

492-55-199-260

**AIRGRAM**

**DEPARTMENT OF STATE**

~~UNCLASSIFIED~~  
CLASSIFICATION

For each address check one ACTION | INFO

TO - AID/W TOAID A 267

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DATE REC'D.

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Bicol

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DISTRIBUTION ACTION  
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FROM - MANILA  
E.O. 11652: N/A  
SUBJECT - Revision No. 1 of PROP for Bicol River Basin Development Project  
REFERENCE -

Attached is the subject PROP revision which the Mission believes satisfactorily addresses all issues raised by AID/W on the original PROP. In particular, the revised PROP more clearly distinguishes between the GOP Bicol River Basin Development Program and the more limited objectives of the Bicol River Basin Development Project. The project will be reviewed at the end of FY 1975 to determine any changes or modifications required in the project strategy design.

SULLIVAN

Attachment:

~~Attachment~~  
Bicol PROP

DRAFTED BY		OFFICE	PHONE NO.	DATE	APPROVED BY:	PAGE	OF	PAGES
RJDelaney:mvc		Program	458	11-11-74	Thomas C. Niblock, Director			
A. I. D. AND OTHER CLEARANCES								
ODM: JHannon		FO:RCohen		AD/AD:FWSheppard				

~~UNCLASSIFIED~~  
CLASSIFICATION

**I. PROJECT IDENTIFICATION**

**1. PROJECT TITLE**  
**Bicol River Basin Development Project**

**2. PROJECT NO. (M.O. 1095.2)**  
**492-55-199-260**

**3. RECIPIENT (specify)**  
 COUNTRY \_\_\_\_\_  
 REGIONAL \_\_\_\_\_  INTERREGIONAL \_\_\_\_\_

**4. LIFE OF PROJECT**  
 BEGINS FY 74  
 ENDS FY 79

**5. SUBMISSION**  
 ORIGINAL Mar., 1973  
 REV. NO. 1 DATE Oct., 1974  
 CONTR./PASA NO. \_\_\_\_\_

APPENDIX ATTACHED  
 YES  NO

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

A. FUNDING BY FISCAL YEAR	B. TOTAL \$	C. PERSONNEL		D. PARTICIPANTS		E. COMMODITIES \$	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 74	378	28	12	90	51	51	29	230					2,318
3. BUDGET FY 75	524	56	24	88	67	50	30	305				17,400	15,099
4. BUDGET +1 FY 76	295	60	24	55	49	10	25	145				15,000	8,629
5. BUDGET +2 FY 77	221	60	24	88	44	10	25	75				10,000	5,054
6. BUDGET +3 FY 78	150	66	24	42	36	-	25	17				8,000	4,894
7. ALL SUBQ. FY 79	122	33	12	30	25	-	15	44				18,000	3,985
8. GRAND TOTAL	1,750	303	120	281	272	121	149	696				68,400	43,603

**9. OTHER DONOR CONTRIBUTIONS**

(A) NAME OF DONOR	(B) KIND OF GOODS/SERVICES	(C) AMOUNT
Ford Foundation	Survey Research	\$100,000

**III. ORIGINATING OFFICE CLEARANCE**

**1. DRAFTER**  
**D.L. Tinsler, AD; R. Delaney, PO**

**2. CLEARANCE OFFICER**  
**Thomas C. Niblock, Director**

**TITLE**  
**Project Rep. & Asst. Prog. Off.**

**TITLE**  
**John Shannon, Deputy Director**

**DATE**  
**Nov. 5, 1974**

**IV. PROJECT AUTHORIZATION**

**1. CONDITIONS OF APPROVAL**

**2. CLEARANCES**

BUR/OFF.	SIGNATURE	DATE	BUR/OFF.	SIGNATURE	DATE
AD/AD	<i>[Signature]</i>	<i>[Date]</i>	AD/PD	<i>[Signature]</i>	<i>[Date]</i>
PO	<i>[Signature]</i>	<i>[Date]</i>	DPO	<i>[Signature]</i>	<i>[Date]</i>
AD/CD	<i>[Signature]</i>	<i>[Date]</i>			

**3. APPROVAL AAs OR OFFICE DIRECTORS**

SIGNATURE	DATE	SIGNATURE	DATE
<i>[Signature]</i>	<i>[Date]</i>	<i>[Signature]</i>	<i>[Date]</i>

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

SIGNATURE	DATE
<i>[Signature]</i>	<i>[Date]</i>

ADMINISTRATOR, AGENCY FOR INTERNATIONAL DEVELOPMENT

## BICOL RIVER BASIN DEVELOPMENT PROJECT

### 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 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.<sup>1</sup> The selection of the Bicol River Basin watershed area for development follows from the coincidence of the assets of a rich agricultural base and a progressive farm community, on the one hand, and problem 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 is one of six priority areas covered by the government's land reform program. The Bicol River Basin Program has been incorporated

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<sup>1</sup> See "Bicol River Basin Development Program" (February, 1973), and "Report on the Province of Camarines Sur and the Lower Bicol River Basin" (September, 1972). These two reports will be referred to in the text of the PAOP as the February report and the September report, respectively. Copies of each report are available upon request from the Bicol River Basin Council.

into the four-year (FY74-77) development program of the National Economic and Development Authority as the government's initial pilot effort in integrated area development. To meet the program's primary goal of increased per capita income, higher productivity and more equitable income distribution among the small farmers living within the target area, the GOA has prepared an integrated development plan comprised of complementary project inputs, in the areas of production organization and crop diversification, tenure reform, livestock and fisheries, agribusiness, agricultural education, credit and extension services, flood control, irrigation, and roads.

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

(a) Assist the Government to create the institutional capability and organizational framework 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.

(b) Assist the Government in their effort to establish the data and feasibility base in key substantive areas of the development program. 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. USAID support in this area is aimed at assisting the Bicol River Basin Council in the preparation of specific programs and projects and supporting technical and feasibility appraisals whereas, the assistance provided in Section (a) above is designed to support the institutional development of the integrated area concept generally and the Bicol River Basin integrated area development program specifically.

## 2. Background

Traditionally, Philippine development plans have been heavily skewed to national economic development where growth in GNP 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. Total family income for the majority of the rural population is at or below the subsistence level while on the other hand a largely urban based minority control a disproportionate share of national wealth. Similarly, a few areas, like Metropolitan Manila, have become increasingly more progressive while other regions, such as the Bicol Peninsula, continue to lag behind in both social and economic terms. Dualism in the country's economy exists not only among social classes, but is manifest as well in a territorial sense.

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

Government policy makers and planners 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 (FY1974-77) was designed, not simply as a tool to promote economic efficiency in the allocation of resources to enable the generation of greater national income, but as an operational strategy designed to attain the equally vital objective of 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 the framework of an integrated plan for a given area. This integrated approach is being pursued at the national and sub-national (regions or parts thereof) levels. It is a multi-disciplined and multi-dimensional exercise utilizing space as the medium for integration.

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 in part 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 development of the manpower and material resources 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 increasing current interest to the GOP, US, and other development agencies, comes into clearer perspective when placed in the context of long-range objectives and development strategies defined in the larger context of regional (or subregional) framework plans. In sum, the Bicol River Basin Development Program is the result 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 would represent 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 integrated planning and area development, the Bicol River Basin Program represents a specific form of area development--the river basin model--which appears to be particularly well suited to achieve the national, economic, and social development objectives within 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 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 majority of small rice and corn farmers to be benefited from tenure improvement as a result of the Land Reform Program live 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), 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 living 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 integrate 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 sub-region is expected to function as a growth pole to stimulate development throughout the region.

The Interagency Committee which prepared the February, 1973 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 PROJECT GOAL

### 1. Sector Goal Statement

The sector goal to which the Bicol River Basin Development Project is expected to contribute is development of the rural sector in the Philippines. The Bicol project will assist in execution of the GOP Bicol River Basin Development Program. Attainment of the objectives of the Bicol Program will make a substantial contribution to Philippine rural development through (a) the development of a major sub-region of the country, the Bicol River Basin, and (b) the successful pilot-testing of an integrated, area development program.

### 2. Measure of Goal Achievement

#### a. Development of the Bicol River Basin (Measurable within 4-15 Year Time Span)

Development of the basin area is defined principally in terms of income, employment, and agricultural production.

- 1) Measurable gain in per capita income among low income residents in the basin area.
- 2) Measurable increase in employment opportunities and decrease in unemployment in basin area.
- 3) Measurable increase in agricultural production in basin area.

Quantification and further definition of the income, employment, and agricultural production objectives is one of the principal priorities of the Bicol Program and will be possible upon completion of the feasibility study and data collection phase of the Program in June, 1977.

#### b. Pilot-Testing of an Integrated, Area Development Program and Institutional Framework (Measurable Within 2-6 Year Time Span)

- 1) Planning, implementation, and monitoring of the Bicol River Basin Development Program by all participating national-level provincial, municipal, and private sector agencies will take place within an integrated and coordinated framework.
  - a) Creation of the Bicol River Basin Council to provide overall policy and management guidance to the Bicol Program.

- b) **Creation of a Bicol River Basin Program Office to plan, coordinate, manage, and monitor implementation of the Bicol Program.**
- 2) **In planning and implementing the Bicol Program, interrelationships will be taken into account systematically and regularly between and among all the projects in each of the Program's major sectors, e.g. planning and implementation of flood control activities will examine the impact of these activities on other projects in other sectors. The objective is to ensure that the projects in each sector contribute to the overall goal of increasing per capita income and decreasing unemployment among low income groups. There will be the criteria or measuring stick for arbitrating conflicting or competing claims among the various projects which make up the Bicol Program. Specifically, projects in water resources, transportation, agribusiness, fisheries, health and nutrition, etc. which are developed under the Bicol Program for financing will reflect inter-sectoral and intra-sectoral relationships.**
  - 3) **Success in development of the Bicol Basin and in planning and executing the Bicol development program within an integrated and coordinated framework will lead to similar integrated area development programs elsewhere in the Philippines. Techniques developed under the Bicol Program will be applied in other integrated area programs.**

### **3. Verification of Goal Achievement**

- a. **Development of Bicol River Basin: Statistics and data compiled by Social Survey Research Unit (SSRU) and other national, provincial, and municipal agencies.**
- b. **Pilot-Testing of An Integrated Area Development Program and Institutional Framework: Independent evaluation by either Philippine or an external institution.**

### **4. Assumptions of Goal Achievement**

- a. **The Bicol River Basin area ranks sufficiently high in national government priorities to insure at least the minimum resource and manpower allocations required for successful program development, planning and implementation.**
- b. **The Government of the Philippines acts to implement the approved government reorganization plan to effectively decentralize project management responsibility and authority for planning and implementation.**

- c. The concept of integrated area development is politically accepted and supported at the national, regional, provincial and municipal levels and is sustainable.
- d. The integrated area development concept is superior to conventional developmental techniques in terms of net costs and net benefits.

**C. PROJECT PURPOSE****1. Statement of Purpose**

Create an organizational structure and institutional capability to formulate, plan, manage, monitor, and evaluate an integrated program of development for the Bicol River Basin, including establishment of a feasibility and data base to permit identification of projects or programs which can be implemented through loan or grant financing from external donors and/or with Philippine Government resources.

**2. Conditions Expected at End of Project (FY 1979) (The dates stipulated below and elsewhere in this report are estimates for completion of project sub-activities)**

- a. Bicol River Basin Council created by June, 1973.
- b. Bicol River Basin Council Program Office (BRBC-PO) created by July, 1973.
- c. All BRBC-PO professional positions defined and staffed and technical criteria for job performance established by July 1, 1975.
- d. Tables of organization, work routines/procedures and inter-agency working agreements defined and in effect for BRBC-PO and all inter-agency working groups by June, 1976.
- e. A comprehensive planning, data generation, budgeting, management information and evaluation system installed and operational by December, 1975. The system will be comprised of the following components:
  - 1) All twelve BRBC Interagency Sectoral or Commodity Task Groups functioning effectively by establishing priorities, defining projects, preparing or monitoring preparation of feasibility studies and pilot projects, and maintaining effective technical supervision of contractors (local and foreign) and participating agencies. Fully operational by June, 1976.
  - 2) BRBC-PO management and planning structure and staff effectively interrelating and integrating Interagency Task Group work and providing overall planning and management direction. Fully operational by June, 1976.
  - 3) Special Fund Account System to fund institutional development activities, feasibility studies and interagency pilot projects fully operational by June, 1975.
  - 4) Management Information System effectively monitoring on a monthly basis project progress and budgetary status of the Program. Fully operational by June, 1975.
  - 5) Social Survey Research Unit systematically conducting socio-economic and technical surveys to support feasibility appraisals

and periodically conducting basinwide panel surveys and publishing results which evaluate and measure impact of Program over time. Fully operational by July, 1974.

- f. Revised plans and targets for Bicol River Basin Program completed by December, 1975. Annual operational plans completed by February every year thereafter.
- g. BRBC and its Program Office demonstrate capability to formulate and prepare programs/projects, negotiate and secure financing from domestic or external donor sources, and manage implementation of program/projects, as follows:
  - 1) Water Resources Program by FY 1978.
  - 2) Secondary and Feeder Roads Program by FY76.
  - 3) Inter-modal Transport Program by FY 1979.
  - 4) Agribusiness Program covering three agribusiness industries or commodities by FY 1976.
  - 5) Agribusiness Program covering all remaining industries and commodities by FY78.
  - 6) Basinwide Compact Farm Program by FY76.
  - 7) Basinwide Crop Development Program by FY77.
  - 8) Basinwide Livestock Program by FY76.
  - 9) Basinwide Fisheries Program by FY78.
  - 10) Basinwide Farm Mechanization Program by FY77.
  - 11) Agriculture College Improvement Program by FY77.
  - 12) Basinwide Health and Nutrition Program by FY77.
  - 13) Municipality Based Integrated Area Development Program:
    - a) Libmanan/Cabusao IAD project by FY76.
    - b) Five additional municipal Based IAD projects by FY79.

### 3. Verification of Purpose Achievement

Progress toward attainment of the project purpose will be determined by the GOP and USAID, with independent assistance if required, through bi-annual evaluation of the project. In addition, favorable reports by external donors on the professional quality of BRBC feasibility studies, data compilation, and project preparation will also be a means of verifying achievement of the institutional development component of the project.

### 4. Basic Assumptions of Purpose Achievement

- a. Managerial and coordinating powers of the Bicol Council and supporting agencies are sufficiently strong and flexible to facilitate completion of all required planning and management activities.
- b. The landlord retention limit covering rice and corn lands will be reduced to at least seven hectares in the River Basin by FY79.
- c. Qualified professional and technical staff can be found within or attracted to the Bicol River Basin Program and can be motivated to carry out high calibre planning, research, and management tasks in close and effective interaction with the implementors and beneficiaries of the plans and projects.
- d. The provincial governments forming a part of the Bicol River Basin area will provide maximum cooperation to the Council and perceive clear benefits to themselves arising out of participation in the Bicol Development Program.
- e. Production incentives for palay are operative and technology for crops other than rice is being developed and extended in the River Basin area.
- f. Private and cooperative sectors can be successfully influenced to accelerate rural bank, farmer organization, and agribusiness expansion.
- g. Line agencies of the GOP actively cooperate and work with the Bicol River Basin Council.

**D. PROJECT OUTPUTS****1. Institutional Capability Outputs (to be evaluated at two year intervals)**

- a. A management study completed by June, 1975 for the design and installation of a comprehensive planning, budgeting, and information system for the BRBC-PO and participating agencies.
- b. Twelve (12) Interagency Sectoral or Commodity Planning and Management Groups established under BRBC-PO auspices by December, 1975.
- c. Six (6) management and planning sub-areas in the Bicol River Basin selected and interagency Area Development Teams organized and area offices under construction by December, 1975.
- d. Technical Assistance Group input in the form of research, project studies, demonstration projects and training programs into the areas of water management, crops, livestock, fisheries, compact farms, agricultural education, and agribusiness. Completed by June, 1977.
- e. Socio-economic and technical surveys conducted by the Social Survey Research Unit (SSRU) of the Institute of Philippine Culture (IPC) to support feasibility studies and "panel surveys" to measure the impact of the Bicol Program overtime. A baseline panel survey will be completed by FY 1976 and repeated periodically. Twelve technical surveys will be conducted each year.
- f. A systems planning simulation model completed by June, 1975. The multisectoral and basin-wide model will enable BRBC and BRBC-PO to gauge the impact of planned activities or projects in one sector of the program on those of other sectors, and will provide an indication of their consequences for the income, employment, and agricultural production objectives of the Program.
- g. Four BRBC-PO technicians trained in the use of the simulation model by June, 1975.
- h. Key personnel from the River Basin Program Office and participating agencies trained in water resources, flood control, land consolidation, on-farm water management, regional planning, and agricultural systems by June, 1979.

2. Feasibility and Pilot Project Outputs (to be evaluated at two year intervals)

a. Water Resources

- 1) Computerized flood control simulation model completed by December, 1974.
- 2) Aerial photography by U.S. Navy covering 400,000 hectares of land within and around the Basin watershed completed by January, 1974.
- 3) Production of photomosaic topographic maps with horizontal and vertical ground control and contours completed by December, 1975.
- 4) Economic land classification survey of approximately 100,000 hectares within Basin completed by December, 1975.
- 5) Comprehensive water resources study for Bicol Basin (financed under USAID Feasibility Studies Loan) completed by June, 1976.
- 6) At least four feasibility grade studies for component projects of the comprehensive water resources plan prepared by June, 1978.
- 7) Water balance and water supply completed by December, 1975.
- 8) Selected hydrometeoro gauging stations rehabilitated and/or upgraded (with USAID financed equipment) by June, 1975.
- 9) Reconnaissance grade geologic investigation of selected dam sites identified to date completed by January, 1975.
- 10) Four on-farm water management pilot projects covering 4,400 hectares established and results obtained by August, 1978. The four projects will develop and demonstrate effective water management practices through training programs for water management technicians and farm leaders.

b. Transportation

- 1) Feasibility appraisal for a secondary and feeder road program for the Bicol River Basin completed by December, 1974.
- 2) Intermodal transport feasibility study completed by December, 1975.

c. Agribusiness

- 1) Development of a comprehensive agricultural data base and methodology for the Basin (supply/demand, market channels, commodity projections) by June, 1975.
- 2) Preparation of first-phase study program covering at least three industry or commodity studies to guide public sector, private sector, and cooperative investment in agribusiness by June, 1976.
- 3) Development of second phase agribusiness study program for all remaining industries and/or commodities and preparation of a time-phase program for implementation by June, 1977.

d. Crops

Five pilot research and demonstration projects established and evaluated including farm record-keeping sub-component by June, 1976. (USAID support will be provided through the Small Farmer Income and Production Project.)

e. Livestock

Two swine and two cattle breeding and fattening pilot projects involving 14 herds and 320 farmers completed by June, 1976. (USAID support will be provided through the agribusiness consultant services of Kansas State University.)

f. Fisheries

- 1) Inland fisheries survey and study completed by June, 1975.
- 2) Five inland fisheries research and demonstration projects established by June, 1976.

g. Mechanization

- 1) Two pilot integrated Farm Mechanization Units composed of one compact farm test group and one Samsang Mayon test group established and evaluated by June, 1976.

h. Agricultural Credit

Ten new rural banks created and "full-farm financing" program operational in eight rural banks by June, 1977. (USAID support will be provided through the Small Farmer Income and Production Project.)

**i. Land Reform and Cooperatives**

- 1) 19,500 land transfer certificates issued in Camarines Sur by June, 1979, for all tenanted rice and corn land.
- 2) 2,000 compact farms organized by June, 1979.
- 3) Training or re-training of 160 technicians annually in compact farm practices/techniques and 300 compact farm leaders annually in compact farm management completed by June, 1979. (The major portion of USAID support will be provided through the USAID Agrarian Reform Project.)

**j. Agricultural Education**

Feasibility study to assess physical, curricular, and manpower requirements for the improvement of Camarines Sur Agricultural College completed by June, 1975.

**k. Health and Nutrition**

- 1) Design, construction, and pilot-testing of three small-scale barrio-level water supply systems completed by June, 1977.
- 2) Rural potable water supply feasibility study for basin municipalities of populations of 30,000 or less completed by December, 1976.
- 3) Feasibility study for establishment and/or improvement of municipality-based health and nutrition centers completed by June, 1976.

**l. Municipal-Based Integrated Area Development Projects**

- 1) Feasibility study to assess technical and economic viability and determine capital requirements for Libmanan/Cabusao Integrated Area Development Project completed during FY75.
- 2) Feasibility studies for at least six municipal or multi-municipal rural development projects (one each within the six Agricultural Development Areas of the River Basin), including irrigation and drainage, secondary and farm-to-market roads, land consolidation and water management, compact farm organization and development, and health and nutrition delivery systems, completed by June, 1978.

## 2. PROJECT INPUTS

## 1. U.S. Personnel and Contract Identification

<u>INPUTS</u>	<u>MAINTENANCE</u>	<u>VERIFICATION</u>	<u>TARGET</u>
a. Management/planning advisor	1 each year; life of project	bi-monthly report, end of tour report and PAR	FY74-79
b. Economist/planner and/or engineer	48 mm life of project	bi-monthly report, end of tour report and PAR	FY75-78
c. Systems planning simulation model	60 mm life of project	interim reports and final contract reports	FY74 & FY75
d. Evaluation			
(1) Socio-economic research contract	1440 mm life of project	annual bi-annual period economic survey and 12 technical studies annually	FY74-79
(2) Bi-annual evaluation contract	6 mm life of project	contract evaluation reports	FY75 & FY77
e. Water Resources			
(1) planning engineer	24 mm life of project	quarterly report, annual report, end of tour report, PAR	FY75-77
(2) planning engineer	2 mm life of project	final contract report	FY73
(3) flood control contract	36 mm life of project	quarterly reports final contract report	FY74-75
(4) comprehensive planning seminar contract	8 mm life of project	training materials and seminar evaluation reports	FY75 & FY76
(5) on-farm water management			
(a) water management advisor	48 mm life of project	quarterly report, annual report, end of tour report PAR	FY75-78
(b) water management research contract	48 mm life of project	quarterly report, annual report, research studies	FY75-78

(6) land classifica- tion advisory support	6 mm life of project	training material and of tour report	FY75
(7) geologist	3 mm life of project	final contract report	FY75
(8) water balance/ water supply study	20 mm life of project	quarterly reports final contract report	FY75
(9) hydraulic engineer	2 mm life of project	final contract report	FY74
<b>f. Transportation Feasibility Study</b>			
(1) Feeder road feasibility	3 mm life of project	final contract report	FY74
(2) Intermodal feasi- bility	6 mm life of project	final contract report	FY75
<b>g. Agribusiness systems contract</b>	13 mm life of project	final reports, specialist technical report	FY75-76
<b>h. Fisheries Economist</b>	3 mm life of project	final contract report	FY75
<b>i. Mechanization (Grain Storage)</b>	10 mm life of project	quarterly reports and final contract report	FY75-76
<b>j. Potable Water Pilot Project contract</b>	10 mm life of project	quarterly reports and final contract report	FY75-76
<b>k. Agricultural Education contract</b>	9 mm life of project	final contract report	FY75
<b>l. Municipality Based Integrated Area Dev- elopment Project: Sub-Regional Feasibi- lity Study</b>	To be determined	final contract report	FY75

Project No. 492-55-299-260--Bicol River Basin Development  
Project Inputs

Pre-Project Funding Under  
Agricultural Services  
Proj. No. 492-55-299-260

	73	74	75	76	77	78	79
2. U.S. Dollar Cost (\$000)							
a. Personnel							
(1) Management & Planning							
(a) Direct Hire							
- Mgt & Planning Advisor		28	28	30	30	33	33
- Economist/Planner			28	30	30	33	
(b) Contracts							
- Systems Planning Simulation Model	50		25				
- Socio-economic Research		29	30	25	25	25	15
- Bi-annual Eval Contract			16		20		
(2) Water Resources							
- Planning Engr (PASA or Contract)			45	45			
- Flood Control Simulation Model (AIT)	50						
- Planning Engr (PASA, USER)	12						
- Comprehensive Planning Seminar (PASA, USER) Series			30	20	20		
- On-Farm Water Mgt Advisor & Research Contract	45	68		45			
- Land Classification Advisory Support (PASA, USER)			15				
- Geologist (PASA, USER)			15				
- Water Balance/Water			23				
- Hydraulic Engineer (U.S. Army Corps Engr)			10				

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	73	74	75	76	77	78	79
(3) Transportation Consultancy							
- Feeder Road Feasibility (Trans/ econ. and engr)							
- Intermodal Feasibility Study		32	40				
(4) Agribusiness Systems Contract							
- Ag Econ Engr. Systems, etc.	8	60		35			44
(5) Inland Fisheries							
- Fisheries Economist			15				
(6) Mechanization Contract							
- On-farm Storage Pilot Proj (Thailos)		4	22				
(7) Health, Nutrition & Sanitation Proj							
- Project Feasibility Study							
- Pilot Potable Water System		3	12		35	17	
(8) Agricultural Education: Land Grant College Contract (Feasibility Study for CamSur Agricultural College)			30				
(9) Municipality Based Integrated Area Dev- elopment - Feasibility Study			150				
Sub-total Personnel	162	287	471	230	160	104	22
b. Participant Training							
(1) Water Resources							
- 8-month Diploma Program (AIT)							
- 5-men per year FY74-75; (2-men FY75; 1 man FY77)		19	20	8	4		
(2) Flood Control, U.S.							
(1 man/year, 6 mn/FY74-76)		9	10	10	10		
(3) Land Consolidation							
(Short-term, 9 man/year, FY74, 75, 76, Third Country)		12	13	13			

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	75	76	75	76	77	78	79
(4) <u>On-Farm Water Management</u> (4 man, 3 mm, FY76, 77, Third Country	7			15	15		
(5) <u>Regional Planning--Short Course</u> (1 man, 6 mm, FY75, 76, & 77; Third Country or U.S.)			8	9	10		
(6) <u>Agricultural Systems</u> (1 man, 12 mm, U.S.)--FY75; 1 man, 12 mm, FY77)							
<b>Sub-Total Participant Training</b>	<u>7</u>		12		12		
<b>c. <u>Commodities</u></b> Office & planning equipment, vehicles, hydrometer equipment, computer support equipment, (new and excess) soils laboratory equipment.		<u>40</u>	<u>62</u>	<u>22</u>	<u>21</u>	<u>42*</u>	<u>20*</u>
<b>d. Total U.S. T.A., Project Funding</b>	<u>23</u>	<u>21</u>	<u>20</u>	<u>10</u>	<u>10</u>		
<b>*To be defined based on Basin's needs during FY76 and 77:</b>	<u>127</u>	<u>378</u>	<u>434</u>	<u>225</u>	<u>221</u>	<u>150</u>	<u>122</u>

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3. GOP (P000)

a. Management & Planning

(1) Operating Budget

(2) Contracts

- SBRU

- TAG

- Mgmt Systems Installation

b. Intermediate Projects

(1) Water Resources

Comprehensive Water Res. Study & Follow-up  
Feasibility Appraisals

(2) Topographic Mapping

(3) Land Classification

(4) Hydro-meteor Data Generation

(5) On-Farm Water Mngt Pilot

(6) Transp Feasibility

(7) Agribusiness Feasibility

(8) Crops

(9) Livestock

(10) Fisheries

(11) Mechanization

(12) Land Reform Cooperatives

- Compact Farms

- Land Consolidation Pilot Project

(13) Agricultural Education

(14) Health, Nutrition & Sanitation

- Potable Water Pilot Project

- Feasibility Study

	73	74	75	76	77	78	79
	1500	1700	1900	2100	2300	2500	2600
	120		130	145	160	175	195
	204		150	150	100		
			250				
		700	500 <sup>1</sup>	1000 <sup>1</sup>	1000 <sup>1</sup>		
		2200					
		266	300	400			
		300	100	100	100		
	394	7500	200	200	200	200	
		300					
	100	250	100				
		47	50	55	60	60	73
		61	67	74	81	89	98
		75	82	90	99	108	118
		300	500				
		200	220	240	264	290	319
		1200	3400				
			200	300	330	363	
			300				
			200	200	200	200	

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	73	74	75	76	77	78	79
(15) Sub-total Operating Budget & Operating Capital	<u>2318</u>	<u>15099</u>	<u>8649</u>	<u>5054</u>	<u>4894</u>	<u>3985</u>	<u>3603</u>
(16) Agricultural Credit <sup>2</sup> Sub-Total		<u>17400</u>	<u>15000</u>	<u>10000</u>	<u>8000</u>	<u>18000</u>	
(17) Total, GOP	<u>2318</u>	<u>32499</u>	<u>43649</u>	<u>15054</u>	<u>12894</u>	<u>21985</u>	<u>3603</u>
c. Long-Range Projects							
Investment requirements to be determined upon completion of feasibility studies.							

<sup>1</sup> Pulentuna Reservoir, Bolongay Tidal Barrier, Bicol-Ragay Flood Control Irrigation Project, Ground Water and Other Projects.

<sup>2</sup> Revolving Capital Funds from Central Bank, FEIDA, and/or USAID sources.

## F. FUTURE COURSE 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. First, the government has made it a matter of policy to use integrated area development programs as one important means of promoting regional development. 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.

Second, the President has signed Executive Order 412 (Annex 1) creating the Bicol River Basin Council, to determine policy and oversee management of the River Basin Program. Concurrently, the President appointed a respected Bicolano business leader as the Executive Director of the Program and released the first year's budget as outlined in the February, 1973 interagency report, the Bicol River Basin Development Program.

The Bicol River Basin Council has a Board of Directors composed of the Secretary of Public Works, Transportation and Communication as Chairman, the Director General of the National Economic and Development Authority, the Secretary of the Department of Agriculture, the Secretary of the Department of Agrarian Reform, the Secretary of the Department of Local Government and Community Development, the Provincial Governor of Cagayan Sur and the Program's Executive Director, as members. Integrated control of the Bicol River Basin Development Program will be effected through the Council and the Executive Director who is the senior non-elected government representative in the program area. In order to insure program integration, the Council has been given the authority to review and approve/disapprove plans and proposed expenditures of funds of all participating agencies. The focus of River Basin intermediate and long-range planning is centered around a decentralized Program Office located in the project area, which was specifically created to oversee planning and management of the River Basin Program. The Program's Policy Council and office structure is presented in Annex 2.

The legal powers and budget control measures granted the Council, when coupled with Executive leadership, the decentralized organizational structure and the expected professional competence of the technical staff,

should enable management of the Program Office to efficiently design, manage, and monitor the development program on an integrated basis.

In preparing the organizational and management framework for the Bicol River Basin Program, the Bicol Council has articulated several management and planning premises which underlie the government's conceptual approach to planning and development in the Bicol River Basin. These premises are presented below:

- Planning for integrated area development must be continuous.
- Management and planning should be decentralized.
- Management and planning must be participatory in nature, combining the scientific knowledge and skills of technical experts with local leadership, both public and private.
- Planning for subregional integrated area development must be linked with regional and national plans.
- Planning must be linked with research and experimentation.
- Planning must be directly linked with implementation.
- The Bicol River Basin Program is to be planned over time on a comprehensive basis; comprehensive in the sense of cutting across all sectors and agencies in the geographically delimited Basin area; over time in the sense that full integration of the sectoral activities traditionally pursued by line agencies can only be accomplished gradually as effective planning, budgeting, and control systems are developed.

The approach of the Government to the integrated area development of the Bicol River Basin as articulated through these "premises" will require some fundamental changes in field level implementation of current sectoral programs. As the first area development program to be moved from plan to implementation, the Bicol River Basin Development Program will serve as a "field laboratory" where new ideas will be tested and experience gained in the implementation of a geographically delimited, yet complicated, river basin area development program.

## 2. Implementation Plan Highlights

Outlined below is a description of the management, planning, evaluation, and component project development activities to be addressed by ERBC

management and partially supported by USAID over the six-year life of the Project (FY74-79). The Bicol River Basin Program will be jointly evaluated by the GOP and USAID bi-annually during the six-year intermediate phase (i.e. at the end of fiscal years 75, 77, and 79). Upon completion of each bi-annual review the PDBP will be jointly revised to reflect any changes in direction or substance of the program and to insure that USAID support is addressed to key areas and that the level and nature of USAID support is appropriate and sufficient to insure attainment of the project purpose.

Following are specific program and project activities to be initiated by the Council and supported by USAID during FY74 and 75 within the context of the overall six-year intermediate phase plan of the Bicol River Basin Program (see February Report for details). Both the GOP and USAID have agreed to this staged approach to Bicol River Basin Development given the fact that within the Philippine administrative and development environment this project is without local precedent. The River Basin Program's pilot nature and comprehensive scope require flexibility on the part of the Government and USAID in tailoring the program to meet changes in the institutional and field environment that will result as program implementation goes forward.

The introduction of the bi-annual evaluation of the project and the anticipated revisions and/or fine tuning of program strategy and inputs following these periodic evaluations should provide the needed forum for the GOP and/or USAID to introduce changes or modifications in program strategy and inputs that may be required.

In addition to the USAID support outlined below, the GOP is expected to actively solicit other donor participation in the Bicol River Basin Program where this seems appropriate.

#### A. Program Management and Planning

##### (1) The GOP Program

(a) Program Management. Throughout FY74 and FY75 Basin management will focus on recruiting staff, designing and installing management, planning, and information systems in addition to the carrying out of the required data generation, feasibility and planning activities associated with six-year intermediate development phase. FY74 and FY75 can be considered the crucial institutional development period during which time the program will demonstrate its capability to design and install management systems which can horizontally integrate, at the Basin and national level, the different sectoral and agencies programs. Beyond

the task of staffing and organizing the planning and related work of the Council Program Office, located in Canaman, Comarines Sur, the institutional development work will focus on:

Planning and Management Task Groups

- Organizing and activating Interagency Planning and Management Task Groups which will be charged with preparing and managing the different sectoral programs and integrating these sectoral programs into the overall Bicol River Basin Plan.

Special Fund Account

- The design and activation of a Special Fund Account mechanism, the purpose of which will be to provide a centralized account, funded by the National Treasury, member line agencies, and international lending institutions, from which program management can draw funds to finance interagency programs in an administratively efficient and direct manner.

Management Information System

- The design and installation of a Management Information System which will allow programs to be monitored on a systematic interagency basis.

Advisory Committee

- The creation of a Bicol River Basin Advisory Committee composed of leaders from provincial, city, and municipal government, the private sector, the Church, and the River Basin Program Office, for the purpose of maximizing local leadership participation in the program management and planning process.

Agricultural Development Areas

- The creation of Interagency Area Development Teams to serve the six agricultural planning and management sub-regions of the River Basin. Each team, working out of Agricultural Development Area (ADA) offices, will be charged with generation of planning data on the input side and with execution of the various River Basin projects planned for each sub-region on the output side.

The establishment of this management system is regarded by the government as an applied experiment. In fact, every component of the Program's

philosophy, legal, organizational structure, and management and planning processes are considered experimental in nature. All components are subject to change based on the results and lessons learned in the course of Program implementation.

(b) Planning. The Bicol River Basin Program Office staff and the duly constituted Interagency Planning and Management Task Groups are responsible, as noted above, for preparing the overall Basin development plan and interrelating the various sectoral and agency programs to the overall Basin plan. The Executive Order creating the Bicol River Basin Council has vested the Council with power to review and subsequently approve/disapprove action plans and budgets of all line agencies represented on the Council Board. Through the planning responsibilities of the Bicol River Basin Program Office and its supporting Interagency Task Groups and the Council review powers, the integration of River Basin development activities is expected to be achieved. A revision of the initial Bicol River Basin Program (February Report) will be completed by June, 1975.

A 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) has measurably strengthened the capabilities of the Program Office. The UPIP/UPCA Technical Assistance Group (TAG) insures the availability of high calibre physical and agricultural planning expertise to support project planning including 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 (1974-77) which will gradually phase out as capabilities of the Program Office increase.

It is important to note that the management and planning structure, as described above, 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 effort in the program area.

## (2) USAID Institutional Development Support

USAID has been requested to provide assistance to support the institutional development of the basin's integrated management and planning systems. USAID anticipates providing the following support:

Direct-Hire Management/Planning Advisor

- One Direct-Hire Management/Planning Advisor to provide overall management, planning, programming, and evaluation assistance to the Basin staff. He will also manage the input of USAID's grant assistance and coordinate River Basin requests to AID for capital financing. The position has been budgeted from FY74-79, subject to bi-annual GOP/USAID review.

Economist/Planner

- One economist/planner to be resident in the project area. The advisor will provide assistance to the River Basin planning and management staff in:

1. Preparation of the overall Bicol River Basin data generation system;
2. Preparation of regional, River Basin, and municipal plans;
3. Economic evaluation of component projects of the River Basin Program.

In the event that USAID finances one or more capital projects which require detailed engineering and construction monitoring, this advisory position will be changed to an engineering backstop beginning either FY77 or 78.

The position has been budgeted for FY75-78, subject to bi-annual GOP/USAID review and continuing need.

Systems Engineering Consultancy

- At Government's request, USAID contracted during FY73 on a pre-project basis under the Mission's Agricultural Services Project with the Asian Institute of Technology to develop, in support of River Basin Planning activities, a dynamic, interactive computer model to simulate the planned development of the Bicol River Basin area with respect to the interfaces of agriculture, industry, water resources, transportation, population growth, and urban development. The purpose of this contract is to develop a Bicol River Basin specific simulation model which will enable Basin planners to predict the intersectoral impact of specific sectoral development activities (e.g., water resources) on other sectors, as well as provide an indication of the

employment, production, and income impact of planned projects or groups of projects on Basin population, production, and income. The model will be operational by December, 1974 and at that time it is expected that the model will be transferred to a Philippines-based computer. ERRC core group will be trained in the programming, operation, and use of the model. USAID financing for the project is reflected in the U.S. budget under the input section of the PRGP. The primary factor which must be satisfied beyond the obvious consideration that the model demonstrate its practical utility to Basin planners, is the ability of the ERRC to provide sufficient qualified staff to operate and further develop the simulation model.

#### Participant Training

- A six-year (FY74-79) participant training program has been designed for project personnel. The emphasis, through short- and long-term training, will be to develop a professional management and planning cadre, to the extent possible, of Bicolanos, who will fill vital managerial, planning, and technical roles in the long-range development of the River Basin and the Bicol region. A detailed breakdown of the training program is presented in the Input Section of the PRGP.

#### Commodity Support

- To support the development of the Program Office and its satellite Area Development Team Officers a modest complement of office, planning, and logistics equipment is programmed for FY74 through FY77. Additionally, in support of the data generation, engineering and planning components of the program, the provision of computer support equipment (key punch and verifiers) is envisioned. In support of the water resource program, hydrometeorological equipment for gaging stations is planned as well as equipment for the Bureau of Soil's laboratory which is necessary for the land classification program.

#### Relationship of Bicol Project to Other Mission-Supported GOP Programs

- The Bicol River Basin Project is one of several Mission projects which is addressed to improving the socio-economic conditions in the Philippines rural sector. The impact of many of these projects is evident in the Bicol River Basin project area. The major Mission supported programs which have had and will continue to have impact in the project area are:

**Family Planning**  
**Rural Electrification Program**  
**Managana-99 Program and Aquaculture**  
**Operation Land Transfer**  
**The Provincial Development Assistance Project**

These programs are supported by USAID on a nationwide basis and resource allocations to the regions are made by the GOP in Manila. On the GOP side these programs are coordinated and interfaced with the Bicol River Basin Program through the Council and its Manila-based liaison office. To coordinate the Bicol project with other Mission projects a Bicol River Basin Project Review Committee has been created under the leadership of the Deputy Director. The Mission's total grant technical assistance program to the Bicol River Basin Program should be viewed as those inputs provided directly to the Bicol River Basin Council as outlined in this PROF and those inputs provided by other USAID divisions to national and provincial agencies working in the project area. To the extent possible, inputs provided by other USAID projects to agencies working in the Bicol River Basin project area are reflected in general terms in this PROF.

#### Feasibility Study Loan

- For large capital projects requiring extensive feasibility appraisal the Government has formally notified USAID its intent to use the AID Feasibility Study Loan. For example, the Bicol River Basin Comprehensive Water Resources Study, which will be initiated during calendar year 1975, will be financed under the AID Feasibility Study loan. The scope and size of the technical assistance requirement for a given project has been and will continue to be used as the basic criterion to determine whether a specific technical assistance activity associated with the Bicol project should be loan or grant funded. During FY75 or 76, USAID expects to finance under the feasibility loan the feasibility appraisal of the Tivi Industrial Estate Project located in the province of Albay within the geographic jurisdiction of the River Basin Project.

#### B. Project Evaluation

It is the GOP's intent to evaluate the Bicol River Basin Program from two different perspectives throughout the six-year intermediate phase of the Program. First, the program will be evaluated in terms of its impact on income, employment, and production in the project area. The institutional development and performance of the program will be carefully followed, evaluated, and documented on a bi-annual basis to (1) insure

attainment of the project purpose; and (2) to develop a case history of the Bicol River Basin Program to facilitate replication of the program in other River Basin Watersheds over time. USAID will support both of these evaluation efforts.

(1) Evaluation of Program Impact

(a) The GSP Program. Measurement of the Program's progress towards its stated objectives of increasing income, employment, and production in the project area will be accomplished through a contract with the Institute of Philippine Culture (IPC) in conjunction with a local university in the program area. This evaluation project will be carried over the six-year (FY74-79) intermediate phase of the program. The initial contract funded during FY74 by the NEDA, USAID, and the Ford Foundation led to the creation by the IPC of the Bicol River Basin Social Survey Research Unit (SSRU) attached to the Program Office. During FY74 the SSRU conducted the initial socio-economic baseline survey of the project area involving 3,300 respondents in the 31 municipalities within the Camarines Sur portion of the River Basin. The principal variables to be investigated include family and per capita income, agricultural productivity and employment. These assessments will be repeated periodically with substantially the same set of household heads. In addition to the conduct of this panel survey the SSRU has been charged by River Basin management with responsibility for designing data generation programs and subsequently collecting and analyzing data in support of River Basin project feasibility appraisals. Finally, the SSRU has been and will continue to evaluate field programs of member line agencies in order to feed back information on field performance and direction to the Council and regional and Manila offices of responsible line agencies. During FY74 the SSRU conducted an indepth evaluation of the Masagana-99 program, including performance of extension workers, in the province of Camarines Sur. The field performance of the Department of Agrarian Reform's Operation Land Transfer within the River Basin will be evaluated during FY75. A detailed description of the SSRU evaluation system is contained as Annex 3.

(b) USAID Support. USAID will provide annually, subject to availability of funds, a grant to the Bicol River Basin Council to finance approximately one-half of the contract cost over the six-year

intermediate phase of the program as presented in the input section of the PPOP, the balance to be provided by the GOP and other interested donors such as the Ford Foundation.

**(2) Bi-annual Program Review and Evaluation**

**(a) The GOP Program.** The GOP concept of integrated area development as represented by the Bicol River Basin Project constitutes a new and distinct departure by the GOP from the traditional sectoral approach to planning and project execution. As might be expected given the newness of the approach there are within Government policy and planning circles a variety of definitions as to what constitutes "integrated area development", and beyond this definitional question, what constitutes the best approach to integrated area development in the Philippines. Recognizing these differences in definition and approach, the GOP has embarked on several integrated area development projects, of which the Bicol River Basin Program is the most advanced, with the intent that as experience is gained from these pilot projects a common policy and approach will emerge which is best suited to the Philippine administrative and development environment.

With this end in view the GOP and USAID have agreed to bi-annually review, evaluate, and document the Bicol River Basin Program experience in order to provide guidance to policy makers and planners on the appropriateness and effectiveness of the planning, organization, budgetary, and management strategies and systems utilized by the Council in executing the Bicol River Basin Integrated Development Program. Additionally, the bi-annual review will enable both the GOP and USAID to evaluate the nature and level of resource commitments to the project and determine whether these commitments are appropriate and sufficient to insure attainment of the project purpose. After completion of each bi-annual review the Bicol PPOP will be accordingly revised.

**(b) USAID Support.** For each bi-annual review scheduled for FY75, 77, and 79 USAID will provide, for two man-months, one direct-hire evaluation officer and will contract for appropriate supporting expertise from the U.S. private sector or appropriate government agencies such as the Tennessee Valley Authority. The USAID team will jointly evaluate the project in conjunction with a Philippine government evaluation team.

**C. Component Projects.** On the basis of the February, 1973 report and subsequent planning studies, Basin management, during the six-year intermediate phase (FY74-79) of the program, will focus on the planning and execution of twelve interrelated programs or projects. Each

of these programs/projects are briefly discussed below along with a description of the planned USAID inputs in support of the respective programs or projects.

(1) Water Resources

(a) The GRP Program. The objective of the Bicol River Basin water resources program is to develop to the extent possible, all supply and service alternatives to maximize supply and delivery of water for irrigation, domestic, and industrial uses and to minimize the impact of flooding in the Bicol River Basin area. Development of the Basin's water resources potential is being approached in a systematic and comprehensive manner, where all possible projects are seen as individual components of the overall water resources development program which, in turn, is a component program of the overall river basin development scheme.

Water resources development is being approached from two different levels. From the Basinwide perspective, a program of comprehensive study and data collection has been initiated which is expected to produce a Basinwide plan and investment program for irrigation and flood control to be executed over a ten to fifteen-year time frame. A U.S. firm, possibly in conjunction with a local Philippine firm, will conduct the comprehensive water resources study. The study, to be initiated during FY75, will be financed under the AID feasibility study loan. From a shorter term perspective, River Basin management will initiate and institutionalize a water-use program aimed initially at existing irrigated areas where farmers and technicians will be trained in the use of modern water management practices, and systems will be physically upgraded to facilitate adoption of improved on-farm water management practices.

To accomplish the latter objective, a Water Management Training and Research Center will be located at the Comwines Sur Agricultural College in Pili. The Center will serve as the Water Management Project headquarters and will be staffed by an interagency team composed of water management, engineering, extension, farm organization, and training specialists. The project will also be supported by resident and senior TAG consultants.

Government extension technicians from the RAE, NIA, DAR, and the DLGCD and selected farm leaders will be trained in all aspects of water management including technical as well as organizational and institutional considerations. During FY74 four field pilot locations in four different irrigation systems will be rehabilitated and improved to an extent that will meet requirements for the application of modern water management practices. Several different physical designs and management packages will be field tested in these four systems to determine the optimum combination of design and management practices to produce maximum production at least cost. In each of the four systems irrigators associations will be organized and farmer leaders trained in water management and system

operation and maintenance at the training center. By the end of the four-year pilot project, Basin management expects to be able to adopt a system design and irrigator association and management model for Basinwide replication that will insure a higher level of operating efficiency in existing irrigation systems through adoption of modern water management practices and improved system operation and maintenance procedures by both irrigation technicians and farmers.

(b) USAID Support. USAID support to the water resources development program of the BRBC covers a range of specific sub-activities which form components of the overall BRBC program:

- Aerial Photography, Topographic Mapping, Land Classification, and Water Resources Data Collection

USAID requested the U.S. Navy during FY63 to fly cartographic quality aerial photography of approximately 400,000 hectares of land area within and around the Basin watershed. Navy flying was completed in January, 1974. This photography complements aerial photography flown in 1964 under an earlier USAID agreement with Veitchild Corporation.

The BRBC will use the photography in FY75 and 76 as the basic input for the production of topographic maps and the economic land classification of all agricultural lands in the River Basin area. A private Philippine firm will be contracted by the BRBC during FY75 to produce photoscopic topographic maps. The Bureau of Soils under the overall guidance of the BRBC will conduct an economic land classification survey of approximately 100,000 hectares within the River Basin during FY75 and FY76. USAID financed under FY74 project funds a land classifier (soils scientist) for 3 months to assist the Bureau of Soils in applying USDA irrigability-suitability land classification methodology. Additionally, USAID will provide equipment in FY75 to strengthen the Bureau of Soils field laboratory in the project area.

The Basin water resources staff in conjunction with the Bureau of Public Works and the National Irrigation Administration has developed an intensive data generation program to support the water resources planning effort of the Basin. USAID has and will provide selected equipment during FY74 and FY75 to support the rehabilitation or upgrading of selected gaging stations.

- Water Resources Planning

Under the Mission's Agricultural Services Project, USAID financed in FY73 a contract with the Asian Institute of Technology to conduct a flood control study of the River Basin to determine through use of a computerized simulation model, the optimum combination of projects to



## (2) Transportation

(a) The 600 Program. The objective of the transportation program of the Bicol River Basin Program is first to increase farm income through the development of the secondary and farm-to-market road network serving key agricultural areas of the basin and second, to support the economic growth of the River Basin through the development of an efficient intermodal transport system.

During FY74 and FY75 feasibility appraisals will be initiated. Initial transportation studies will focus on bringing the Department of Public Highways' Quirino Highway feasibility report to feasibility grade status for submission to international lending institutions. Second, a comprehensive secondary and farm-to-market road feasibility study will be completed for submission to AID or other appropriate institutions for financing. Finally, an intermodal study of the various transport routes connecting the Basin to the Manila market will be undertaken in order to determine which among several projects should be further developed to promote the balanced growth of the River Basin area. All technical work will be conducted by an interagency Transport Planning Group and will be closely interfaced with the planning efforts under way in other sectors, particularly water resources.

(b) TRACO Support. TRACO management is approaching the development of transportation within the River Basin in a systematic, intermodal framework. The initial thrust of the River Basin Transportation Planning Group is to prepare a basinwide secondary and feeder road program for submission to domestic and international lending institutions for financing during FY75 or FY76. Under FY74 funding, USAID provided the planning group with consultancy in the area of transportation economics, and engineering to assist in preparation of the feasibility report. The second phase of the transportation program will be the planning and financing of the various other means particularly ports, major truck roads and rail transport. In FY75, USAID will finance additional technical consultancy to work with the Transport Planning Group in the design and preparation of the intermodal transport plan and supporting feasibility appraisals within the Basin area, with particular reference to the intermodal considerations associated with the ports of Bulatan and Pasacao, the Quirino Highway, and the Philippine National Railroads' Manila-Legaspi line, each of which poses an alternative route to the Manila market.

### (3) Agribusiness

(a) The GAP Program. The objective of the ERBC Agribusiness Program is to guide investments of government agencies and the private sector into priority off-farm agro-industrial businesses which will complement and reinforce the physical structure, production, and farmer organization programs planned for execution and which will lead in turn to the establishment of a strong farmer support system in the Basin area. The agribusiness project can be viewed as a central integrative activity of the Basin which pulls together physical infrastructure, production, and farmer organization programs, by integrating and relating these programs to the market structure of the region.

An Agribusiness Task Group will during 1975, establish and make operational a network for (1) the collection and organization of base data; (2) the development of realistic commodity projections; (3) the study of specific commodity industries; (4) the formulation of specific workable alternatives for the area; (5) the evaluation of alternatives and the selection of the most feasible total agribusiness system for the Basin; and (6) the formulation of a time-staged program to develop the system.

The ERBC intends to negotiate financing for the program from domestic institutions, such as the Development Bank of the Philippines, the Land Bank, the Private Development Corporation of the Philippines, as well as foreign sources. Of special note, the Basin is consciously using the agribusiness program as a tool to reduce landlord resistance to land reform by providing displaced landlords the opportunity to invest in Basin-identified agribusiness ventures.

(b) USAID Support. Basin management views the agribusiness undertaking as a continuous project which will move through increasingly sophisticated stages as the overall River Basin Program moves forward. Given this long-range perspective, Basin management is attempting to build a strong planning staff and data base to support the agribusiness program. In this regard, USAID has been requested to provide agribusiness consultancy to support the development of the program over a four-year time frame. Initial consultancy funded during FY74 will focus on assisting Basin planners in developing the agricultural data base and methodology to guide agribusiness planning and project development over time. Subsequent consultancy will focus on specialized technical areas such as grain storage and processing and livestock processing facilities.

Agribusiness program and staff development will be sufficiently advanced by FY76 to enable Basin management to package a capital investment program for submission to AID or other appropriate lending institutions.

#### (4) Crops

(a) The COP Program. The objectives of the River Basin crop diversification program are:

- To increase farm incomes through intensification and diversification of crop production.
- To assess the feasibility of changing cropping patterns to minimize the effects of adverse climatic conditions.
- To pilot test the efficiency of several production prototypes and extend the tested results on a basinwide basis.

During FY74 and FY75 a crop diversification program will be initiated by the Program Office involving the Philippine Council for Agricultural Research (PCAR), the NSAC, the NIS, the Bureau of Plant Industry, BPI, and the Bureau of Agricultural Extension aimed at developing viable crop alternatives for compact farms in addition to rice. Appropriate research will be initiated at the various experiment stations in the program area with field demonstrations conducted in conjunction with cooperating Compact Farm groups. As crop technologies are adapted to the program area, the Program Office, through the interagency Crops Task Group, will initiate systematic campaigns to extend the technology to Compact Farm Groups. During FY75 and FY76, as part of the agribusiness study, market opportunities for new crops will be explored and a determination made of the storage, processing, and marketing support needed to develop viable new commodity systems in the program area.

(b) USAID Support. Through the National Food and Agriculture Council, USAID will support during FY75, 76, and 77 a "Test-Bed" Research Program (see Small Farmer Income and Production PNOP), the objective of which is to investigate the following subjects:

1. Compatibility of different crops grown in rotation with rice and corn.
2. Constraints of cropping systems, including water, fertilizer and pesticides; their economic effect and influence on risk to the producer.
3. Economic and social feasibility of alternate farmer support systems and marketing arrangements.
4. "Whole-farm" financing as a means to adequately support varied multi-cropping systems.

At least one, and possibly more, test-bed areas will be selected in the Bicol River Basin Program area. The Bicol Council program of research and field trials will be meshed with that of the NFAC. During FY75 and 76

USAID will provide consultancy to the NFAC to assist in the design and execution of pilot programs including the test-bed projects within the Bicol River Basin Watershed area.

**(5) Livestock**

(a) GOP Program. The objective of the Basin's livestock project is to increase farm incomes through the intensification of backyard and semi-commercial livestock production. A Bureau of Animal Industry-BABC Livestock Task Group will plan and manage the project.

(b) USAID Support. USAID support for the Bicol River Basin Livestock Program will be carried under the Technical Assistance provided to the Council through the agribusiness program. During FY76 a livestock industry program study will be carried out by the Council. Future program developments and USAID support will depend on the recommendations of the study which is expected to be completed by December, 1975.

**(6) Fisheries**

(a) The GOP Program. The objective of the inland fisheries project is to increase income of sustenance fisherman and small fishpond operators through the introduction of appropriate aquaculture technologies. During FY75, and FY76, under the direction of an Interagency Fishery Production Task Group a detailed technical study of the inland fisheries industry will be conducted and a series of research and demonstration projects will be initiated at various locations throughout the River Basin.

(b) USAID Support. During FY75, USAID will finance 3 months of technical consultancy in the area of inland fishery economics/planning to assist the Interagency Fishery Production Task Group in the design and execution of the fish industry survey and the follow-on development of a fishery plan and financing program for the Bicol River Basin. During the initial month of the technicians' assignment the Interagency Fishery Production Task Group will travel to Nueva Ecija, Iloilo, and Manila where they will observe the current status of inland fisheries research and program development and interact with Bureau of Fishery and Aquatic Resources, UP College of Fishery and USAID fishery

technicians involved in fishery development in the Philippines. Upon return to Bicol the Task Group, with the assistance of the consultant, will plan and execute the fishery survey and develop the findings into an overall fishery development program for the Bicol River Basin. The SSKU will conduct the survey under the technical direction of the Fishery Task Group.

(7) Farm Mechanization

(a) The SGP Program. The objective of the farm mechanization project is to introduce and market-test a range of intermediate technology farm machinery using compact farms as Integrated Farm Mechanization Units. During FY75, a concerted attempt, supported by the National Science Development Board and IKRI, will be made to model the compact farm organization into efficient units for small-scale mechanization. The initial phase of the farm mechanization project will be carefully monitored to provide data describing labor input requirements and the economic viability of the mechanization technology. The initial phase of the project will enable the DREO to draw tentative conclusions on the effects of mechanization on labor productivity and farm incomes.

Over the longer term it is expected that the rural banking system, with the support of the DREO, will sponsor a farm machinery loan program for compact farms. Additionally, an effort will be made to develop the private sector to the point where it can locally manufacture the farm equipment and component parts.

(b) USAID Support. In support of the Basin's pilot compact farm mechanization program, USAID has and will provide in FY74 and 75 short-term consultancy to provide designs and field construction supervision of the experimental on-farm ferro-cement grain storage bin (commonly referred to as "Mallio") that has been developed by the Asian Institute of Technology. If this applied experiment and demonstration is found to be technically, economically, and sociologically adaptable to Philippine conditions, it will be incorporated into whatever expanded River Basin mechanization program is developed.

(8) Agricultural Credit and Rural Bank Expansion Program

(a) The SGP Program. The objective of the Agricultural Credit and Rural Bank Expansion Program is to make available to Basin farmers adequate supervised credit through the organization of approximately 10 new rural banks, the expansion of lending programs of

existing rural banks and the introduction of full farm financing as contrasted with the traditional procedure of financing a single crop for a given season. Under the full farm financing concept, a farmer, necessarily a member of a compact farm, will prepare in conjunction with a Farm Management Technician, an annual farm plan and budget which will enable the farmer to receive a credit line to finance his entire farm enterprise for the year.

During FY75 detailed working arrangements between the Central Bank Department of Rural Banks and Savings and Loan Association and the BREC will be worked out to insure that the rural bank expansion program and the full farm financing program are properly interfaced with the overall Bicol River Basin Development Program, particularly the Compact Farm Development Program, and the Agribusiness project.

(b) USAID Support. The credit program of the Bicol River Basin Council is a modified version of the national credit program, modified to fit local conditions prevailing in the River Basin area.

USAID is supporting the development of the national credit program with technical assistance and financing through P.L. 480 proceeds. USAID support of the Basin credit program will be handled as a part of the overall national program. (See Small Farmer Income and Production PROP for a discussion of the national credit program)

**(9) Land Reform and Cooperatives**

**(a) The CRP Program.** The objective of the land reform and cooperative development program is first to convert at least 19,500 rice and corn sharetenants with Camarines Sur to amortizing owners and secondly to provide for these and other small farmer within the River Basin a viable farmer support system linked to the physical infrastructure facilities in the project area. The land transfer program is being handled by the Department of Agrarian Reform with only limited support from the Basin in the form of aerial photography to facilitate parcellary mapping operations. The conversion of 19,500 rice and corn tenants to amortizing owners is dependent on the national government lowering the landlord retention limit to 7 hectares and to zero hectares if the 35,000 rice and corn tenants within Camarines Sur are to become amortizing owners. In the event that the government decides to limit the land reform program to landholdings 24 hectares and above, the prospects for equitable distribution to the benefits generated from the program will be diminished.

River Basin efforts in the cooperative area are directed toward the institutionalization of the compact farm concept throughout the River Basin area. Like the agribusiness project, the compact farm program is seen as one of the major integrative cores of the River Basin program and is viewed as the central vehicle for farmer participation in the development of the River Basin area. All programs within the River Basin are compact farm oriented programs in the sense that planning for the Basin's agricultural future is premised on the assumption that cooperative compact farms will form the basic agricultural production unit and as a consequence infrastructure and farmers support programs are being designed to support the cooperative compact farms.

During FY75 the compact farm program will be institutionalized through preparation of extension literature and training manuals for technician and farmer leaders and the execution of a multi-agency Compact Farm Training Program. The implementation of the training program is essential if the compact farming concept, as developed on a pilot basis during the early 1970s, is to become the major vehicle for change throughout the River Basin area. Training will focus on production technology, production organization, and compact farm management, water management, mechanization, credit, group dynamics, and leadership.

Compact farms as production units are being formed under the umbrella of the national government's cooperative program which envisions at the barrio level, the organization of viable farmer associations (Samahang Nayon). The Samahang Nayons are in turn to be federated to form multi-

municipality area marketing cooperatives. As part of the nation's overall cooperative structure, compact farms are best visualized as the lowest level of organized cooperative activity focused specifically on improving the productive efficiency of small-scale agriculture. Two thousand five hundred (2500) compact farms are programmed to be organized by FY79.

(b) USAID Support. The major portion of USAID's support to the Council in the area of land reform will be handled under the Mission's Agrarian Reform Project being executed through the Department of Agrarian Reform. During FY75 the DRR, River Basin management, and USAID will prepare a Basin specific work plan to include goals, resource inputs, time table and expected outputs for a comprehensive agrarian reform program in the project area covering land transfer, compensation, and farmer support systems.

Under FY74 and 75 Bicol Project funds, USAID has and will continue to finance a series of training programs in Iaiwan focused on land consolidation.

USAID will assist the Department of Local Government and Community Development and the River Basin planning staff, during FY75, through the agribusines contract with Kansas State University, in the preparation of a Basinwide cooperative marketing program within the context of the rice industry program.

## 10. Agricultural Education

(a) The GOV Program. The objective of the Agricultural Education project is to strengthen the physical base and the curriculum and manpower training program of the Camarines Sur Agricultural College to enable the College to provide qualified manpower to serve the expected increase in demand for technical agricultural expertise within the Basin as a consequence of the implementation of the River Basin Development Program. At present, the Camarines Sur Agricultural College is one of the sponsors of the Compact Farm Training Program and has been selected by Basin management as the site of the Basin Management Training and Research Center associated with the Basin's water management program.

(b) USAID Support. The Government, through the Association of Colleges of Agriculture in the Philippines (ACAP), has embarked on a program of strengthening the capabilities of selected regional colleges of agriculture with the University of the Philippines College of Agriculture in Los Baños (UPCB) as the nation's leading center of higher education in agriculture. In line with this policy of building capabilities of regional colleges both in terms of physical plant, curriculum and manpower development, the GOV has requested and secured financing from the IBRD to upgrade two regional colleges, one in Central Luzon and

one in Mindanao. Given the expected increased demand for quality technical expertise in agriculture as a result of the River Basin Program, initial planning is being undertaken by the BRBC to more clearly define the role of the Camarines Sur College of Agriculture over the next 20 years and in turn outline the needs of the College if it is to fill its long-term role in the region's development. Along this line, a study team will be created during FY75, comprised of the Department of Education, the UPLB, through the Technical Assistance Group, the Cam Sur Agricultural College, the BRBC, the NEDA, the DAP, and a selected U.S. Land Grant College, to conduct a study and prepare a program for possible AID capital financing which will enable the Camarines Sur Agricultural College to expand its physical, curriculum and manpower base to adequately serve the Bicol River Basin Program specifically and the Bicol region generally. During FY75, USAID will provide a grant for the BRBC to contract selected expertise from a U.S. Land Grant College to work with the GCP team in preparing the development plans for the college and identifying the capital requirements for program execution. During FY76, a loan request will be submitted to AID or other donor institutions for financing.

## 11. Health, Sanitation, and Nutrition

(a) The GCP Program. The objective of the health, sanitation, and nutrition component of the Bicol Development Program is to improve the quality of life for residents of municipalities and barrios within the River Basin through provision of improved health, sanitation, and nutrition delivery systems. As contained in the premises underlying the Bicol River Basin Program, it is the Council's intent that the Bicol River Basin Program be comprehensive "over time." Consequently, BRBC management has decided to incorporate into the Basin Program a health, sanitation, and nutrition sector. During FY75 and FY76, the specific objectives and content of this component will be developed. Implementation of a comprehensive BRBC-sponsored health, sanitation, and nutrition program will, however, in all likelihood not get under way until FY77, given the many pressing demands of the Basin management for action in other priority areas.

Therefore, during FY75 and FY76 action under this project will be limited to the development of potable water-supply systems for municipalities with populations of 30,000 and below.

The approach to the potable water project and other subsequent projects under the health, sanitation, and nutrition program will emphasize municipal self-help and initiative with the Department of Local Government and Community Development, other concerned line agencies, and the River Basin management and technical staff providing technical support and mobilizing resources. Projects will be selected through frequent interaction with municipal officials and through surveys on municipal development priorities to be conducted at periodic intervals by the Social Survey Research Units. During FY75, the SSRU will undertake an in-depth study of the 31 municipalities under Basin jurisdiction. From this survey, project development priorities will be established.

(b) USAID Support. In FY74 and 75, USAID will provide short-term consultancy to assist in the design, construction, and pilot testing of three small-scale, barrie-based water supply systems, using technology developed at the Asian Institute of Technology. The potable water system to be tested centers essentially around a two-stage filtration system in which untreated water is passed through a rough filter comprised of coconut husks and then through a fine filter composed of burnt rice hulls. After passing through this two-stage filtration system, the water may be suitable for drinking. The simplicity of the system, its low cost, and the abundance of the basic filtration materials make this project attractive in concept. The three pilot systems will be carefully evaluated and a determination made as to the readiness of this technology for broader dissemination throughout the River Basin project area.

Additional consultancy has been budgeted for FY77 and 78 to support the expansion of the municipal-based sanitation, ~~sanitation and family planning programs after the initial projects in potential water areas have been initiated and the overall program has been established within the Basin management.~~

## 12. Municipality Based Integrated Area Development Project

(a) The GGP Program. The objective of the Municipality Based Integrated Area Project is to provide a planning and organizational mechanism which will enable municipal leaders and residents to participate in the planning and execution of the River Basin Program, on the one hand, and provide, on the other, a planning framework and organizational mechanism for effectively dividing the basin into logical sub-regional planning areas.

Within the Basin, the municipality is the lowest level of local government which can be expected, by virtue of its geographic jurisdiction and tax base, to participate in the planning, management and execution of Basin sponsored programs.

The Basin's legal structure, as defined in Executive Order 412, provides for participation of the provincial government of Samarinos Sur through the Governor's seat on the Board of Directors. There is, however, no legal mechanism providing for municipal and city government participation in the program. To develop a strong working relationship between the BREC and municipal and city governments, the basin will establish and staff on an interagency basis six Area Development Teams located in six agricultural sub-regions of the Basin (see February report, Chapter 4.2.4). Through these offices, development plans of the basin on the one hand and the city or municipal government on the other will be interlaced to insure, to the extent possible, that the interests of the local, municipal, and city governments are adequately reflected in the overall planning for the River Basin's development.

Through the creation of six planning and management sub-regions, the various sectoral programs described in the previous sections of the PROP will be given a locational dimension that will enable Basin planners to insure the balanced allocation of resources and, in turn, the balanced development of all sub-regions within the River Basin over time.

During FY75 and FY76, the six interagency Area Development Teams will be organized and the sub-regional field offices established. Also, during FY75, the feasibility study for the first multi-municipality integrated area development project will be completed and financing negotiated for the municipalities of Libmanan and Cabusao. These two municipalities are located in Agricultural Development Area I, in the northern sector of the River Basin.

The focus for the Libmanan/Cabusao Integrated Area Development Project will be on land reform, agriculture, infrastructure (irrigation and drainage, and secondary roads), and health services. Integrated municipal development projects in other municipalities or groups of municipalities will be based on the physical requirements and the resource base of the target area rather than arbitrarily pre-determined "standardized" packages of projects. To this end, the Area Development Teams in conjunction with the municipal and city governments and the Basin's Social Survey Research Unit will during FY75 and FY76 conduct in-depth studies of the cities and municipalities within the six Agricultural Development Areas to determine needs and establish program priorities (see section 11a above). A methodology and system will be established to rank the integrated area projects in a manner that adequately reflects regional and River Basin Development priorities as well as the needs of the respective municipalities. By 1978, six municipal or multi-municipality-based integrated area development projects are planned to be in place in each of the six Agricultural Development Areas.

As the Compact Farm Program is designed to maximize participation of the farm community in the Basin Development effort, the Municipality-based Integrated Area Development Project is envisioned as a key program enabling municipal and barrio officials and residents to participate in the development of their communities as combat areas of the Dicol River Basin and at the same time build the capabilities of their respective Municipal Development Staffs through close working relationship with the ERDC and the participating line agencies.

(b) USAID Support. USAID has been formally requested by the GOV to provide capital financing for the pilot Libmanan/Cabusao Integrated Area Development Project. During FY75, drawing on expertise already available to the project under the Agribusiness contract with Kansas State University, the transport consultants funded during FY74, and the Mission's water resources advisors, USAID is assisting an Interagency Task Force in the preparation of the feasibility study for this project. Following the feasibility study recommendations project implementation, USAID will seek capital financing for the project during FY76 and FY77.

## ANNEX I

**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).

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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.

## Annex I, p. 2

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 Doot Plain (Camarines Norte), Lagonoy River Plain (Camarines Sur), Legaspi Plain (Albay), Iulan 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 (east of Naga City) in the north to Mt. Mayon in the south, including smaller extinct volcanoes such as Mt. Iriga and Mt. Malinco.<sup>2</sup> Another and smaller enclave is found on the slopes of Mt. Bulusan 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.

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<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 (3992'), 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 atwang, or witches, and actual residence of several thousand semi-negroid hill people (see Lynch 1948, 1949); Mt. Malinco (5079'), and Mt. Bulusan (5115') in Sorsogon.

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.

Region 4, the abaca land-use region, was dispersed in several locations within the Bikol 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 Cagayan 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 as 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 under way 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 functions, 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.

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Level and Categ

Level & 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 EBRDP 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 characteristic of individual respondents or respondent households.

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3  
 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 variables will be asked for:  
(a) sociological (census-type data, including among other things/ 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/ learning 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 BRDP 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 B&OP 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 investigations we expect to make of the possible correlation between the presence or absence (or intensity) of various independent variables (income) 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 ERDDP personnel, municipal officials, and other knowledgeable informants.

The administrative units (municipal sample) to be studied have already been selected by officials of the ERDDP. 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 Cansman	Gainza Magrao Milsor
	Wet rice, coconut	Bula Lihuman Minslabac	Pampuna San Fernando
	Coconut, wet rice	Haga City	
Bicol Plain	Wet rice, coconut	Bato Nabus	Ocampo Pili
	Abaca	Ba-ao Dahi	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, semi-annual-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 1360 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 7).

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 mortgaging 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 RRDP 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, 1975; 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), Iloilo City.

1. FY 1974-minus-five-months. In the five months prior to July, 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 Iloilo 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

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 June 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, key-verifier, 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 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 BRDDP 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.

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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, Cainta, Milaor, Minalabac, Pampicua, and San Fernando); (2) Libmanan, for Libmanan, Cabusao, Lupi, and Sipocot; (3) Masarao, for Masarao, Bombon, Calabanga, and Canaman; (4) Pili for Pili, Bula, and Ocampo; and (5) Iriga, for Iriga City, Ba-ao, Bato, Bubi, and Nabua.

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",

Months	Place	Activities
March	Naga City (RSC)	<u>Survey B:</u> keypunching and key- verifying
	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

to the November-December survey (N = 1360).

<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.

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.

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 <sup>1</sup>
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

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.

<sup>1</sup> The meaning of Survey A, Survey B, and Small Studies is explained in footnotes to the table on page 15, 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**

Fiscal Year <sup>1</sup>	Plan 1	Plan 2	Plan 3	Plan 4	Plan 5	Plan 6	Plan 7	Plan 8
1974 <sup>2</sup>	₱ 524,453	₱ 474,463	₱ 454,752	₱ 342,111	₱ 429,556	₱ 326,419	₱ 426,624	₱ 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	306,983	375,250	256,248	332,152	232,387
1977	543,334	406,282	414,492	227,681	412,775	281,873	365,367	253,626
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	499,453	341,066	442,096	309,308
<b>TOTAL</b>	<b>₱3,265,865</b>	<b>₱2,524,373</b>	<b>₱2,545,097</b>	<b>₱1,490,884</b>	<b>₱2,512,229</b>	<b>₱1,746,619</b>	<b>₱2,270,100</b>	<b>₱1,613,287</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).

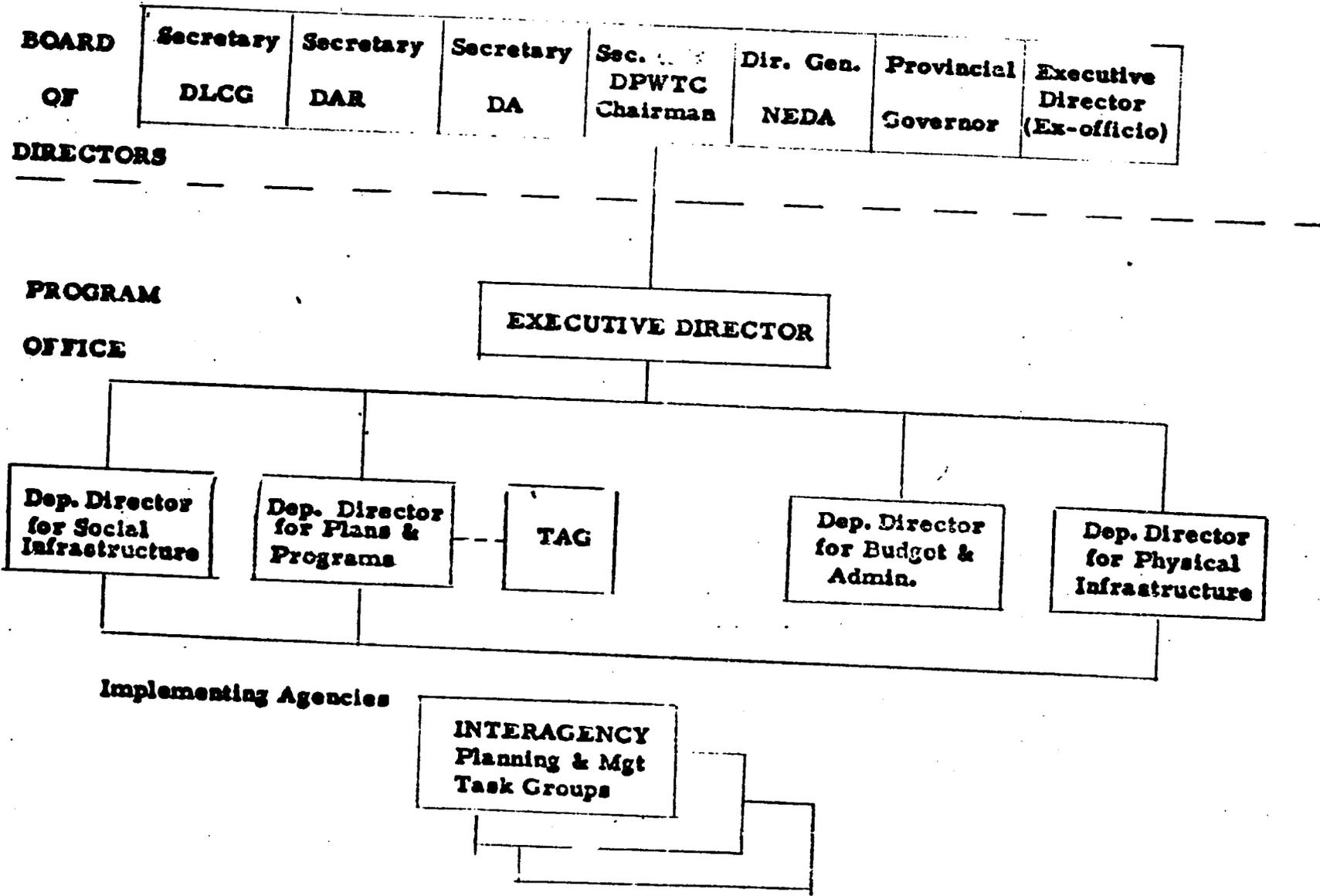
Plan 3 is undesirable (and Plan 4 more so) because there is no provision for the kind of many-faceted inquiries envisioned by the phrase "small studies." Plans 5-8 include these continual investigations, but also allow an error of 10 percent in any survey that is done (contrary to Assumption 1, page 9). Plans 6 and 8 additionally reduce the municipal sample from 25 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 COUNCIL

Annex 2



Office of the President  
of the Philippines

EXECUTIVE ORDER NO. 412

CREATING THE BICOL RIVER BASIN COUNCIL

WHEREAS, it is government policy to promote integrated area development as a means towards a systematic regional development in the country;

WHEREAS, in the Bicol Region, the Bicol River Basin is an area of high growth potential where new investments in agriculture and infrastructure will yield maximum benefits in terms of production and agrarian reform;

WHEREAS, there is a need for a coordinating body that will oversee, unify, and integrate the administration and implementation of this pilot river basin development program of the government;

NOW, THEREFORE, I, FERDINAND E. MARCOS, President of the Republic of the Philippines, by virtue of the powers vested in me by law, do hereby create the Bicol River Basin Council, hereinafter referred to as the "Council", under the National Economic and Development Authority.

SECTION 1, Powers and Jurisdiction. The Council shall have the following powers:

- (a) To review and pass upon the programming and allocation of funds of agencies represented in its Board of Directors, for all projects within its geographical jurisdiction.

Unless otherwise decreed, the jurisdiction of the Council shall encompass that portion of the Bicol River Watershed within the province of Camarines Sur, covering the municipalities of Del Gallego, Ragay, Lupi, Sipocot, Calabanga, Cabusao, Libmanan, Pasacao, Pamplona, Bombon, Magarao, Caramoan, Camaligan, Naga City, Milaor, Gainza, Minalabac, San Fernando, Bula, Balatan, Pili, Tinambac, Goa, Tigaon, Sangay, Buhi, Iriga City, Nabua, Batao, Ocampo, and Bato.

- (b) To integrate and coordinate with implementing agencies of the government all plans and programs affecting the Bicol River Basin.

The decision of the Council in this regard shall be final.

- (c) To call on any department, bureau, office, agency and other instrumentalities of the government for assistance in the form of personnel, facilities, and other resources as the need arises in the discharge of its functions.
- (d) To do all such other things and to transact all such business as is directly or indirectly necessary, incidental to the attainment of the objectives of the Bicol River Basin Development Program.

**SECTION 2. Board of Directors.** The powers of the Council shall be vested and exercised by a Board of Directors, hereinafter referred to as the Board, which shall be composed of the following:

**As Chairman-** The Secretary of Public Works, Transportation and Communication

**As Members-** The Secretary of Agriculture and Natural Resources, or his Undersecretary

The Secretary of Agrarian Reform, or his Undersecretary

The Secretary of Local Government and Community Development, or his Undersecretary

The Director-General of the National Economic and Development Authority, or his Deputy

The Provincial Governor of Camarines Sur, and

The Executive Director of the Council, ex-officio

The Board shall meet at least twice a year or more frequently as may be necessary to discharge its functions. For actual attendance at each meeting, each member of the Board shall have a per diem of one hundred pesos (P100), but the total amount of per diem a member may receive shall in no case exceed two hundred pesos (P200) a month.

Four members of the Board shall constitute a quorum during meetings of the Council.

**SECTION 3. Program Office.** The Council shall maintain a Program Office which shall be headed by the Executive Director and four Deputy Directors - for Plans and Programs, Social Infrastructure, Physical Infrastructure, and Budget and Administration.

This Program Office shall have its principal location in Camarines Sur.

**SECTION 4. Duties of the Board.** The Board shall have the following duties:

- (a) To prescribe, amend, repeal rules and regulations governing the manner in which the general affairs of the Council shall be conducted.
- (b) To appoint, suspend, or otherwise remove from office for cause the Executive Director or his Deputies.
- (c) To approve the annual and/or supplemental budgets of the Council which shall be submitted regularly.

**SECTION 5. The Executive Director. Qualifications.** The Executive Director shall be a natural-born citizen of the Philippines with demonstrated executive competence in the field of public administration, public infrastructure, or the management of agriculture, industrial, or commercial enterprises.

The Executive Director shall serve for a fixed term of four (4) years, unless earlier removed from office by a two-thirds vote of the Board.

The Executive Director shall receive an annual compensation which shall be charged against the appropriation of the Council for operating expenses. Provided, however, that in no case shall the compensation of the Executive Director be more than thirty-thousand pesos (P30,000) per annum.

**SECTION 6. Duties of the Executive Director.** The Executive Director shall perform the following duties:

- (a) To prepare the agenda for all meetings of the Board and to submit for consideration thereof the policies and measures which are necessary to carry out the affairs of the Council.
- (b) To execute and administer the policies and measures approved by the Board.
- (c) To manage the Program Office in consonance with the policies.
- (d) To submit for the approval of the Board the annual and/or supplemental budget of the Bicol River Basin Council.
- (e) To sit in all meetings of the Board and participate in its deliberation with a right to vote.

- (f) To submit within sixty (60) days after the close of each fiscal year, an annual report, through the Board, to the National Economic and Development Authority.
- (g) To perform such other duties as may be assigned to him by the Board from time to time.

SECTION 7. Operating Expenses. There is hereby appropriated from the National Treasury not otherwise appropriated the amount; of one-million, five-hundred thousand pesos (P1,500,000) to cover the operating expenses of the Council for the first year of operations. Subsequent appropriations and releases shall be based on the budget approved by the Board.

SECTION 8. Auditing Procedures. The Auditor-General shall appoint a representative who shall be the Auditor of the Council, and the necessary personnel to assist said representative in the performance of his duties.

The financial transactions of the Council shall be audited in accordance with law, administrative regulations, and the principles and procedures applicable to corporate transactions.

SECTION 9. Effectivity. This executive order shall take effect immediately.

Done in the City of Manila, this 17th day of May, in the year of our Lord, nineteen-hundred and seventy-three.

s/c/ FERDINAND E. MARCOS  
President of the Philippines

By the President:

/s/c/ ALEJANDRO MELCHOR  
Executive Secretary

A TRUE COPY: PO-11/5/74