certain programs or kinds of farmer-respondents).

The above categories of variable may reflect either economic, social, or psychological aspects of the development process. Further, as is illustrated in the matrix presented above (page 7), a variable may have one or more of three different functions in that process.

Variables that will certainly or probably figure in the study are currently being catalogued, but the final list will be prepared during the pilot study that will precede the baseline survey (May-June 1973).

### Empirical Variables

In the course of the pilot study the empirical equivalents of all conceptual variables will be determined and included in the preliminary form of the various interview schedules, questionnaires, and observation schedules.

### Research Method

1. The approach to this field problem will not be genuinely experimental, since individual respondents will not be randomly assigned to the experimental or control groups in the manner of the classical pretest-posttest control-group design (Design 4 in Campbell and Stanley - 1966:13-24-).

2. Nor is it, despite the similarities, that quasi-experimental approach called the nonequivalent control-group design (Design 10 in Campbell and Stanley -1966:47-50-). For even though the groups (municipalities) "constitute naturally assembled collectives . . . as similar as availability permits but yet not so similar that one can dispense with the pretest" (ibid., 47), the assignment of the "treatment" is not at random. That is, the various kinds of assistance given to municipalities will be determined purposively by the BRBDP officials. Nonetheless, since we do have pretests and know who are exposed to what, we do have a design closely approaching the quasi-experimental (see Campbell and Stanley 1966:65).

3. The design is more properly both correlational and multivariate, involving neither classical controls nor randomization (the latter will be present at the respondent level, however).

- a. The correlational aspect of the study will be seen in the investigation we expect to make of the possible correlation between the presence or absence (or intensity) of various independent variables (inputs) and the gain scores on selected dependent variables (for example, family income or agricultural productivity).
- b. The multivariate aspect of the study will lead to multiple-regression analysis, to examine the relation between a dependent variable (family income or agricultural productivity, for example) and two or more predictor variables (input packages).

4. Although the results of this kind of study (correlational, multivariate) will be predictably convincing, it should ideally be followed up by a smaller experimental study, conducted in an area not included in the present development program.

#### Data-gathering Plan

The data on which conclusions will be based are to be found at the respondent, municipal, and agency levels.

1. Instruments. For respondents, personal-interview schedules will be used, whereas on the other two levels interview guides and observation schedules will probably be employed. These instruments will be designed after a pilot study, and will subsequently be pretested before the final forms are decided upon.

2. Selection of study units. The choice of agencies (the institutional sample) to be monitored will be purposive, following consultation with BRBDP personnel, municipal officials, and other knowledgeable informants.

The administrative units (municipal sample) to be studied have already been selected by officials of the BRBDP. It has been decided that research will be done exclusively in the province of Camarines Sur (which currently has two cities and 35 municipalities), but that 14 of the province's municipalities will not be included. The places to be studied, classified by land-use region and predominant crops, are the following.

Region	Predominant crops	City/municipality	
Bicol River Meander zone	Wet rice	Bombon Cabusao Camaligan Canaman	Gainza Magarao Milsor
	Wet rice, coconut	Bula Libmanan Minalabac	Pamplona San Fernando
	Coconut, wet rice	Naga City	
Bicol Plain	Wet rice, coconut	Bato Nabua	Ocampo Pili
	Abaca	Baao Buhi	Calabanga Iriga City
Sipocot Valley	Dry rice	Lupi	Sipocot

Respondents will be chosen randomly according to the sampling plan explained below (numbers 3 and 4).

3. Survey respondent sampling plan. Within each city/municipality, semiannual-survey respondents will be interviewed in the poblacion and in two randomly selected barrios.

The total number of survey respondents in each city/municipality will be 125 for the May-June round and 60 for the November-December round; in all, this comes to 2875 interviews at the beginning of the wet season and 1380 at its close. This number will be sufficient for a permissible error of 7 percent and 10 percent, respectively, and a confidence limit of 95 percent (see assumption a, page 9).

The total number of these survey respondents will be divided proportionally among the poblacion and two barrios. Actual choice of respondents will be accomplished randomly following mapping, zoning, and household listing.

No distinction will be made between farm and nonfarm households, nor between farm households in which a member is a farm operator (owner, lessee, or tenant) and others in which there is no operator, only a non-operating owner or a farm laborer. This policy is adopted because (a) the purpose of the development program is to affect the general population, at least indirectly, and not merely the farm operators; and (b) farm operators will by random selection be abundantly represented, especially in the barrio sample of each municipality.

4. Selection of other respondents. Smaller samples will be drawn of special categories of individuals, such as compact farm manager, rural-bank or other agency managers, or landlords with tenants (or lessees, or amortizing owners). Selection here may be purposive, within the particular municipality or city.

Time Schedule

In drawing up the timetable presented below, it was assumed that both the BRBDP and its accompanying research efforts would take about one year to reach maximum strength. This is reflected in the fact that only one survey round is planned for the 12-month period beginning May 1973; it is also reflected in the slow build-up of permanent district-level personnel, and in the gradual transfer of preparatory and processing functions (except computer analysis) from the IPC, Quezon City, to the Research and Service Center (RSC), Naga City.

1. FY 1974-minus-five months. In the five months prior to July 1, 1973, (February 1 to June 30, 1973), the first agenda will be staff recruitment and development, setting up of a skeleton force and quarters at Naga City, and the completion of a pilot study. After this, survey instruments and interviewer's manuals will be developed and pretested (the aim will be a largely pre-coded, easily processed schedule). By early May, interviewer recruitment, selection, and training will begin, along with the

setting up of district offices for the decentralization of the research.<sup>4</sup> The baseline survey will be conducted in the two cities and 21 municipalities in the month of June.

2. FY 1974. Editing of all completed schedules will be completed at the municipal or district level. By July 15 or so these schedules will be at the IPC, Quezon City, along with selected project staff members to be trained in coding and administrative procedures. After the completion of coding and checking, some of these staff members will also undergo training in the operation of the IBM-type keypunch, keyverifier, and sorter.

This being the first large survey of the series, and many staff members being new to the work, it is advisable to allow about seven months in all for code development, coder training, coding, checking, card punching, computer work, table construction, data analysis, and report writing. It will be recalled that in this pre-rainy-season survey there will be about 2875 respondents.

By February 1974 the district supervisors and their permanent assistants (who will not have come to Quezon City) will have

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<sup>4</sup> At the present time, the following districts are planned:  
(1) Naga district (housed with the project's central office, at the RSC, responsible for surveys and studies of Naga City, Camaligan, Gainza, Milaor, Minalabac, Pamplona, and San Fernando;  
(2) Libmanan, for Libmanan, Cabusao, Lupi, and Sipooot;  
(3) Magarao, for Magarao, Bombon, Calabanga, and Canaman;  
(4) Pili, for Pili, Bula, and Ocampo; and (5) Iriga, for Iriga City, Baao, Bato, Buhí, and Nabua.

gathered information on municipalities, selected agencies and selected special respondent categories. These data will be analyzed and reported on at the Naga City office of the project.

Between February 1 and April 1, 1974, when preparations will begin for the second major survey, further municipal-level studies may be done. Results of these studies and the survey will be fed back to the BRBDP as they are ready, first in preliminary form, and later in final.

The second survey will be done in June 1974. Editing, once more will be accomplished in the field.

3. FY 1975-79. The pattern to be followed in the year beginning July 1, 1974, and ending June 30, 1975, will be repeated in substantially the same fashion during the succeeding four years (FY 1976-79). The most important change from FY 1974 (above) is the expansion of the survey program to two per year instead of one. However, the time allowed for data processing, analysis, and report writing is also shortened. Furthermore, it is hoped that by July 1974 the RSC office at Naga City will have been provided with a basic set of card-processing machines -- a keypunch and a keyverifier for all studies, and a sorter-counter for those studies which can be done without computer assistance (e.g., studies of compact-farm managers, landlords, and the like).

Assuming that this equipment will be available at the RSC, the schedule for FY 1975 (and succeeding years) will look like this.

Month(s)	Place	Activities
July-August	Naga City (RSC)	<u>Survey A</u> <sup>1</sup> : code construction, coding, checking.
	Study sites <sup>2</sup>	<u>Small studies</u> <sup>3</sup> : data gathering, analysis, feedback
September	Naga City (RSC)	<u>Survey A</u> : keypunching, key verifying
	Study sites	<u>Small studies</u> : data gathering, analysis, feedback
September	Quezon City (IPC)	<u>Survey A</u> : computer processing
October	Naga City (RSC)	<u>Survey A</u> : analysis, report writing, feedback
		<u>Small studies</u> : report writing, feedback
November-December	Naga City (RSC) and study sites	<u>Survey B</u> <sup>1</sup> : preparation for, and conducting of survey
January-February	Naga City (RSC)	<u>Survey B</u> : code construction, coding, checking
	Study sites	<u>Small studies</u> : data gathering, analysis

<sup>1</sup>"Survey A" refers to the May-June survey (N= 2875); "Survey B," to the November-December survey (N = 1380).

<sup>2</sup>By "study sites" are meant the cities and municipalities under study, with analysis of data to be done (or at least started) at the district offices (five in all) of the project.

<sup>3</sup>By "small studies" are meant studies of municipalities, agencies, and selected nonsurvey respondents such as landowners, compact-farm managers, and the like.

<u>Month(s)</u>	<u>Place</u>	<u>Activities</u>
March	Naga City (RSC)	<u>Survey B</u> : keypunching and keyverifying
	Study sites	<u>Small studies</u> : data gathering, analysis, feedback
March	Quezon City (IPC)	<u>Survey B</u> : analysis, report writing, feedback
		<u>Small studies</u> : report writing, feedback
May-June	Naga City (RSC) and study sites	<u>Survey A</u> : preparation for, and conducting of survey

In FY 1979 there will be only one survey (November-December 1978). The final six months of the project (January-June 1979) will be devoted to an analysis of the data collected in that survey, as well as to a review of the entire project. It is expected that a terminal report will be ready by July 1, 1979.

#### ESTIMATED COST OF THE PROPOSED RESEARCH

It is understood, of course, that changes may be called for in the time schedule presented above. Particularly where the sequence of developmental efforts cannot be predicted in detail several years ahead of time, the accompanying research must also be planned with an allowance for flexibility.

Another point which must be made before presenting the budget estimate is this: throughout the proposal it has been taken for

granted that the research and feedback plan to be adopted will include two major surveys per year (A and B), along with additional small studies to be undertaken when freedom from survey work permits. Other "packages", while less desirable (and in some cases practically impossible), can at least be discussed.

There are, conceivably, seven alternatives to the plan described in the preceding pages (Plan 1). They are here labeled Plans 2-8. The principal contents of all eight packages are the following.

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Plan	Error	Municipalities	Components
1	7%/10%	23	Survey A <sup>1</sup> ; Survey B; Small studies
2	7%	23	Survey A; Small Studies
3	7%/10%	23	Survey A; Survey B
4	7%	23	Survey A
5	10%	23	Survey C <sup>2</sup> ; Survey B; Small Studies
6	10%	11	Survey C; Survey B; Small studies
7	10%	23	Survey C; Small Studies
8	10%	11	Survey C; Small studies

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<sup>1</sup>The meaning of Survey A, Survey B, and Small studies is explained in footnotes to the table on page 18, above.

<sup>2</sup>Survey C is scheduled for May-June like Survey A, but with 60 respondents per municipality (not 125, as in Survey A).

Table 1  
**TOTAL BUDGET ESTIMATES FOR BICOL RIVER BASIN DEVELOPMENT  
PROGRAM EVALUATION AND MONITORING SYSTEM, BY FISCAL  
YEAR AND RESEARCH PLAN**

<b>Fiscal Year<sup>1</sup></b>	<b>Plan 1</b>	<b>Plan 2</b>	<b>Plan 3</b>	<b>Plan 4</b>	<b>Plan 5</b>	<b>Plan 6</b>	<b>Plan 7</b>	<b>Plan 8</b>
1974 <sup>2</sup>	P 524,453	P 474,463	P 454,752	P 342,111	P 429,556	P 326,419	P 426,624	P 323,516
1975	449,036	335,770	342,556	188,166	341,137	232,953	301,956	211,261
1976	493,941	369,347	376,811	206,983	375,250	256,248	332,152	232,387
1977	543,334	406,282	414,492	227,681	412,775	281,873	365,367	255,626
1978	597,667	446,910	455,941	250,449	454,053	310,060	401,905	281,189
1979	657,434	491,601	501,535	275,494	499,458	341,066	442,096	309,308
<b>TOTAL</b>	<b>P3,265,865</b>	<b>P2,524,373</b>	<b>P2,546,087</b>	<b>P1,490,834</b>	<b>P2,512,229</b>	<b>P1,748,619</b>	<b>P2,270,100</b>	<b>P1,613,287</b>

<sup>1</sup>Fiscal year begins July 1.

<sup>2</sup>The budget for FY 1974 includes expenses to be incurred in the last five months of FY 1973 (February-June 1973).

Plan 1 is most highly recommended because it offers year-round coverage of the developmental activities, including two large-sample surveys at six-month intervals. The next best package is offered by Plan 2, which contains a large-sample survey in May and June, followed by small studies and feedback throughout the rest of the year.

Plan 3 is undesirable (and Plan 4 more so) because there is no provision for the kind of many-faceted inquiries envisioned by the phrase "Small studies". Plans 5-8 include these continual investigations, but also allow an error of 10 percent in any survey that is done (contrary to Assumption 1, page 9). Plans 6 and 8 additionally reduce the municipal sample from 23 to 11 (contrary to Assumption 2, page 9).

The estimated overall cost of each of the eight plans is shown in Table 1. The IPC strongly recommends that Plan 1 or Plan 2 be adopted. In Appendix 2 (below) will be found the budget details for these two research designs. For purposes of comparison we have also included the projected cost of Plan 8, which represents a minimal effort.

The IPC will be happy to answer questions regarding the research design and budgets presented in these pages.

**BICOL RIVER BASIN DEVELOPMENT PROGRAM  
PROGRAM IMPLEMENTATION NETWORK**

<u>Events</u>	<u>Activity</u>	<u>Description</u>	<u>Timing</u>
A-F	1	Appoint Program Management	FY 73
B-E	2	Develop Program Organization Framework	73
C-F	3	Budget Approval	73
E-F	4	Issue Executive Order Creating Program	73
F-G	5	Program Organization	73
F-H	6	GOP/USAID Negotiation FY73 Pre-Project T.A. Funds	73
F-J	7	Joint GOP/USAID Preparation of Six-Year PROP	73
G-I	8	GOP Contract Negotiations	73
G-J	9	Preparation of FY74 Operational Plans	73
H-J	10	Execute ProAg	73
D-H	11	GOP/USAID Feasibility Loan Negotiations	73-74
I-K	12	Executive Socio-Economic Research Contract	73-74
I-L	13	Execute UPCA/UPIP TAG Contract	73-74
I-J	14	Agreement With DANR Computer Service Center	73-74
J-R	15	Design and Install Program Management Information System	74

<u>Events</u>	<u>Activity</u>	<u>Description</u>	<u>Timing</u>
J-BB	16	Program Integrated Management and Long-Range River Basin Framework Planning	FY 74
J-AA	17	Initiation of Regional Industrial Survey	74
J-M	18	Implement Physical Infrastructure Program	74
J-N	19	Implement Social Infrastructure Program	74
L-N	20	Field TAG Staff (UPCA)	74
L-M	20a	Field TAG Staff (UPIP)	74
K-BB	21	Design and Implement Program Evaluation System	74
N-S	22	Compact Farm Organization and Training Program	74
N-T	23	Agribusiness Project	74
N-U	24	Irrigation Service and Water Management Program	74
N-V	25	Crop Diversification Project	74
N-W	26	Compact Farm Agricultural Equipment and Mechanization Project	74
N-X	27	Livestock & Fisheries Program	74
N-Y	28	Land Reform Program	74
N-Z	29	Agricultural Credit and Rural Bank Expansion Program	74
M-BB	30	Impact Secondary Road Project (PDAP)	74
M-AB	31	Impact Water Resource Program (From USAID Disaster Relief Fund)	74

<u>Events</u>	<u>Activity</u>	<u>Description</u>	<u>Timing</u>
AB-BB	32	Dummy	74
M-O	33	Feasibility Contract--Basin Transportation System	74
M-P	34	Feasibility Contract--Basin Water Resource System	74
M-Q	35	Feasibility Contract--Basin Rural Electrification Program	74
R-BB	36	Dummy	74
O-EE	37	Ongoing Studies--Basin Transportation	74
P-II	38	Ongoing Studies--Basin Water Resources	74
Q-FF	39	Ongoing Studies--Electrification	74
S-BB	40	Dummy	74
T-BB	41	Dummy	74
U-BB	42	Dummy	74
V-BB	43	Dummy	74
W-BB	44	Dummy	74
X-BB	45	Dummy	74
Y-BB	46	Dummy	74
Z-BB	47	Dummy	74
AA-BB	48	Dummy	74
BB-CC	49	Evaluation Year I-- (a) Production Impact (b) Income Impact (c) Employment Impact	74

<u>Events</u>	<u>Activity</u>	<u>Description</u>	<u>Timing</u>
BB-DD	50	FY75 Operational Plan and Budget	74
CC-NN	51	Ongoing Program Evaluation System	74-75
CC-GG	52	Implementation of Social Infrastructure Plans	74
CC-VV	53	Program Integrated Management and Long-Range River Basin Framework Planning	74-75
CC-LL	54	Continuation of Implementation Impact Road and Water Resources Program	74-75
DD-CC	55	Dummy	74
EE-II	56	Dummy	74
FF-II	57	Dummy	74
BB-II	58	Completion of Agribusiness Feasibility Studies	74
AA-MM	59	Initiation of Industry Specific Feasibility Studies in Program Area	74-75
GG-VV	60	Continued Conversion of Sharetenants to Amortizing Owners	74-75
GG-JJ	61	First Semester Compact Farm Organization and Training Cycle	74
GG-KK	62	Continued Expansion Livestock and Fisheries Program	74-75
GG-RR	63	Continued Agricultural Credit and Rural Bank Expansion Program	74-75
GG-SS	64	Expansion of Irrigation Service and On-farm Water Management Project	74-75
GG-TT	65	Expansion of Crop Diversification Program	74-75

<u>Events</u>	<u>Activity</u>	<u>Description</u>	<u>Timing</u>
NH-UU	66	Implementation of Agribusiness Program	FY 74-75
II-HH	67	Dummy	74
II-MM	68	Preparation and negotiation of "First River Basin Development Loan Package" (Flood control, irrigation, Quirino Highway and secondary roads, cold storage, slaughterhouse, and mechanization)	74-75
JJ-OO	69	Second semester Compact Farm Organization and Training Cycle	75
KK-PP	70	Construction of Livestock Slaughter and Cold Storage Facilities	75
KK-QQ	71	Expanded Compact Farm Mechanization Project	75
LL-KK	72	Dummy	75
MM-LL	73	Dummy	75
LL-XX	74	Bidding and Construction of Irrigation Systems and Flood Control Projects	75-76
LL-YY	75	Bidding and Construction of First Secondary Road Package	75-76
LL-ZZ	76	Construction of Quirino Highway	75-76
MM-AAA	77	Continuing Infrastructure Feasibility Studies	75-76
NN-VV	78	Dummy	75
OO-VV	79	Dummy	75
PP-VV	80	Dummy	75
QQ-VV	81	Dummy	75

<u>Events</u>	<u>Activity</u>	<u>Description</u>	<u>Timing</u>
RR-VV	82	Dummy	75
SS-VV	83	Dummy	75
TT-VV	84	Dummy	75
UU-VV	85	Dummy	75
VV-WW	86	Evaluation Year II (a) Production Impact (b) Income Impact (c) Employment Impact	75

BICOL RIVER BASIN COUNCIL

Annex 3

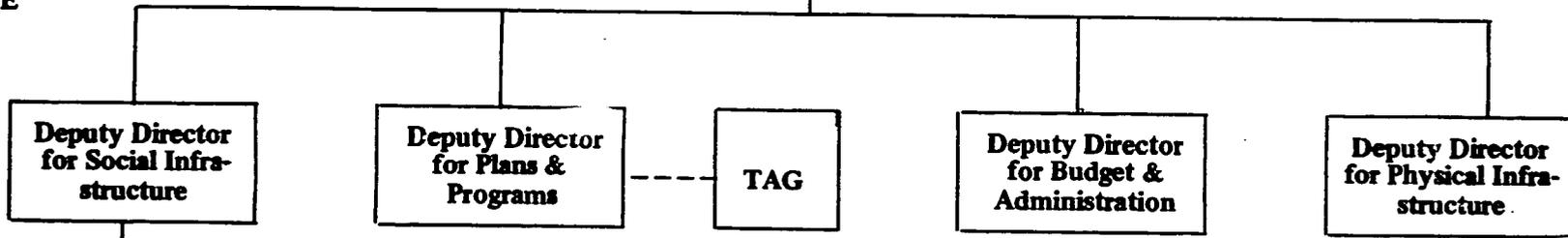
**BOARD  
OF  
DIRECTORS**

<b>Secretary DLCG</b>	<b>Secretary DAR</b>	<b>Secretary DANR</b>	<b>Sec. DPWTC Chairman</b>	<b>Dir. Gen. NEDA</b>	<b>Provincial Governor</b>	<b>Executive Director (Ex-officio)</b>
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**PROGRAM**

**EXECUTIVE DIRECTOR**

**OFFICE**



Implementing Agencies

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