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AGENCY FOR INTERNATIONAL DEVELOPMENT
PROJECT REVIEW PAPER FACESHEET
TO BE COMPLETED BY ORIGINATING OFFICE

1. TRANSACTION CODE ("X" appropriate box)
 Original Change
 Add Delete

DOCUMENT CODE
2 33p

2. COUNTRY/ENTITY
Philippines

4. PROJECT NUMBER
442-0215

5. BUREAU
AFR

a. Symbol b. Code
AFR 2

3. DOCUMENT REVISION NUMBER
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6. PROPOSED PP SUBMISSION DATE
mo. yr.
1 | 2 | 7 | 6 |

7. PROJECT TITLE - SHORT (also within brackets)
Bicol Integrated Area Development II

8. ESTIMATED FY OF AUTHORIZATION/OBLIGATION
a. INITIAL FY 7 | 7 | b. FINAL FY 7 | 7 |

9. ESTIMATED TOTAL COST (\$000 or equivalent, \$1 = 7.50)

a. FUNDING SOURCE	FIRST YEAR FY 77			ALL YEARS		
	b. FX	c. L/C	d. Total	e. FX	f. L/C	g. Total
AID APPROPRIATED TOTAL	3,900			3,900		3,900
(Grant)	(900)	()	()	(900)	()	(900)
(Loan)	(3,000)	()	()	(3,000)	()	(3,000)
Other 1.						
U.S. 2.						
HOST GOVERNMENT		8,000	3,000		7,000	15,000
OTHER DONOR(S)						
TOTALS	3,900	8,000	11,900		7,000	18,900

10. ESTIMATED COSTS/AID APPROPRIATED FUNDS (\$000)

4. Appropriation (Alpha Code)	b. Primary Purpose Code	c. Primary L/C Code	FY 77		FY		FY		ALL YEARS	
			d. Grant	e. Loan	f. Grant	g. Loan	h. Grant	i. Loan	j. Grant	k. Loan
Multi			900	3,000					900	3,000
TOTALS			900	3,000					900	3,000

11. PROJECT PURPOSE(S) (also within brackets) Check if different from PID

Establish a viable Integrated Area Development organization structure with the management capability to plan and implement Integrated Area Development projects in the Bicol River Basin to include applicable flood control, land reform, land consolidation, irrigation and drainage, intensified agricultural production and farm level organization components.

12. WERE CHANGES MADE IN PID FACESHEET DATA, BLOCKS 12, 13, 14, or 15? IF YES, ATTACH CHANGED PID FACESHEET.
 Yes No

13. PLANNING RESOURCE REQUIREMENTS (staff/funds)
Possible TDY assistance as noted in the narrative of this PRP.

14. ORIGINATING OFFICE CLEARANCE

Signature: *L. Marshall*

Title: LAWRENCE A. MARSHALL
Assistant Director for International Development

Date Signed: mo. day yr. 1 | 1 | 1 | 2 | 7 | 5 |

15. Date Received in AID/W, or For AID/W Documents, Date of Distribution
mo. day yr.

1. Priority and Relevance

The Bicol River Basin Development Program (BRBDP) was selected by the Government of the Philippines to pilot test the integrated approach to development. The program is founded on the basic premise that development efforts aimed at the rural sector and the small farmers should focus on delimited geographic areas of high growth potential where incremental investments would yield maximum benefits in both social and economic terms.

The program has been designed to achieve a breakthrough in development by reversing the downward transitional trend of the region through a framework of integrated program components covering social, economic and physical services.

Rural development has been an articulated goal of the Philippine Government throughout the 1960s and into the 1970s. In terms of numbers of people, the problem of poverty in the Philippines is overwhelmingly a rural one. Since the end of the 1960s, the Government has recognized the need to modify traditional economic development strategies in order to reduce widespread economic dualism and improve standards of living with particular reference to the rural regions of the country. The substantive development strategy of the Government that has evolved is premised on implementation of a strong rural development program using a variety of approaches and techniques including increased investment in basic and provincial oriented infrastructure.

The Government is also pursuing a policy of decentralization of authority and responsibility for the identification, design and implementation of rural development programs to increase efficiency and broaden the participation of local governments and regional offices of national government. Accordingly, Regional Development Councils have been organized in all 11 regions of the country to coordinate national and local development programs. The high priority attached to the USAID supported Provincial Development Assistance Project, one of whose objectives is to strengthen the planning and management capabilities of provincial governments, and the decision of the national government to have provincial governors assume overall provincial responsibility for implementation of the Masagana 99 rice production program, are further indicators of the GOP's intent in these matters.

The Government is also testing the possibilities of integrated area programs as a major instrument for accelerating rural improvement. The extent to which the Government will pursue this approach, with its need for relatively heavy application of resources in limited geographical areas with limited population is uncertain at present. However, it is clear that the GOP is committed to the idea of testing

the approach on a selective area basis, e.g. in provinces or river basins where incremental investments in infrastructure and services are expected to yield significant economic and social benefits and which can in turn serve as important growth poles in stimulating broader regional development. The Bicol River Basin is one of the areas selected for trying this approach.

The Bicol River Basin Development Program is innovative in several respects. First, a comprehensive systems approach to planning and management has been adopted which integrates physical infrastructure requirements (e.g. irrigation, flood control and transport) with social and economic requirements for rural development (e.g. land reform and development of farmer support systems). As a consequence, the Program is a multi-disciplined and multi-sectoral effort encompassing such diverse sectors as water resources, transportation, agribusiness, crops, livestock, fisheries, agricultural credit, agrarian reform, health and nutrition. The Program is specifically targeted on a major sub-region of the country with high growth potential, the 312,000 hectare Bicol River Basin. Finally, the objective of the program is concerned with real increases in per capita income among the Basin population, with particular reference to lower income groups.

The Bicol program is the product of an interagency effort prepared under the leadership of the secretaries of the departments of Public Works and Agriculture. The selection of the Bicol River Basin watershed area for development is explained in large part by the coincidence of a rich agricultural base and a progressive farm community, on the one hand, and problems of high tenancy, periodic flooding and deficient infrastructure on the other. The Basin lies in one of the nation's key agricultural areas and is one of the priority areas covered by the Government's land reform program. The Bicol Program has been incorporated into the national four-year (FY 74-77) development plan as the Government's initial pilot effort in integrated area development.

Beyond the general concept of integrated area development, the Bicol River Basin Program represents a specific form of area development--the river basin model--which may be particularly well suited as a development mechanism given the physical realities of the Philippine rural sector. In the Philippines, sub-regional programs focused on the major river basin watershed areas could yield substantial economic as well as social benefits, consistent with the Government's dual objectives of growth and welfare. Within the context of Philippine agriculture, the nation's seven major river basins constitute the majority of rich, accessible and potentially 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 Government's land reform program live within the nation's complex of river basins.

2. Description of Project

Through an integrated area development framework, the Bicol River Basin Development Program seeks to increase per capita income in the basin area. Basic to this prime objective is the need to increase agricultural productivity, provide more employment opportunities and a more equitable distribution of wealth, and the need to move development beyond the farm to agro-industrial development.

The Bicol River Basin is located on the southern tip of the Luzon Island, 450 kilometers from Manila. The basin's watershed covers an area of 312,000 located in the provinces of Camarines Sur, Camarines Norte and Albay. The present level of per capita income is one of the lowest in the country. Its economy is basically agricultural with about 58 per cent of the total value added contributed by this sector.

The population in 1970 was about 1.0 million. The population growth rate of 2.5 per cent per annum is significantly lower than the national rate of 3.0 per cent because of out-migration, a phenomenon which is indicative of the virtual absence of economic opportunities in the area.

The project area is characterized by high incidence of tenancy. In Camarines Sur, for instance, 85 per cent of the identified tenants are within the watershed area of the basin. Farm size structure and ownership is also unique. With an average farm size of about 1.3 hectares, there exist predominantly small farm size on one hand and big-landed estates on the other hand.

There has never been any vigorous effort to develop the physical infrastructural facilities. Roads and transport systems are very inadequate. Irrigation facilities are insufficient: there are only 44,274 hectares fully irrigated at present out of the identified 100,000 hectares suited for irrigation. Drainage and flood control structures are also limited. The basin which is generally flat and which lies within the typhoon belt always succumbs to flooding. It is estimated that about 42,000 hectares of rich agricultural lands are periodically inundated.

The level of social amenities enjoyed by the basin's populace still leaves much to be desired. Very few towns are supplied by electric power, yet it remains relatively expensive. Health and education facilities and services are also very limited. Domestic potable water is a major problem in the majority of the basin's municipalities. Efforts aimed at correcting malnutrition in the area are in large measure stymied by one major factor: 90% of the pre-schoolage and schoolage population suffer from ascaris and hookworm infection.

The project presently being undertaken can be grouped into four categories, namely: (a) pilot projects, (b) data generating projects, (c) feasibility studies, and (d) small scale development projects benefitting the small farmer. The planning process involves maximum participation of personnel from existing line agencies of the government as well as the private sector.

The pilot projects include: crops, livestock, fishery, land consolidation, farm mechanization, introduction of medicinal herbs, on-farm water management and potable water supply. These are designed to develop prototype for basinwide application.

The data generating projects include: topographic mapping, land classification, geologic investigation, socio-economic research, and hydrometeorological program. These projects are generating data in support of the feasibility studies.

The feasibility studies include: Farm-to-Market Road, Intermodal Transport, Agribusiness, Upgrading of the Camarines Sur Agricultural College, and the Comprehensive Water Resources Study. The Comprehensive Water Resources Study will identify feasible water resource projects which include large scale irrigation, drainage, flood control, hydropower, and waterworks.

There exists at present a wide gap in the per capita income level between the Bivol River Basin and the country in general. The target of the program is to uplift the per capita income of the basins' population to catch up with the national average. This shall demand higher investment level to accelerate and sustain development.

The Bicol River Basin project development will be pursued within a "systems" framework. The "systems approach" is an attempt to integrate the various "means" to attain the program objectives as effectively as possible.

The total investment necessary is about P8,519 million. The foreign exchange requirement is about \$545M.

The purpose of this loan, proposed for U.S. AID financing in the amount of \$3 million, is to provide the Government of the Philippines with essential commodities and equipment to:

- a. create and strengthen the organizational framework and institutional capability for carrying out a major integrated, multi-sectoral area development program with the Bicol River Basin as the geographic management unit, and

- b. undertake development projects impacting on the basin's poor majority which clearly would not conflict with the overall plan and can proceed while the longer term program is being implemented.

The overall program will be implemented through the coordinating mechanism of the Bicol River Basin Council (BRBC). Created on 17 May 1973 by virtue of Executive Order 412, the BRBC has been mandated to provide a coordinating leadership and a rational direction to development activities within the basin through carefully prepared development plans and feasibility studies for domestic and foreign financing.

Within the Council itself is an operational Program Office headed by an Executive Director and four Deputy Directors for Plans and Programs, Physical Infrastructure, Social Infrastructure and Finance and Administration. A Management Directorate composed of all Regional Directors of line agencies assists the management of program planning and projects' implementation; while an Advisory Committee from the private sector provides consultative advice and directions. Planning and programming functions are executed through interagency planning groups.

To ensure effective implementation of integrated projects at the field level, the basin is being divided into eight (8) Development Areas (DA), each composed of from 5 to 6 municipalities, and managed by an Area Development Team (ADT). The Team will be headed by a Chairman (a Mayor elected from among the Mayors), an Area Coordinator and Field Supervisors of line agencies. Moreover, all field technicians within a DA will be brought into a sustained working relationship under the direction of the ADT. Within this sense, the ADT is seen as (1) a crucial link between Basin planners and the people, (2) a unit to effectively integrate the different sectoral agencies and their programs at the field level and in so doing increase the efficiency of government services and properly exploit program complementarities, and (3) as a unit to bring municipal governments serving the same economic sub-regions of the Basin into sustained and productive working arrangements with each other and with national and provincial level agencies.

An important part of the ADT concept is the creation of an integrated extension service within the basin area. It is projected that each ADT will have about 100 such extension personnel assigned to it. The plan calls for training some of the existing extension workers and recruiting and training new ones in the basics of development that would be useful at the barrio level. These will include community organization techniques as well as the basics of health, sanitation, education, agriculture, family planning, nutrition, and so on. All recruits will be from the Bicol.

About \$1.2 million of the proposed loan will be utilized to purchase essential operating commodities and equipment needed by the BRBC program office, the ADTs, and the affiliated provincial and line agency staffs. A listing of these requirements is contained in Annex I. These commodities will provide the BRBC, the ADTs, the province, and the line agencies affiliated with the program in the project area, the ability to absorb and support the large financial commitments and investments that will begin to be realized during calendar year 1977 and beyond. Without the commodities and equipment it will be impossible to implement the basin development plan and the main objective of uplifting the small farmers in the region who are about the poorest in the country could not be realized.

An integrated area development program is by its nature an extremely complex program involving many different elements and echelons of government administration as well as a wide variety of projects. The organizational mechanism must take into account all of these levels from the people up and be able to coordinate the total program from bottom to top. Without this kind of mechanism, it would be impossible to coordinate either the planning or implementation of the program. Flood control needs to be coordinated with water reserves for dry-season farming, in turn with irrigation systems, transportation, agri-business development, as well as social infrastructure projects. Without the BRBC Program Office and the Area Development Teams and the Integrated Extension Service described below to bring together all of the critical program linkages and the various departments and offices involved, the program could not possibly succeed. In this sense, given its critical importance to the effort to uplift the poor majority in the Bicol River Basin in a systematic and integrated fashion, the Mission recommends the organizational mechanisms be supported. In addition to the clear linkage of the coordinative mechanism to the needs of the poor majority, a functioning structure from bottom up is needed if the GOP is to successfully absorb and implement assistance for the program estimated to be in the range of \$500 million from other major donors like the IBRD and ADB in the upcoming years. Additionally, an adequate host country organizational structure will be needed to attract and qualify for the larger-scale investments.

The commodities to be provided include vehicles for use by the 125-man BRBC program office (20) and the 8 ADTs (10 each) in addition to equipment for the BRBC motor pool and office machines and equipment. Each ADT will have about 125 people under its jurisdiction, including the line agency representatives and the integrated extension service workers. Ten vehicles per team represents the minimum needed for that many people and the distances to be covered. The GOP, in addition to

motorcycles paying salaries and operating costs will also procure locally made ~~bicycles~~ for use of the extension workers at the barrio level. Also to be provided to each ADT is a Mobile Integrated Extension Service Unit. These vans will be staffed by four people covering the following areas of expertise:

- a. Health/Family Planning/Sanitation
- b. Non-Formal Education
- c. Agricultural Production
- d. Community Organization

The vans will be multi-purpose support units assisting the extension workers at the barrio level, upgrading their skills, providing basic services and advice to the farmers and their families, and providing audio-visual presentations for the people on the basics of sanitation, family planning, nutrition, etc. A package of services that would be provided by the Mobile Unit is being developed by the BRBC in coordination with the Social Survey Research Unit, the Philippine Business for Social Progress, and the respective line departments. Two other units will be provided to service those barrios which can be reached only by water. All of these units will be assigned to the ADTs.

The remaining commodities to be procured through this loan will be needed to undertake and complete high impact and critical development projects in the areas of irrigation, health, family planning, nutrition and sanitation. These requirements are also broken down in Annex I.

The impact projects are as follow:

- A. Barrio Irrigation Systems Improvement - this project is aimed at upgrading 85 barrio-level irrigation systems affecting the lives of 64,000 small farm people. Lowlift pumps will be needed to replace or develop additional capacity for 81 systems. BRBC and NIA are presently finalizing the designs for this project and implementation is projected to be undertaken during calendar year 1977. Implementation will be handled by the Farm Systems Development Corporation. Cost: \$850,000.
- B. Bicol Health Care - this project aims at assisting, through BRBC, the province of Camarines Sur to expand and upgrade the Provincial Hospital, the principal medical facility in the Bicol Basin. The hospital is being expanded to overcome serious overcrowding and upgraded to serve as the Basin's highest caliber medical facility. Laboratory equipment is needed, plus medical books for the hospital library. There is no adequate medical library facility for doctors and nurses to refer to anywhere in the Bicol Region. In addition, basic surgical instruments and equipment are sorely needed. Cost: \$200,000.

- C. Nutrition/Family Planning Campaign - There are 35 Rural Health units and a corresponding number of Rural Health Physicians in the basin area. Within their responsibility are 15 to 20 population groups making up the bulk of the basins' population. They are in need of vehicles, vasectomy instruments, minor surgical instruments, microscopes, and delivery tables and instruments. Their priority focus in their CY 1977 program will be a two-fold effort aimed at improving nutrition and family planning. This will be accomplished through a child de-worming campaign which they will coordinate through the school system. As noted previously, a full 90 per cent of the pre-school-aged and school-aged population have ascaris and/or hookworms that are the greatest single stumbling block to improved nutrition. Medicines are locally produced which can correct the problem, and it only costs about 2 U.S. cents per treatment. The key to success is educating the children to wear shoes, wash their hands before eating, and other basics of sanitation. Hence, the tie-in with the schools. The microscopes and vehicles are needed to help the Rural Physicians carry out this important mission.

The family planning effort in the basin will also be carried out through the Rural Health Physicians. They will dispense condoms and birth control pills to the rural health clinics, instruct the medical assistants in proper administration of the pill, perform vasectomies, insert IUDs and arrange tubal ligations through the provincial hospital where the needed medical expertise and facilities will exist to handle this kind of surgery. To carry out this part of their mission, they will need the vehicles, the vasectomy instruments, and medical reference books on family planning.
Cost: \$227,500 (not including funds from population program).

- D. Barrio Potable Water - Over the past two years the BRBC with U.S. AID assistance has carried out an innovative simple technique to provide potable water at the least possible cost to the people in the barrios. The system involves using local materials in the filtration system, i.e., coconut husks and burnt rice thrash (activated carbon). The barangays (barrio level leader council) have successfully organized the people to operate and maintain these systems. The system is scheduled to be expanded to 200 barrios in CY 1977. There is a need for small water pumps to support the larger systems. Final feasibility will be completed prior to submission of the PP. Cost: \$80,000.

3. AID and Other Relevant Experience

AID has been involved in the Bicol River Basin Development Program since its inception in 1973. Our role has been to provide both technical and capital assistance to the BRBC in the development of the program. These activities have included the provision of funds to permit the contracting of TAMS/TAE to conduct the Comprehensive Water Resources Survey for the Basin which is scheduled for completion in August 1976, consultants to participate in the Intermodal Transport and other surveys, a contract with Kansas State University to conduct feasibility studies in the agri-industry field, a contract with the University of Hawaii to conduct irrigation studies, and a \$3.5 million loan to help finance the pilot Libmanan-Cabusao Integrated Area Development schemes. Additionally, a \$10 million loan for the construction of farm-to-market and feeder roads has been requested to the U.S. AID by the GOP and it is anticipated to be authorized and signed this fiscal year. Our role has been that of a catalyst and the ultimate effects of our assistance will be felt when other multilateral and bilateral donors are able, on the basis of the studies and pilot schemes financed by U.S. AID, to make the larger financial commitments the program will require and full implementation begun.

AID as an institution has had similar experiences in area development in other countries and much of the expertise that exists within the Agency can be effectively utilized. Additionally, the AID also has in-depth experience in implementing sectoral programs at the local level in the Philippines.

The progress made to date by the BRBC, together with the anticipated completion of the Water Resources Survey (which will result in projectizing the design of specific requirements for flood control dikes, dams, and ancillary irrigation structures) as well as the Intermodal Transport Study by August-September 1976, should provide a clear basis for confidence about the program.

4. Beneficiary

One million of the approximately three million residents of the Bicol region live and work within the watershed defined by the Bicol River Basin. It is estimated that as of 1974 the average per capita income of the basin's population was about 550 pesos per year. This means that at current prices, one could buy two sacks of rice and have 300 pesos left for all other expenses-- about a peso (or roughly 14 U.S. cents) per day over a 12-month period. Clearly, per capita incomes must be increased.

Seen another way, there are approximately 41,000 rice and corn sharetenant families (average family size - 7) within the River Basin tilling an average of 1.3 hectares each, compared with the national average of 1.8 hectares per tenanted farm. Presidential Decree No. 27 defines the "economic" family size non-irrigated farm. This circumstance helps to explain why over 300,000 people migrated from the Bicol region between 1960 and 1970, mainly to Manila and Mindanao.

At its current rate of increase, the population in the Bicol River Basin is expected to expand from the present level of 1 million to 1.5 million by 1995. It is to this existing and anticipated population that Bicol River Basin Program is addressed.

A unique feature of the River Basin Program is the existence of what is known as the Social Survey Research Unit (SSRU), a subsidiary of the Institute of Philippine Culture. This survey research group attached to the Bicol River Basin Program Office and funded in part by AID has conducted an initial baseline survey of 3,500 families in the Basin. A village-by-village baseline data study is also near completion. The plan is for the SSRU to return at two-year intervals to these areas and people in order to assess the impact of the Basin Program over time in terms of income, employment, production and perceived quality of life of Basin residents. Utilizing the highly capable staff of the SSRU, as well as the wealth of data collected by them over the past two years, the social analysis to be included in the PP will be complete and fully comply with the guidelines contained in Handbook #3. A profile of the basin people, their problems, aspirations, and attitudes will also be included to serve as a basis for evaluating the effect of this and other AID-financed projects in the area. This profile will be targeted particularly on the basics of income, health, education, and other developmental concerns expressed in the Congressional Mandate on U.S. Bilateral Assistance.

5. Feasibility Issues

As stated earlier, there are several on-going feasibility studies and pilot programs. Of principal interest will be the conclusions reached by the TAMS/TAE Comprehensive Water Resources Study which is scheduled for completion in August 1976. This study will determine the economic and environmental feasibility of the several major components of the water control and irrigation program and recommend time phasing implementation of the program components according to economic returns. Similarly, the Intermodal Transport Survey will demonstrate economic and environmental feasibility or lack thereof.

The results of these and other on-going studies, together with the experience gained in the Pilot Land Consolidation program and the Libmanan-Cabusao Integrated Area Development Pilot Project, will have a major bearing on the analyses and conclusions affecting this proposed loan well in advance of submission of the PP. In any event, the PP will not be completed by the Mission until these results are in.

An environmental assessment will be included in the PP and will, in large measure, draw on the analyses and conclusions contained in the above-referenced studies. Potential schistosomiasis problems will be the subject of a separate study by outside experts prior to submission of the PP.

The economic/financial analysis will be completed for each sub-project described in this program and will be contained in the PP.

At this time there does not appear to be any financial issues of note. The GOP has given the Bicol Program very high priority and financial commitment has not been, nor is it expected to be, a problem. The loan agreement will require the usual assurances of continued support.

6. Other Donor Coordination

With regard to the program generally, USAID as well as the BRBC coordinate closely with other donors regarding their participation in the Bicol River Basin Program. For example, in the case of the Libmanan/Cabusao Integrated Area Development Project, a close working relationship has existed between the Basin, USAID and the UNDP. The UNDP is directly supporting the Bureau of Soils, which conducted the land classification study for the project area. The Bureau of Soils and United Nations technicians worked closely with the National Irrigation Administration and USAID's Irrigation Advisor in developing the appropriate land classification methodology for determining the irrigability suitability of project lands.

At present, there are no water resource oriented projects in the Basin financed by external donors. However, the BRBC and USAID are keeping the IBRD and the Asian Development Bank apprised of the water resource planning work now underway in the Basin. The IBRD has expressed to the GOP their interest in supporting the major water resource projects of the Basin, the feasibility studies for which are being financed by USAID. The ADB has expressed interest in financing the upgrading of the railroad from Manila to and through the Bicol. They also have under consideration the financing of the Quirino Highway which would shorten the road distance to Manila by 77 Km. and open up the upper portions of the basin area. Given the anticipated large capital requirements necessary to implement the Bicol River Basin's flood control and irrigation development program, it is imperative that the GOP keep other donors apprised of the planning now underway. The Government has clearly recognized this need and has taken several ADB and IBRD missions on field trips to the project area. Several working-level missions are planned over the upcoming months to identify discrete project packages for financial commitments by ADB and IBRD, as well as several bilateral donors. The GOP is anticipating major financial commitments from other donors to be made in CY 1977 with implementation in 1978 and beyond.

7. Financial Plan

The proposed loan of \$3 million will be the third U.S.AID loan in support of the Bicol River Basin Development Program and it is intended to provide foreign exchange needed to implement the efforts described in earlier sections of this paper. The GOP contribution to the efforts to be directly undertaken as part of this project obviously amount to many times U.S.AID's input in the form of salaries, operating costs, local procurement, contract hire of people engaged in labor intensive projects, and so on. Given the nature of integrated area development programs, involving as they do many different elements of the government, at all echelons and a wide array of supporting services, public and private, it is difficult at best and most likely impossible to definitely arrive at a matching monetary figure. It would be an accounting nightmare involving a great deal of manpower and time to estimate pro-rata project costs in a program of this nature which cuts across both horizontal and vertical administrative and sectoral lines. Thus, the GOP contribution figures shown are our best estimate of immediate direct costs plus a fair but conservative guess at pro-rata direct costs. The latter category of costs is estimated at rough 50 per cent of the total.

Project cost estimates are therefore as follow (P7.5 = \$1):

	<u>In Millions</u>		
	<u>Pesos</u>	<u>Dollars</u>	<u>Total</u> <u>(\$ Equivalent)</u>
GOP Contribution	P112.5	-	15.0
AID Development Loan	-	\$3.0	3.0
AID Grant	-	\$.9	.9
	<u>P112.5</u>	<u>\$3.9</u>	<u>\$18.9</u>

Given the nature of the foreign exchange cost components of the project, their criticality to GOP ability to effectively absorb and implement the larger Bicol River Basin Development Program, and the clear conformance of the project components to the basic thrusts and intent of the Congressional Mandate regarding U.S. bilateral assistance, it is believed justifiable that the GOP obtain this assistance on the most concessional terms possible. The Mission, therefore, recommends that the terms of the proposed loan be at the legislative minimum.

The GOI has evidenced full and complete support of the Bicol River Basin Development Program and, given the high priority attached to the effort by the GOP, we would anticipate no difficulty in peso support. More precise cost estimates will be available for preparation of the PP as results are in from the feasibility and pilot schemes now underway and scheduled for completion in August-September 1976. These data will in large part form the basis for more complete cost estimates and the timing of expenditures. Developments over the next 9-12 months will be critical underpinnings to the Project Paper.

It should be noted that, while not shown in the Preliminary Logical Framework or in the body of the PRP due to the tentative stage of the proposal, BRBC and the USAID have been discussing the possibility of a "second window" in the rural credit banking system in the Bicol. Stated simply the GOP would deposit 100% of the value of the delivered commodities into a separate account (about 20 million pesos) which would be funnelled through the rural banks as collateral free loans available to the Compact Farm Organizations, Samahang Nayan, Irrigation Associations, Livestock Associations, Fishermen Associations, as well as Marketing and other cooperatives. The purpose would be two-fold: develop and strengthen the cooperative movement in the rural areas and to provide these small cooperatives with a viable alternative to usurious interest rates which they are forced to accept or do without when they do not meet the collateral qualifications of the banks. The major focus of this credit program will likely be in small and medium agri-business projects.

It is possible that this credit program and the GOP contributions to it may be incorporated into the PP. The determining factor as to whether it is included will be the speed with which the proposal can be developed, guidelines prepared, and arrangements negotiated with the rural credit banking system.

It should also be noted that if this credit arrangement is successfully developed prior to submission of the PP, it is possible that the funding mix may shift. The determining factor in the final breakout of fund allocation will be simply how AID dollars can best and most effectively be employed; for the credit facility or the commodities or in combination. At this preliminary stage of project development it has been assumed that the commodity procurement route would be the most needed by the GOP and the most acceptable course for the U.S. Congress since it would be 100% U.S.-made commodity procurement.

8. Implementation Plan

BRBC will implement this project and delegate responsibilities as appropriate to line agencies, regional offices, provincial offices, and other government echelons by memoranda of agreement. This is standard procedure and has been effectively utilized over the past two years by BRBC.

Upon finalization of the equipment and commodity requirements listings following completion of ongoing feasibility studies, and related maintenance and repair plans are finished and approved by USAID, the PP will be sent to AID/W for approval in December 1976. (?) Assuming AID/W approval late January, the loan agreement could be signed in February 1977. Commodities, assuming the CP's are met promptly in February which is a reasonable expectation given the more than one year planning and preparation time between PRP and PP, would arrive in July 1977. This timing ties ideally with GOP planning in the various project components described earlier. For example, the BRBC headquarters building will be complete in that month including the motor pool and maintenance facility. Similarly, the renovation and expansion of the Provincial Hospital is scheduled for completion in May 1977. GOP plans regarding other components of this project have also been taken into account in the preparation of this PRP and they appear to match up in terms of timing and magnitude of requirements. Final and more definitive intermediate targets must await completion of ongoing feasibility studies. Discussions with GOP counterparts and contract consultants conducting feasibility studies indicate planning dates are reasonable and keeping the December 1977 PP submission date is probable.

9. Project Development Schedule

This project will be developed collaboratively by the GOP and USAID. The program components will be finalized in detail to include the full range of analyses required in the PP for submission to AID/W no later than December 1976. This timing will permit the full incorporation of the results of the several key feasibility studies and pilot programs scheduled to be available in August-September 1976.

TDY assistance from AID/W will likely be required in the review and design of the nutrition/family planning component of the program, as well as the health component. This will be requested as appropriate and will be charged to grant funds available to the program. The development of a suitable evaluation plan for a project as complex as this one is, utilizing a profile of the poor majority in the Bicol River Basin in order to specify and demonstrate real impact on the poor majority as expected by Congress, may also require special consultation.

ANNEX I

BRBC, Subsidiary, and Affiliated Offices
Commodity Requirements

<u>Quantity</u>	<u>Item</u>	<u>Cost</u>
	<u>General</u>	<u>\$1,250,000</u>
3	SUNSHINE DURATION RECORDER. Campbell Stokes type, with adjustable support and base, and chart graph, for North latitude. Type A-0/40, C at. No. 651 or Equal, @ \$293.00/ea.	879
3	CHART seasonal, size 9x8½x8" for above. Cat. #65IN @ \$44.00/ea.	132
3	ANENOMETER, contacting, dial totalizing. Type, Rotor with three hemispherical cups of 5" diameter mounted on a spindle contact closes for each full mile of wind passing a station, register on totalizing dial up to 999 miles, flanged base stand. Cat. #403 or Equal. @ \$290.00/ea.	870
1	PYGMY CURRENT METER, suited for measurement in shallow streams, flumes and canals, 2 in. dia. bucket wheel; range .05/3.0 ft./sec. Cat. No. 579A or Equal. \$324.00	324
2	PIRCE PATTERN CURRENT METER, can operate by suspension from overhead cableway or bridge, or used from a boat for measuring river, harbor and ocean currents, basic meter, supplied with reference table, can be used to read velocities from 0.1/11 ft./sec. or 0.03/3.39m/sec. consists of mahogany case, spare parts accessories, headset, 15 ft. steel wire cable, 15 lb. streamlined weight, 35 ft. of 2-cord signal cable and canvas equipment bag. Cat. #579B or Equal. \$500.00/ea.	1,000
2	PYRHELYGRAPH, weekly recording, for measurement of solar radiation from sun and sky, spring-wound clock drive. Complete with 100 charts ink and pen. Cat. #653 or equal. @ \$314.00/ea.	628
10	CHARTS, (weekly) No. 653 W for above, @ \$7.50/hd.	75

<u>Quantity</u>	<u>Item</u>	<u>Cost</u>
2	WATER LEVEL GAGE, digital recording, water level is recorded on punched taped in binary decimal form, full range in 100 ft. with a resolution of .01 ft.; recording interval controlled by interval timer operated by battery; for 15 minutes readout, complete with digital recorder and timer in standard case. Cat. #577 or Equal. @ \$611.00/ea.	\$1,222
2	ACCESSORIES FOR ABOVE GAGE. Floats, spun copper @ \$33.00/ea.	66
2	WEATHER PROOF CASE @ \$176.00/ea.	352
5	WATER LEVEL RECORDER, portable, for use in well and ground water studies, irrigation projects and hydraulic labs, complete with clock, 4-inch float counterweight. 30 ft. perforated tape, ink, pen and one set of 100 charts. Cat. No. 575 or equal. @ \$330.00/ea.	1,650
30	CHARTS. Extra for above. @ \$5.00/hd.	150
5	ANCHOR BASE, aluminum tripped for above. Cat. # 551-A or Equal. @ \$10.00/ea.	50
3	HOOK GAGE, micrometer consisting of a hook at the end of a stem with metric graduation 10 cm. to 01 cm. Cat. # 243M or Equal. @ \$83.00/ea.	249
1	SOIL MOISTURE METER, 90hz. A.C. meter, portable stainless steel case D-1/2 x 6-3/4x5 1/2", complete with batteries and instruction. Cat. #290 (I)A or Equal. \$231.00	231
3	PSYCHROMETER, sling, range; 20/120°F with 1.0 graduation, rigid swivel handle folds out of way when not in use, overall length 12 inches, includes protective carrying case, spare wicks tables and instructions, at 210 or equal. @ \$42.00/ea.	126

REF: Science Associates, Inc.
230 Nassau St. Box 230
Princeton, N.J. 08540

<u>Quantity</u>	<u>Item</u>	<u>Cost</u>
5	WATER LEVEL INDICATOR, transistorized. (92 meters), soil test model. No. DR-76-M or Equal. @ \$90.00/ea.	\$450
1	CENTRIFUGAL PUMP, with 16 HP engine, maximum suction lift 25 ft., Barnes Model F2020HA, with the following accessories: 1 pc. suction hose, 2-1/2 dia. 25 ft. 2 pcs. discharge hose, 2-1/2" dia. 40 ft.	900
5	WINDSOPE, speed and direction indicator, with self-contained Taylor instrument, with 60 ft. cable, rust resistant cups, wire, flashlight battery and instructions. Cat. #67-53. @ \$129.00/ea.	645
	REF: Turtox/Cambosco MacMillan Science Co., Inc. 8200 South Heyne Avenue Chicago, Ill. 60620	
1	SALINOMETER, Model RSS-30, with 20 ft. electrode, reads temperature, salinity and conductivity. \$1,088.	1,088
2	STOPWATCH, interruption type, 1/10 second, 0 to 15 minutes register. Cat. #SK-63065 or Equal. @ \$320.00/ea.	640
5	THERMOMETER, max-min, range 40°F, W-25 NASCO Cat. E80N-5458 @ \$13.00/ea.	65
	REF: NASCO Agric. Sciences 1974-75 Catalog 1524 Princeton Avenue Modesto, California 95352	
1	DRAWING INSTRUMENT, Mark I with beam compass in flap type case, K&E Cat. 55-0130 or Equal. @ \$57.00.	57
2	T-SQUARE, 36", K&E Cat. #56-3900 or Equal. @ \$7.50/ea.	15

<u>Quantity</u>	<u>Item</u>	<u>Cost</u>
3	LETTERING SET, Leroy, consisting of 11 templates, 7 reservoir pens, adjustable scribe, pencil, lead dispenser, reservoir holder, ink cartridge, in polished mahogany case. K&E No. 61-2901 or Equal, with the following accessories: @ \$150.00/ea. a. K&E 61-0020 Leroy HE & Slant control scribe b. K&E 61-3100 Lettersize adapter c. K&E 61-3115 Leroy Cleaning Kit	\$450
1	BRUNING WHITE PRINTING MACHINE Printing Width - 42 inches, takes sheets and roll stock 42" wide	1,200
1	PRINTING LAMP - 4,000 Watt mercury	250
1	PABX Intercom System	150
1	Public Address System (complete)	200
10	1½ HP Air Conditioners	3,600
12	Mimeographing Machines	2,400
3	Electronic Copiers	
1	Electronic Scanning Machine	700
5	Cassette Tape Recorders (Mono)	500
3	Tape Recorders (Mono)	1,200
8	Electronic Calculators	800
10	Sharp Electronic Pocket Calculators	650
1	Monroe Electronic Calculator	280
2	Electric Adding Machines	195
3	Slide Projectors	420
16	Electric Fans (Pedestal type)	800
40	Filing Cabinets	1,200

<u>Quantity</u>	<u>Item</u>	<u>Cost</u>
14	Electric Typewriter (IBM)	\$7,000
24	Manual Typewriters	3,600
8	10-ton Field Unit Vans with equipment @ \$35,000 each (diesel)	280,000
2	Field Unit Vans (rivercraft) @ \$35,000 each (diesel)	70,000
100	IH or Jeep vehicles, 4-wheel drive, with 15% spare part component kit	650,000
200	125 cc Motorcycles	200,000
1	Hamilton Fluorescent Tracing Table, No. 1037	120
2	Hamilton Drafting Tables with stools, No. 1051-86	600
8	Floating Drafting Table Lamps, 200 V. Daylight	480
4	Wrico or Leroy Lettering Set	90
3	Drafting Machines	360
2	KOH-INOOR Rapidograph Pens	45
60	Boxes of Drawing Pencils (KOH-1-NOOR or Staedtler) 2H, H, F, HB, B	280
12	Pencil Stub Holders (Dietrich, No. 2112, double end)	36
20	Clearpint Tracing Paper Rolls, No. 1015, 1000H	130
7	K&E Triangles, 30° x 60° x 14"	75
3	K&E Drawing Instruments (sets)	80
1	Transparent Plastic Curves (set)	12
7	Isometric Ellipse Guides No. 3233 & 3232	27
7	Architect Triangular Metric & English Scales w/ scale guards	160
3	W. Roberts Eraser, Hexo-1010-Cleaner (boxes)	14
1	Pantograph Set	40
1	Planimeter Set	30

<u>Quantity</u>	<u>Item</u>	<u>Cost</u>
1	Abney Level Set	\$200
1	Pocket Transit	12
1	Stadia Rod	40
2	Steel Tapes 50 m. long	40
5	Steel Tapes 2 m. long	35
2	Transit Sets	600
2	Tripods	100
1	Chain Block "Universal" 4 tons capacity	2,500
1	Bench Grinder "Block & Dockner" #74 with elec. motor, 220 V., 3/4 hp. single phase 50/60 cycles	820
1	Electric Welder (GE) 50-350 amp. with Cristee engine	200
1	Spark Plug Tester "Champion"	40
1	Lubricating Machine "GRACO" Winsconsin Engine	400
1	Battery Charger "Silver Beauty" 220 V. U.S. made	350
1	Chain Hoist 3 Tons Capacity "Portahist" U.S. made	800
1	Metal Saw Manual (Power "Falcon") 200 V. 1 hp., elec. motor	1,490
2	Oiler "Drop Type" 1 pint capacity	15
1	Master Feeler Gauge - 25 leaves, U.S. "Master"	37
1	Blowtorch "Layton & Lambert" U.S. made, 1 qt. capacity	65
1	Clamp "Broto, Wilton, Amstrong" U.S. made	12
1	Extractor Lucher and/or "Blackhawk" U.S. chrome plated "Stud Setterloy", steel heat treated	90
2	Tire Wrench "Ford Type" 1½	30
1	Cold Chisel "Proto" Hexagonal 2116 (set)	14
1	Clip Remover "Blackhawk" (set)	20

<u>Quantity</u>	<u>Item</u>	<u>Cost</u>
1	Allen Wrench (set)	\$60
1	Snip Scissor (Crescent 12-3/4) set	43
2	Hammer (Ball pen) Stanley	24
1	Puncher 10"	17
1	Cutter No. 8	23
5	Heavy Duty Hydraulic Jacks (large)	1,439
1	Battery Tester "Harvey-Handson" U.S.	35
1	Compression Tester "Klener"	72
1	Wheel Aligner	310
1	Puller (set)	200
1	Oxy-Acetylen Welding set	600
1	Resetter (set)	60
1	Compressor (set)	260
4	Auto Mechanic Complete Hand Tools (set)	2,000
2	HUB Wrench (Jeep) set	90
2	Torque Wrench Set	80
1	Multi-Tester Set	120
2	Trouble Light (100 watts) set	40
1	Soldering Gun set	32
1	Spray Gun Complete with hose and compressor	365
1	Clutch Rebuilder	210
1	Tester (Ohmmeter)	125
1	Tester (voltage)	36
1	Drill Press	400
1	Bench Grinder	350

<u>Quantity</u>	<u>Item</u>	<u>Cost</u>
1	Lathe	\$6,869
1	Vise (2) different sizes	280
1	Flaring tools	100
1	Hydrometer	25
1	Growler Tester	70
4	Monkey Wrench (sets)	200
1	Hydraulic Vehicle Lift (complete)	2,400

IMPACT DEVELOPMENT PROJECTS

COMMODITY REQUIREMENTS

<u>QUANTITY</u>	<u>I T E M</u>	<u>COST</u>
	<u>Barrío Irrigation Systems Improvement</u>	\$ <u>850,000</u>
81	Irrigation Pumps Output sizes to range between 10" and 18". Final designs and definitive procurement data will be completed in June 1976.	
	<u>Bicol Health Care</u>	<u>200,000</u>
	A. Laboratory:	40,000
2	Airconditioners	
1	Platform Balance	
6	Screw adjusting chair	
1	Autoclave	
1	Incubator	
1	Oven	
1	Centrifuge (six tube table type)	
1	Waterbath (regulated Temperature)	
1	Refrigerator (12 cu.ft.)	
1	Hot plate	
1	Bi-ocular Microscope "American Opt."	
500	Screw cap 3/4" x 6" test tubes	
500	3/4" x 6" test tubes	
500	1/2" x 4" test tubes	
500	Fermentation Tubes	
1	Complete set "AUTOANALYZER"	
1	"COLEMAN Jr." PHOTOMETER	
1	Waterbath (regulated temperature)	
1	Centrifuge (six tubes table type)	
1	Hot Plate	
1	Pipette washer	
1	Pipette Dryer	
2	Timer	
48	1 ml. (1/10) pipettes	
48	2 ml. (1/100) "	
48	5 ml. (1/10) "	
48	10 ml. (1/10) "	
1	Micro-Hematocrit	
1	Micro-Hematocrit reader	
1	Differential Counting computer (five windows)	

<u>QUANTITY</u>	<u>I T E M</u>	<u>COST</u>
1	Timer	
2	Blood count computer	
1	Stop Watch	
1	Centrifuge (12 tubes Capacity)	
1	Waterbath	
1	Autopsy Set	
1	Auto-Technicon	
1	Rotary Microtome	
1	Freezing Microtome	
1	4 Eyepiece Teaching Microscope (American Optical)	
	B. Medical Library:	\$ 2,500
1	Standard medical library texts and reference works (set)	
	C. General:	157,500
1	Maxicart	
1	Pulser 3,000	
1	Nebulizer	
2	D & C sets	
1	Fetuscope	
1	Vacuum extractors	
1	Anesthesia machine (Flomesaroff with pulse monitor)	
20	Endotracheal tubes	
2	Major surgical sets	
4	Vascular clamps sets	
2	EENT instruments sets	
1	Peritoneal dialysis set	
2	Tracheostomy sets	
2	Electrocautery sets	
4	Operating tables	
2	Thoracentesis and lumbar tap sets (Adult & pediatric)	
2	Tonometers	
2	Retinoscope	
2	Otoscope & ophthalmoscope sets	
2	Sphygmomanometers	
10	Stethoscopes	
2	Laryngoscope	
2	Gastric lavage set	
10	Blood pressure apparatuses	
4	Oxygen tents	
2	Cervical biopsy punch set	

<u>QUANTITY</u>	<u>I T E M</u>	<u>COST</u>
12	Stretchers	
12	Wheel Chairs	
2	Suction apparatus set	
6	Dressing carriage with push carts	
2	Resuscitators	
24	Oxygen gauges	
6	Autoclaves	
6	Weighing scales	
12	Steel cabinets for instruments	
24	Bed pan sterilizers	
6	Refrigerators - 12 cu.ft.	
1	Wangenstein apparatus	
24	Bassinets	
12	Stainless jars for cutgut	
1	Fluoroscopy machine	
1	Portable X-ray machine	
2	Megaloscopes	
1	Adjustable X-ray table	
	628 American Albee Orthopedic Table	
	Electrical cast cutter, plaster vac	
	Traction table or frame	
	Compression implants and instruments or sets (including Jones compression condyle plates)	
	Bone plates - different sizes and kinds, esp. heavy duty ones and screws	
	Kuntschner Cloverleaf intramedullary nail - various sizes	
	Cloverleaf nail extractor and extractor hook	
	3775 Satterlee bone screw	
	Zimmer Gigli saw and handle for gigli saw	
	333 Gigli saw guide (Parham band)	
	Bone screw of different sizes, kinds and accessories (including Olecranon screw)	
	Screw drivers of different kinds	
	Intertrochanteric plates and screws and other accessories	
	Jewit nail and plates	
	474 Impactor-Extractor	
	Sliding nails and instruments	
	933 Ken screw driver	
	Other Zimmer certified stainless steel pins	
	Rush Pins	
	Rush medullary pins and set	
	811 Rush Bender	
	Driver bender extractor for rush pins	
	Sorrate forearm pins	
	Schneider Intramedullary nails for small bones	
	Zimmer tibia intramedullary nail	
	Smith-Peterson hip nail and screw	

QUANTITY

I T E M

COST

Curettes
Mallets, tamps
Rongeur
Bone holding forceps
Bone cutting forceps
Bone clamps - esp. Lowman clamp
Scissors, clamps
Cartilage knives
Harrington spine instrumentation
Distraction fusion instruments
Snyder Homovac
Snyder Urevac
Self-retaining retractors
Rake retractors
Osteotomes chisels, gauges
Wire cutting scissors
Shifrin wire twister
Rush wire carrier
Wire guide
Luck Bishop bone screw and attachments
Hand drills and adaptor and drills
Kirshners wire in plain and threaded styles
Kirshner wire tractor
Craig pin extractor
Combination plier and side cutter
Threaded belts and fixation sets
Staples of various sizes
Staple driver
Certified stainless suture wire
Roordan fixation pin
Steinmann pins of various sizes
Steinmann pin chucks
Bohler steinmann pin in seven diameters
and five lengths
Multiple action pin cutter
Extractor
McReynolds Driver-Extractor
Hook of the extractors
Yund ligamentum tores knife and acetabular skid
Femoral head extractor
Handle type harris reamer
Centering ring (small and large)
Drill and wire guide forceps for trochanter
Wire pulling forceps
Horizontal retractors
Gigli saw passer with gigli saw
Total hip prosthesis and cup (short stem and
short neck, standard stem and standard neck
for the cup - small and standard)

QUANTITY

I T E M

COST

Kasp - 4044 and 4044-26
Cup pusher
Driver
Cup positioner
Zimmer gauge
Aufranc cobra retractor (plain and pointed)
Hohmann retractor (narrow and wide)
Expanding reamer
Replacement blade set
Femoral neck pinch
Cup holder and guide
Pilot drill
Centering drill
Silver wire - different sizes
Arm, elbow splints
Padded leg splints-splints-pads
Club foot, toe drop brace
Pillow-abduction brace
Cast spreaders - breakers
Cast cutter, utility shears
Waking heel
Stirrup walking heels
Gardner arm elevator
Head halters with traction sets and kit
Pelvic traction belts
Clacicle straps
Rib belts
Shoulder immobilizer
Arm slings
Cervical collar and braces
Abdominal, sacral supports
Sacro-iliac supports
Elastic abdominal supports
Spine lumbar braces
Elastic support knee spica
Knee dressing
Post-operative knee dressing
Hand, finger and wrist splints and kits
Arm, hand splints with pads
Leg splints and accessories
Knee exerciser
Zimcode traction carts
Cervical traction unit
Zimcode Buck's extensor
Patient helper complete
Footrest - complete with bed attachment
Stat-trac-traction belt
Traction accessories (including traction bandage,
strips, weights and equipments)

<u>QUANTITY</u>	<u>I T E M</u>	<u>COST</u>
	Hemostats and Coniometers Spinal frame, leg holder ZIMCODE BASIC FRAME -- 1039-04; 1005-02; and 908	
	<u>Nutrition/Family Planning Campaign:</u>	<u>\$ 227,500</u>
39	Four-wheeled drive vehicles w/spare parts (Other related commodities to be provided through presently funded population and health program)	227,500
	<u>Barrio Potable Water</u>	<u>80,000</u>
100	Water pumps	80,000
	Plus Contingency, Inflation, and Unforeseen	<u>392,500</u>
	GRAND TOTAL	<u><u>\$3,000,000</u></u>

ANNEX II

PROJECT SUMMARY -- AID APPROPRIATED FUNDS

(in \$000)

Country : Philippines PRP : New
 Project No.: 482-0275 Title: Bicol Integrated Area
Development II

Budget Year FY 1977

<u>Cost Components</u>	<u>Direct Aid</u>	<u>Contract Other Agency</u>	<u>Total</u>
U.S. Technicians	200	50	250
Participants	100		100
Commodities	3,000		3,000
Other Costs	250	300	550
Total	3,550	350	3,900

P.R.P.
PRELIMINARY
PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Project Title & Number: **BIGL INTEGRATED AREA DEVELOPMENT II #492-0275**

NOTE: Coded from left to right and top to bottom by letter and number.

Life of Project:
From FY 77 to FY 79
Total U. S. Funding 53 million loan + 20.00 grant
Date Prepared: 8 November 1975

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>Program or Sector Goal: The broader objective to which this project contributes: (A-1) Socio-economic uplifting of the rural poor</p>	<p>Measures of Goal Achievement: (A-2) A. 1. Average farm household income of the poorest half of the Bigl population (500,000) increased to more than 1,300 pesos (\$200) per year by 1985. 2. Annual unemployment rate reduced to national average of 7.2 per cent by 1985. 3. Land reform extended to 37,000 rice and corn tenants and tilites issued by 1981. 4. Increase in per capita value added to 1,442 pesos in 1985; effective annual growth rate of 5.3 per cent between 1973 and 1980 and 9.8 per cent from 1980 to 1985. 5. Population growth rate reduced from 3.5 per cent to 3.0 per cent by 1985. 6. Minimum food requirements of 299,363 MT of cereals and 117,186 MT per annum of meat, poultry and fish to support adequate diet needs of people by 1985. 7. Basic health services and opportunities of functional education extended to 90% of the total basin population by 1985.</p>	<p>(A-3) A. Annual socio-economic surveys and evaluations utilizing socio-economic baseline data and an initial profile of the poor majority as their reference points.</p>	<p>Assumptions for achieving goal targets: (A-4) A. The GDP continues to place high priority on improving the quality of life of the nation's poor majority. B. Integrated area development with its implicit assumptions regarding concentration of scarce internal and external resources into delimited geographic areas remains politically acceptable. C. Current GDP efforts to decentralize development planning and implementation authorities and responsibilities to regional and sub-regional government echelons continue to be carried out and at a pace commensurate with the program's needs.</p>
<p>Project Purpose: (B-1) The purpose is twofold: A. To create and strengthen an organizational framework and systems capability for carrying out an integrated, multi-purpose, multi-sector, and multi-project program in a delimited geographic area with high economic potential and focused on the needs of the rural poor within that area; and, B. To initiate and complete planned small-scale, high impact development projects targeted on the peoples' most critical and immediate needs which can proceed while longer-term planning and preparations for large scale investments and implementation proceed.</p>	<p>Conditions that will indicate purpose has been achieved: End-of-Project status. (B-2) A. BRSC and its subsidiary and affiliated offices fully staffed, on site, fully trained, equipped, and successfully functioning. B. Four high impact development projects complete and self-sustaining. 1. Barrio level irrigation systems improved. 2. Provincial hospital upgraded and expanded. 3. Nutrition/Family Planning Campaign Targets met. 4. Barrio level potable water low-cost system moved from demonstration/pilot stage to first phase implementation.</p>	<p>(B-3) A. On-site observation and evaluation. B. End of project inspection and evaluation.</p>	<p>Assumptions for achieving purpose: (B-4) A. Organization structure as presently planned continues into implementation phase. B. Continued GDP priority attached to impact development projects targeted on the basin's poor majority.</p>
<p>Project Outputs: (C-1) A. GDP organizational structure in operation capable of reaching the people to coordinate planning and implementation of projects ranging from transport, flood control and irrigation to land reform, health, education, family planning and other social infrastructure projects totalling more than \$1 billion in investments from GDP and foreign donors expected to be committed in the 1978-1980 time frame. 1. Program Office staffed and functioning. 2. Area Development Teams staffed and functioning. 3. Integrated Extension Service in place at the barrio level and functioning. B. 1. Improved barrio level irrigation systems in operation. 2. Provincial hospital providing upgraded and expanded services. 3. a. Basin area school-aged children dewormed and sanitation education continuing. b. Family planning program in the Basin area initiated and continuing with increased acceptance. 4. Barrio potable water program, first phase, completed. 5. Barrio potable water program, second and third phases initiated and completed.</p>	<p>Magnitude of Outputs: (C-2) A. 1. 125-man staff in place in BRSC headquarters complex, motor pool/garage in operation. 2. 8 ADEs in operation. 3. 800 Integrated Extension Service personnel at work in the barrios. B. 1. 25 barrios utilizing improved irrigation systems covering 11,000 Hec. and 60,000 people. 2. Facilities expanded to 300 beds, 185 providing full range of services, medical library in operation, surgical facility and equipment in use. 3. a. 200,000 children dewormed. b. 18,400 new family planning acceptors. 4. 200 barrios supplied with potable water impacting on the lives of 220,000 people.</p>	<p>(C-3) A. Inspection, observation. B. Independent evaluation, on-site and secondary sources.</p>	<p>Assumptions for achieving outputs: (C-4) A. GDP plans for completion/construction of headquarters facility and motor pool/garage are implemented on schedule. Funds for salaries and related operating expenses are provided in adequate amounts and in a timely fashion. B. 1. Equipment and commodities arrive on schedule and GDP counterparting efforts proceed as planned. 2. Provincial budget released on schedule and construction for renovation and expansion completed on schedule. 3. a. GDP Department of Health provides supplies of needed medicines. b. Supplies of equipment and FP devices provided on schedule. 4. Release of funds and action by barangays.</p>
<p>Project Inputs: (D-1) A. and B. AID: FY77 - Loan, \$3 million in commodities and equipment. FY77 - Grant, \$900,000 in technical assistance, consultancies, contract, PASA, and Direct Hire. Excess property as available. GDP: FY77-78 Budgetary allocations for staff and operational support in the amount of 112 million pesos.</p>	<p>Implementation Target (Type and Quantity) (D-2) A. and B. August-September 1976 - Results of Comprehensive Water Resources Survey and Intermodal Transport Study. December-February 1977 - Project approval, authorization, agreement signing. Balance of FY77 - Staffing, organization, IPMS, commodities arrive, project implementation underway. December 1979 - All targets achieved.</p>	<p>(D-3) A. and B. GDP/BRSC and AID documentation and records.</p>	<p>Assumptions for providing inputs: (D-4) A. and B. That GDP and AID priorities result in continued support of the program.</p>

DD-440-605

4920275 (9)

AGENCY FOR INTERNATIONAL DEVELOPMENT PROJECT REVIEW PAPER FACESHEET TO BE COMPLETED BY ORIGINATING OFFICE		1. TRANSACTION CODE ("X" appropriate box) <input checked="" type="checkbox"/> Original <input type="checkbox"/> Change <input type="checkbox"/> Add <input type="checkbox"/> Delete	PRP DOCUMENT CODE 2
2. COUNTRY/ENTITY Republic of the Philippines		3. DOCUMENT REVISION NUMBER - -	
4. PROJECT NUMBER 492-275 259	5. BUREAU a. Symbol - 91a b. Code 2	6. PROPOSED PP SUBMISSION DATE mo. yr. 12 76	
7. PROJECT TITLE - SHORT (stay within brackets) Bicol Integrated Area Development II		8. ESTIMATED FY OF AUTHORIZATION/OBLIGATION a. INITIAL FY 77 b. FINAL FY 79	

9. ESTIMATED TOTAL COST (\$000 or equivalent, \$1 = 7.5)

a. FUNDING SOURCE	FIRST YEAR FY			ALL YEARS		
	b. FX	c. L/C	d. Total	e. FX	f. L/C	g. Total
AID APPROPRIATED TOTAL	3,000		3,000	3,000		3,000
(Grant)	()	()	()	()	()	()
(Loan)	(3,000)	()	(3,000)	(3,000)	()	(3,000)
Other						
1.						
U.S.						
2.						
HOST GOVERNMENT		1,000	1,000		4,500	4,500
OTHER DONOR(S)						
TOTALS	3,000	1,000	4,000	3,000	4,500	7,500

10. ESTIMATED COSTS/AID APPROPRIATED FUNDS (\$000)

a. Appropriation (Alpha Code)	b. Primary Purpose Code	c. Primary Techn. Code	FY 77		FY		FY		ALL YEARS	
			d. Grant	e. Loan	f. Grant	g. Loan	h. Grant	i. Loan	j. Grant	k. Loan
Multi				3,000						3,000
TOTALS										
			3,000							3,000

11. PROJECT PURPOSE(S) (stay within brackets) Check if different from PID

Increase agricultural production, increase small farmer income and employment, and generate social development in the Bula project area of the Bicol River Basin.

12. WERE CHANGES MADE IN PID FACESHEET DATA, BLOCKS 12, 13, 14, or 15? IF YES, ATTACH CHANGED PID FACESHEET

Yes No Attached as Annex E

13. PLANNING RESOURCE REQUIREMENTS (staff/funds)

None

14. ORIGINATING OFFICE CLEARANCE

Signature: *Lawrence A. Marinelli*

Title: LAWRENCE A. MARINELLI
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Date Signed: mo. day yr. 12 25 75

15. Date Received in AID/W, or For AID/W Documents, Date of Distribution

mo. day yr.

Project Review Paper

Bicol Integrated Area Development II

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- C. Map of Proposed Barrio Site (Sample)
- D. Project Summary—AID Appropriated Funds
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- F. Social Survey Research Report No. 6,
Farmers of the River Basin's Land Consolidation Area,
May 1974 (as revised February 1975)

OVERVIEW

This PRP proposes a loan of \$3 million to help finance an integrated area development scheme in a 2,500 hectare site located at Bula in the Bicol River Basin. The direct beneficiaries total 13,000 residents of the Bula area who are among the poorest in the region and in the country.

The project principally involves irrigation and drainage, land consolidation, and the establishment of six villages in the project area offering adequate health, education, family planning, nutrition, and sanitation facilities and services. Land consolidation is the alignment of scattered farm units into single contiguous units and joining these in turn into larger production units.

The loan will be the third USAID project in the Bicol River Basin.

The first was the Libmanan-Cabusao Integrated Area Development loan for \$3.5 million signed in July, 1975. That project is essentially an irrigation and drainage activity tying in agricultural services and organization and land reform. The presently proposed project is similar in nature to that in Libmanan-Cabusao.

The second loan, pending authorization at the time of the writing, is \$10 million for Bicol Secondary and Feeder Roads. One of the roads under that project services the Bula project site (the Santo Domingo-Bula road). Other roads financed with the \$10 million are aimed at opening up other areas of high agricultural potential in the Bicol River Basin.

The presently proposed Bicol Integrated Area Development II loan constitutes a high GOP priority and the experience gained in the project will have wider application in other areas of the country where small farm size, combined with irregular and/or separated parcels, but with high agricultural potential exist.

1. Priority and Relevance

This project, an integral part of the overall Bicol River Basin Development Program (BRBMD), aims at increasing and equitably distributing income and improving the quality of life of the rural poor in the 2,500 hectare Bula project area. It is the second integrated area development effort in the river basin (the first being the Libmanan-Cabusao project) and is built on a pilot scheme involving 300 hectares in the Bula project area.

The Bicol River Basin Development Program (BRBMD) was selected by the Government of the Philippines to pilot test the integrated approach to development. The program is founded on the basic premise that development efforts aimed at the rural sector and the small farmers should focus on delimited geographic areas of high growth potential where incremental investments would yield maximum benefits in both social and economic terms.

The program has been designed to achieve a breakthrough in development by reversing the downward transitional trend of the region through a framework of integrated program components covering social, economic and physical services.

Rural development has been an articulated goal of the Philippine Government throughout the 1960s and into the 1970s. In terms of numbers of people, the problem of poverty in the Philippines is overwhelmingly a rural one. Since the end of the 1960s, the Government has recognized the need to modify traditional economic development strategies in order to reduce widespread economic dualism and improve standards of living with particular reference to the rural regions of the country. The substantive development strategy of the Government that has evolved is premised on implementation of a strong rural development program using a variety of approaches and techniques including increased investment in basic and rural oriented infrastructure.

The Government is also pursuing a policy of decentralization of authority and responsibility for the identification, design and implementation of rural development programs to increase efficiency and broaden the participation of local governments and regional offices of national government. Accordingly, Regional Development Councils have been organized in all 11 regions of the country to coordinate national and local development programs. The high priority attached to the USAID supported Provincial Development Assistance Project, one of whose objectives is to strengthen the planning and management capabilities of provincial governments, and the decision of the national government to have provincial governors assume overall provincial responsibility for implementation of the Masagana 99 rice production program,

are further indicators of the GCF's intent in these matters.

The Government is also testing the possibilities of integrated area programs as a major instrument for accelerating rural improvement. The extent to which the Government will pursue this approach, with its need for relatively heavy application of resources in limited geographical areas with limited population is uncertain at present. However, it is clear that the GCF is committed to the idea of testing the approach on a selective area basis, e.g. in provinces or river basins where incremental investments in infrastructure and services are expected to yield significant economic and social benefits and which can in turn serve as important growth poles in stimulating broader regional development. The Bicol River Basin is one of the areas selected for trying this approach.

The Bicol River Basin Development Program is innovative in several respects. First, a comprehensive systems approach to planning and management has been adopted which integrates physical infrastructure requirements (e.g. irrigation, flood control and transport) with social and economic requirements for rural development (e.g. land reform and development of farmer support systems). As a consequence, the Program is a multi-disciplined and multi-sectoral effort encompassing such diverse sectors as water resources, transportation, agribusiness, crops, livestock, fisheries, agricultural credit, agrarian reform, health and nutrition. The Program is specifically targeted on a major sub-region of the country with high growth potential, the 312,000 hectare Bicol River Basin. Finally, the objective of the program is concerned with real increases in per capita income among the basin population, with particular reference to lower income groups.

The Bicol program is the product of an interagency effort prepared under the leadership of the secretaries of the departments of Public Works and Agriculture. The selection of the Bicol River Basin watershed area for development is explained in large part by the coincidence of a rich agricultural base and a progressive farm community, one the one hand, and problems of high tenancy, periodic flooding and deficient infrastructure on the other. The basin lies in one of the nation's key agricultural areas and is one of the priority areas covered by the Government's land reform program. The Bicol Program has been incorporated into the national four-year (FY 74-77) development plan as the Government's initial pilot effort in integrated area development.

Beyond the general concept of integrated area development, the Bicol

River Basin Program represents a specific form of area development--the river basin model--which may be particularly well suited as a development mechanism given the physical realities of the Philippine rural sector. In the Philippines, sub-regional programs focused on the major river basin watershed areas could yield substantial economic as well as social benefits, consistent with the Government's dual objectives of growth and welfare. Within the context of Philippine agriculture, the nation's seven major river basins constitute the majority of rich, accessible and potentially 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 Government's land reform program live within the nation's complex of river basins.

2. Description of Project

- The Overall Program -

Through an integrated area development framework, the Bicol River Basin Development Program seeks to increase per capita income in the basin area. Basic to this prime objective is the need to increase agricultural productivity, provide more employment opportunities and a more equitable distribution of wealth, and the need to move development beyond the farm to agro-industrial development.

The Bicol River basin is located on the southern tip of the Luzon island, 450 kilometers from Manila. The basin's watershed covers an area of 512, 000 hectares located in the provinces of Camarines Sur, Compostela Norte and Albay. The present level of per capita income is one of the lowest in the country. Its economy is basically agricultural with about 50 per cent of the total value added contributed by this sector.

The population in 1970 was about 1.0 million. The population growth rate of 2.5 per cent per annum is significantly lower than the national rate of 3.0 per cent because of out-migration, a phenomenon which is indicative of the virtual absence of economic opportunities in the area.

The program area is characterized by high incidence of tenancy. In Camarines Sur, for instance, 85 per cent of the identified tenants are within the watershed area of the basin. Farm size structure and ownership is also unique. With an average farm size of about 1.3 hectares, there exist predominantly small farm size on one hand and big landed estates on the other hand.

There has not been any vigorous effort to develop the physical infra-structural facilities. Roads and transport systems are very inadequate for the current level of economic activity so major inputs are required under an intensive development program. Five hundred kms. of new or upgraded roads are the minimum requirement. Irrigation facilities are insufficient: there are only 44,274 hectares fully irrigated at present out of the identified 100,000 hectares suited for irrigation. Drainage and flood control structures are also limited. The basin which is generally flat and which lies within the typhoon belt always succumbs to flooding. It is estimated that about 42,000 hectares of rich agricultural lands are periodically inundated.

The level of social amenities enjoyed by the basin's populace still leaves much to be desired. Very few towns are supplied by electric power, yet it remains relatively expensive. Health and education facilities and services are also very limited. Domestic potable water is a major problem in the majority of the basin's municipalities. Efforts aimed at correcting malnutrition in the area are in large measure stymied by one major factor: Ninety per cent of the pre-schoolage and schoolage population suffer from ascaris and hookworm infection.

The program presently being undertaken by the BABC can be broken down into four categories, namely: (a) pilot projects, (b) data generating projects, (c) feasibility studies, and (d) development projects aimed at benefitting the small farmer and rural dweller. The planning process involves maximum participation of personnel from existing line agencies of the government as well as the private sector.

The pilot projects include: crops, livestock, fishery, land consolidation, farm mechanization, introduction of medicinal herbs, on-farm water management and potable water supply. These are designed to develop prototype for basinwide application.

The data generating projects include: topographic mapping, land classification, geologic investigation, socio-economic research, and hydro-meteorological program. These projects are generating data in support of feasibility studies.

The feasibility studies include: Farm-to-Market Road, Intermodal Transport, Agribusiness, Upgrading of the Camarines Sur Agricultural College, and the Comprehensive Water Resources Study. The Comprehensive Water Resources Study will identify feasible water resource projects which include large scale irrigation, drainage, flood control, hydropower, and waterworks. The intermodal study should also identify priority, feasible projects in the Basin.

The development projects include: improvement and expansion of barrio-level irrigation facilities, the construction of secondary and feeder roads, the Libmanan-Cabusao integrated area development project, and the construction of facilities and staffing of rural health units, in addition to the regular programs of the line departments.

With the completion of ongoing data-gathering and feasibility surveys and studies, major investments can be expected to be made in the Bicol River Basin area beginning within the next two years.

- The Project -

As part of the overall Bicol River Basin Development Program, this project is an integrated area development effort aimed at increasing income and employment opportunities and improving the quality of life of 13,000 rural poor residing in the 2,500 hectare Bula project area. Principal thrusts of the project include construction of necessary physical infrastructure for irrigation and drainage, the construction of farm roads, land consolidation, the construction of a rice drying, milling, and storage complex (non-project funded), and the establishment of six villages in the project area complete with health, family planning, nutrition, education, and other social facilities and services needed to improve the quality of life of the area's residents.

Since 1959, the Philippine government has been promulgating laws and decrees designed to emancipate the farmer-tiller from the bondage of the soil. Prominent among these promulgations were RA 1400 in 1959, RA 3844 in 1969 and PD 27 in 1972. Under these laws, big landed estates and private agricultural lands above seven hectares devoted to rice and corn were expropriated for redistribution, or transferred to the actual tenant-tillers. Within the Camarines Sur portion of the Bicol River Basin area alone, around 19,500 rice and corn share tenants will become amortizing owners of approximately 25,350 hectares, while another 15,500 tenant-farmers within 20,150 hectares will eventually be converted to leaseholders. This means a total of 35,000 rice and corn farmers will have improved tenural status.

However, the average farm size in the area with land reform is only 1.3 hectares often fragmented into two or more separate parcels and, in most cases, inaccessible or long distances away from farmers' houses.

This kind of farm structure is not conducive to farm mechanization or effective farm management. In fact, for every farm plot, 11.33 per cent of the total area is unproductive. To remedy

this situation, a Pilot Land Consolidation scheme was formally launched to cover 2,500 hectares of the landed estates in the municipalities of Bula and Minalabac. If found economically feasible and the concept is acceptable to the intended beneficiaries, this pilot project would be replicated in many other areas in the basin, as well as in other areas of the country.

The main features of this project will be:

- a. Introduction of necessary physical and non-physical inputs in an integrated manner. Irrigation and drainage canals and structures will be constructed simultaneously with the farm road network and structures and the land forming schedules. Similarly interphased with overall project management and operations will be non-engineering aspects including land administration, farm level institution building, community development projects and agricultural programs.
- b. Land consolidation which, as the name suggests, is the grouping of all agricultural landholdings of a farmer into a single farm unit and in turn grouping that unit together with adjacent farm units of approximately equal productive capability to maximize overall farm production and minimize production costs. The aim is to have a distinct land use and land distribution pattern in a contiguous type and class of land to be operated by farmers. Unnecessary pathways, irrigation canals and/or rights-of-way will be eliminated. Paddies, ditches, irrigation canals and farm roads will be altered in accordance with the requirement of the crop to be raised in order to optimize the use of all arable land, make irrigation water distribution more efficient, utilize farm-man-hour more productively, and introduce farm mechanization where feasible. At present, nearly eighty percent of the farm units in the project area have geographically separated parcels and in each case one or more of these parcels are more than two kilometers walking distance from the farmer's house.

These activities will be coordinated through the inter-agency Bicol River Basin Council, the Area Development Team of Pili, and the integrated extension service (described in a later section of this PRP) constituted

to plan and coordinate the implementation of projects within the Ilocos River Basin. The achievement of the objectives for this project will mean increased family farm income, improved livelihood and better social services for the rural population. The project will pilot-test whether the concept of land consolidation can yield significant social and economic benefits to land reform beneficiaries as well as to owner-cultivators within the context of the Philippine agrarian environment.

- General Description of the Project Area -

a.) Location

The project area is within the River Basin of Camarines Sur situated at 123°13' East to 123°17' East and 13°30' North to 13°35' North. The project covers a contiguous land reform area of 2,500 hectares within three former landed estates in the municipalities of Bula and Minalabac, all in the province of Camarines Sur. These landed estates are as follows:

<u>Estate/Location</u>	<u>Mode of Acquisition/Date</u>	<u>Area (Ha.)</u>
1) Lirag Estate, Bula, Cam. Sur	Expropriated under RA 1400, 1959	963
2) Silverio Estate Minalabac, Cam. Sur	Expropriated under RA 3844, 1969	207
3) Hernandez Estate Minalabac, Cam. Sur	Under CLT P.D. No. 27	<u>1,330</u>
	T o t a l	<u>2,500</u>

b.) Agriculture

(1) Current Situation

Although the socio-economic survey results show a low per hectare yield (average of 45.5 cavans during wet season and 29.25 cavans during dry season), the area has excellent rice production potential given the necessary incentives

and support facilities. Currently, the area is one of the larger rice producing areas in the province of Camarines Sur. With improved farm structures, efficient irrigation and water distribution, together with ancillary production inputs, it will be possible for the area beneficiaries to mechanize their farm operations and achieve multiple croppings a year. It is estimated that about 1,000 hectares will be capable of yielding three crops per year, while another 1,200 hectares will be able to yield two crops or two and a half crops per year. Average single crop yield per hectare will increase to at least seventy cavans (one cavan = 50 kilos).

(2) Topography

The topography of the project area which is located in the flood plain of the Bicol River Basin is predominantly within the slope of zero to three per cent with few scattered elevated portions ranging from three to eight percent slope.

The area is further traversed by the Anayan River and on the west side is the Bicol River itself. There are also other creeks within and along the periphery of the area, namely: The Mataoroc Creek, Hamoraon Creek and Cascas Creek.

(3) Climate

Because of its geographical location in relation to the Bicol Region, the project area experiences the tropical climate of heavy rainfall, generally evenly distributed throughout the year.

The recorded average rainfall is 121.58 inches with 203 rainy days. (See Table below).

Average Annual Rainfall and Rainy Days

<u>Province</u>	<u>Annual Rainfall (Inch)</u>	<u>No. of Rainy Days</u>
Camarines Norte	151.64	229
Camarines Sur	114.92	209
Catanduanes	115.53	208
Albay	132.88	220
Masbate	73.34	166
Sorsogon	<u>141.16</u>	<u>188</u>
Mean	<u>121.58</u>	<u>208</u>

The temperature ranges from a minimum of 73.8°F to a maximum of 85.5°F. The humidity ranges to 80.84 percent. Although the project area is along the Bicol River and is traversed by creeks and rivers, flooding is not so great. Only depressed areas experience flooding during rainy days.

c.) Land Uses

The major use of the project area is for rice production. Only scattered portions are being used for pasture and the rest as residential sites.

<u>Land Uses</u>	<u>Area (Ha.)</u>	<u>Percentage</u>
1. Cultivated	1,606.9	64.3%
a) Irrigated	375.8	23.4%
b) Unirrigated	1,231.1	76.6%
2. Roads and other rights-of-way	33.8	1.4%
3. Community Areas	72.3	2.8%
4. Pasture lands and/or unculti- vated area	787	31.5%
T O T A L	<u>2,500</u>	<u>100%</u>

As is the common practice of the Filipino farmers, the small farm plots are further sub-divided into smaller paddies which the farmers utilize for purposes other than production. This is illustrated by the following case.

- 1) Average number of paddies - 9
 - 2) Average diversion for farm plot
 - width - 18 meters
 - Length - 67.9 meters
 - 3) Total average area - - - - - 1,206 has.
 - 4) Average width of dike - - - - - 40 cm.
 - 5) Total average length of dike - - - - 445 m.
 - 6) Total average area of dike - - - - - 178 sq.m.
 - 7) Average width of irrigation canal - - - - 60 cm.
 - 8) Total average length of irrigation canal - 300 m.
 - 9) Total average area of irrigation canal - - - - - 180 sq.m.
 - 10) Farmstead - - - - - 1,000 sq.m.
- Total - - - - 1,358 sq.m.

In other words, 0.136 hectare is unproductive. This means that in the entire project area of 2,500 hectares, 11.33 percent ($.136/1.2 \times 100 = 11.33\%$), or a total of 283.25 hectares are practically not being used for crop production.

d.) accessibility

The entire project area is almost without farm roads. The only main artery is the road linking barrio Netaorec to Pill town

proper. (Silverio Lstate which is Phase II of the Land Consolidation Project is traversed by this dirt road). Another dirt road links Lirag Lstate (Phase I and III) to the provincial road connecting Eula to the national highway. During heavy rainfall, these roads are not passable.

Within the entire Project site, only 10 percent or 132 farm plots out of the total of 1,240 are accessible to transportation. For this reason, the cost of transporting a cavan of rice or palay of 50 kilos from the point of production to the market ranges from ₱3.00 to ₱4.00 each.

c.) Irrigation and Drainage

A large portion of the project area suffers from two water related problems. First, during heavy rainfall, farm lots with low ground surface elevation, particularly those near the Bicol River and other creeks within the area, suffer from periodic flooding. Secondly, during the dry season, there is lack of sufficient water supply resulting in very low production. Technical evaluation of the area shows that drainage and irrigation facilities are very poor. Even in some farm lots where irrigation water is available, the practice is plot to plot irrigation and drainage. Under the project study which is being conducted with the assistance of a six-man team of land consolidation experts from Taiwan being financed by U.S. AID, solutions to both problems are being considered and preliminary figures show them to be economically justified. It should be noted that the full feasibility study and engineering designs are scheduled for completion in April, 1976. These will be the joint product of the GOR/Taiwan Team and will serve as the basis for preparation of the Project Paper for this loan.

- The Approach -

a.) Irrigation and Drainage

In arriving at the most viable irrigation schemes for the project area, various sources for irrigation water supply are being surveyed and evaluated. Included are the Bicol River, the Pawili River, the Anayan River, several creeks found in the area, and underground water sources. The latter are being looked at particularly for those portions of the project area which are some distance from the Bicol River.

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several alternate schemes for irrigation and drainage system are being considered for adoption in the area. The following approach appears to be the one with the most merit. Final conclusions must await finalization of the feasibility study in April 1976. The map at Annex B will assist the reader to identify the areas discussed below.

For Phase I, A & B, which is around 600 hectares of the Lirag estate, the design is to get irrigation water from the Bicol River using two 18-inch water pumps and one 14-inch pump.

In Phase II, with 207 hectares (Silverio Estate), two 12-inch pumps will be used to divert water from the Mataoroc Creek to the project site and two 12-inch multi-stage pumps using underground water sources. Six rotational units will be designed for the project area to establish an efficient scheduling of irrigation water supply to the farm lots.

There will also be six rotational service units for the 363 hectares in Phase III. In the design, the existing irrigation dam in Mayan River will serve two rotational units. Another existing pumpsite located upstream of the same river will be utilized for another rotational unit using one 12-inch pump to divert water to the area. For the other rotational units, two 12-inch pumps will be installed using underground water sources from two locations.

Hernandez Estate, which has the biggest area (1,330 hectares) is Phase IV in the work plan of the project. The area has been divided further into three parts. Part I, which is around 600 hectares will also get its irrigation water supply from the Bicol River using a 24-inch pump and an 18-inch pump. Part II, with 200 hectares, will utilize the excess water drained from Phase I into the Mayan River for irrigation water supply using an 18-inch pump. Part III, covering around 400 hectares, will depend on underground water source. Six 12-inch pumps will be installed in different locations already identified to pump out water supply to the service area.

The proposed canal system would consist of main irrigation and drainage canals constructed along side the main farm road. Main structures would consist of headwater, road crossings, siphons, turnouts and other related structures. Farm ditches will likewise be constructed to serve an average of 48 hectares by the main farm ditch, and/or 24 hectares through the supplementary

farm ditch depending on the topography of the area. In all cases drainage canals will be constructed alongside the main farm ditches to intercept excess water from the farm lots particularly during heavy rainfall.

The total estimated length of 150 kilometers for irrigation canal and 250 kilometers of drainage canal will be constructed in the service area.

b.) Farm Lot Development:

Another major activity in the project is the restructuring of farm lots which includes among other things the removal of unnecessary dikes, withways and canals, and consolidating these lots with the adjacent farm plots to form a block averaging 24 to 25 hectares. Each block is accessible by farm roads and serviced by supplementary irrigation and drainage canal structures. The contiguously located blocks in turn, are served by one regional irrigation service unit.

A block is composed of nine to ten farm plots with an average size of 2.5 hectares. This is further sub-divided into paddies averaging one-fourth hectare each. The average size measures 157 meters long by 16 meters wide.

c.) Farm Roads

The construction of the road network and structures has been designed to be simultaneous with the earth moving activity in connection with the construction of irrigation and drainage canals and structures in order to make use of the earth dug from the canal for road fill.

The estimated total length of the roads to be constructed is approximately 110 kilometers. Another two kilometers is already included for development under the U.S.AID Feeder Road Program, presently pending authorization. This is the Sto. Domingo-tula road. Another 3.5 kilometers, the Mataroc-Pill Road which also will service the project area, is being constructed under the Provincial Development Assistance Program.

d.) Homesite Development

Within the project area, a total of 105 hectares will be developed as homesites and where the six villages or barrios will be

located. The villages are shown on the map at Annex B and a simpl. map of a village site is at Annex C. These are distributed as follows:

Phase I	- San Anton	-	13 hectares
Phase II	- Hatoorec	-	20 hectares
Phase III	- San - Justin	-	13 hectares
	- San Isidro	-	14 hectares
Phase IV	- Agrada	-	22.5 "
	- San Jose	-	22.5 "
	TOTAL		<u>105 hectares</u>

In the design of the project, each farmer-beneficiary will be allocated an average of 500 sq. m. for his homelot. However, in Hernandez Estate which is Phase IV, the average size of homelot is 625 sq. m.

Just like the farm lots, each homelot within the community will be located in such a way that it is accessible by service roads. A task group has been formed also to study and present the housing prototypes from which the farmers could make their choice. Housing will be financed through a government stipend provided those individuals who relocate. Also included in the planning of homelots are the centers for various social services like school site, market site, health clinics, and recreation centers.

e.) Socio-economic, Institutional and Agricultural Component

An important part of this integrated development project is the improvement of the social, economic, institutional and agricultural structure of the area in order to provide the incentives for the farmer beneficiaries to be more responsive to and actively participate in development efforts. Designed to complement the physical infrastructure inputs are four major component programs. These are briefly discussed below.

(1) Land Administration and Management

This program component is designed to accelerate the government's land tenemental improvement scheme for the farmer-beneficiaries in the project area. The various activities attendant to the accomplishment of the objectives of this

program component will be undertaken by DAR personnel who have easy access to the records and other relevant documents.

The various activities include tenant-tiller identification, screening, sub-division survey of farm and home-lots, issuance of certificate of land transfer, land valuation and final issuance of emancipation patent or deed of sale.

(2) Compact Farm and Extension Services Development

Interphased with the other program components of the project is the basin effort in the field of farm level organization which is directed toward the institutionalization of the compact farming concept in the whole Bicol River Basin area.

within the context of this project, the objective of the Compact Farm Program is to establish and develop the basic production and management groups of farmers in contiguously located farm lots within a block or rotational irrigation service units which would also function as:

- channels for the introduction and dissemination of recommended farming technology;
- units to systematize and consolidate farm operations through cooperative and reciprocal group action;
- base for instituting efficient irrigation water distribution and management and operation of the system;
- liability group for acquisition of basic production inputs and small scale farm machinery.

To be subsumed under the umbrella of the legal personality of the Samahang Nayon, this program component envisions to organize 100 compact farming units in the entire project area. Each compact farm shall have an average of 10 farmer-members.

To insure the achievement of the objectives of this program, training would be given the inter-agency technician

who would be charged with the responsibility of organizing and managing the operations of this farm level group. Twelve extension workers coming from the DAK, EAEx, DLGD and BPI would constitute the group to work on this program. Compact farm leaders and members will likewise be given training on farm business management, cooperatives, group development and recommended agricultural technology.

Later, the compact farming groups will be federated into a bigger organization to be called Irrigators' Association that will manage and operate the irrigation system in their area. This association would be registered with the Securities and Exchange Commission to give it a legal personality.

Training on better on-farm water management will be given the officers and members of the group.

Developing the productive capability of the compact farm members will also strengthen the Samahang Nasyon in every barrio. With increased production the compact farm members can also contribute their share to the various saving programs of their Samahang Nasyon. The compact farm members could increase their barrio savings fund as well as the barrio guarantee fund of the Samahang Nasyon, which in turn could help the establishment of the Area Marketing Cooperatives and the Philippines Cooperative Rural Bank for the members.

(3) Crop Development Program

This program component is designed to intensify the dissemination and adoption of the recommended farming technology to the farmer beneficiaries through training, demonstration models, quality seed production and applied research.

Among the major topics that would be given in the training of farmers is record keeping which would enable the farmer to assess his farm business management and operations as well as monitor the economic progress of residents in the area.

Also included under this program is an intensified vegetable production program for the homemakers and youth groups.

The aim is not merely to make the farm family more productive but to enable them to produce the food crops that will supplement the nutritional requirement in their diet.

Designed to handle this particular program activity is an inter-agency group headed by the DAR extension specialist.

(4) Home and Youth Development Program

Included under this program are the following sub-program components which are envisioned to provide the strategies that would restructure the attitudes, habits and/or behavior of the farmer beneficiaries in the project area.

- Health, Food and Nutrition Program which would promote among the beneficiaries the adoption of better health and nutrition practices, well-balanced diet preparation, and the awareness of a healthy and sanitary environmental condition. Target of this program are the homemakers and the youth group.

A tie-up with the current health and nutrition program of the government will be established by the inter-agency task group for this, to be headed by the DAR Home Management and Youth Development Specialist.

- Family Planning Program would be integrated with other social programs for the homemakers. The aim is to enable the farm families to appreciate the family planning program of the government. Particular emphasis would be given this program because of the high population growth rate in the area. Again a tie-up with the TCPCOM has been envisioned for this program.
- Rural Youth Development Program which is directed towards the development of the rural youth to be more economically productive, law-abiding citizens and useful members of society.

- Small scale cottage industry skills training program is designed to provide skills training to homemakers and the youth group on certain cottage industry such as agas bag making, food preservation, bamboo crafts, etc. in order to increase the farm income.

(5) Grain Facility

The National Grain Authority has budgetted 10 million pesos for the construction of a rice drying, milling, and storage facility which will be located on a 10-hectare plot centrally located in the project area. The land has already been earmarked for this purpose and construction is expected to begin in March, 1976.

3. AID and Other Relevant Experience

AID has been involved in the Bicol River Basin Development Program since its inception in 1973. Our role has been to provide both technical and capital assistance to the BRBC in the development of the program. These activities have included the provision of funds to permit the contracting of TAMS/TAE to conduct the Comprehensive Water Resources Survey for the Basin which is scheduled for completion in August 1976, consultants to participate in the Intermodal Transport and other surveys, a contract with Kansas State University to conduct feasibility studies in the agri-industry field, a contract with the University of Hawaii to conduct irrigation studies, and a \$3.5 million loan to help finance the pilot Libmanan-Cabunao Integrated Area Development Project. Additionally, a \$10 million loan for the construction of farm-to-market and feeder roads has been requested from U.S. AID by the GOP and it is anticipated to be authorized and signed this fiscal year. Our role has been that of a catalyst and the ultimate effects of our assistance will be felt when other multilateral and bilateral donors are able, on the basis of the studies and pilot schemes financed by U.S. AID, to make the larger financial commitments the program will require for full implementation.

AID as an institution has had similar experiences in area development in other countries and much of the expertise that exists within the Agency can be effectively utilized. Additionally, AID also has in-depth experience in implementing programs at the local level in the Philippines.

Given the progress made to date by the BRBC in planning and organizing the overall program together with the data that has already been gathered on the Bula project and the expected completion of the full feasibility study and engineering designs in April 1976, a clear basis for proceeding with the proposed loan should be possible long before submission of the Project Paper to AID/W.

4. Beneficiary

The River Basin Residents

One million of the approximately three million residents of the Bicol Region live within the watershed defined by the Bicol River Basin. It is estimated that as of 1974 the average per capita income of the basin's population was about 550 pesos per year. This means that at current prices, one could buy two sacks of rice and have 300 pesos left for all other expenses--about a peso (or roughly 14 U.S. cents) per day over a 12-month period. Clearly, per capita incomes must be increased.

Seen another way, there are approximately 41,000 rice and corn sharetenant families (average family size - 7) within the River Basin tilling an average of 1.3 hectares each, compared with the national average of 1.8 hectares per tenanted farm. This circumstance helps to explain why over 300,000 people migrated from the Bicol region between 1960 and 1970, mainly to Manila and Mindanao.

At its current rate of increase, the population in the Bicol River Basin is expected to expand from the present level of 1 million to 1.5 million by 1995. It is to this existing and anticipated population that Bicol River Basin Program is addressed.

The Project Area Residents

The beneficiaries of the proposed project must be considered one of the most depressed people in terms of the levels of income in the Bicol River Basin Area and the country. Attached to this PRP is a research report of the findings of a social survey conducted in the project area in May, 1974 (revised and updated as of February, 1975) by the BRBC Social Survey Research Unit. The report will be revised and updated prior to submission of the PP to AID/W and will serve as the basis for the Social Soundness Analysis.

a. Population and Family Size

In a very recent census (1975) conducted by the technical staff of the Department of Agrarian Reform (DAR), and the Bicol River Basin Council (BRBC), the population totalled 13,000 in the project area. There was an average annual decrease in population of 6.84% as compared to the 1970 census on population and housing conducted by the National

Census and Statistics Office (NCSO). However, the survey also showed average family size to be eight.

This phenomenon is a sign of the economic weakness of the area for, while there is a decrease in the population, the family size is still large which demonstrates the existence of a large outmigration rate in the project area.

b. Employment

Predominantly, the main source of family living is from farming. No data on the employment rate in the area are available, however, in the municipalities of Bula and Minalabac where the proposed project is situated, the employment rate is a little bit higher than the basin area which is 93% and 92.3% respectively. Furthermore, it was noted that underemployment is low being only 13.8%. These figures, however, are skewed due to out-migration.

c. Income and Expenditure

Family income and expenditures serve as indicators of levels of living. Data on family income reflect varying degrees of inequality among families and locations. It provides important insights on the potential purchasing power of families and expenditures data serve as indicators of the extent and character of consumer demands for goods and services.

The average annual gross family income in the project area amounted to ₱4,800.50 whereas, the expenditure was ₱7,816.32 or a dissavings of ₱2,915.82. (See Section 5, Table F)

Analyzing the household expenditure of the farmer-families in the area, the survey showed that by far the greatest item of expenditure was food, which further shows the low level of family living.

In terms of farm expenditure especially for material inputs, it was shown in the survey that the application of fertilizers and chemicals is very much lower than recommended levels and significantly below that in other comparable areas of the country. With regard to the general receptivity of farmers to modern farming techniques, therefore, it was concluded in the survey, that much still has to be done to motivate the farmers to adopt modern production technology.

For a complete profile of the project beneficiaries, the reader should refer to SSRU Research Report No. 6 which is appended.

5. Feasibility Issues

This project will generate three types of direct benefits, namely: (a) incremental output, (b) savings in transport costs and (c) savings in time costs.

The incremental output will be a result of the increase in the cultivated area that will be irrigated. Cropping intensity and the number of crops harvested per year is expected to increase. The existing irrigated and non-irrigated farms which are planted twice and once a year respectively are expected to have at least 2.5 croppings per year with the provision of adequate irrigation water. For a comparative analysis of agricultural production in the project area with and without irrigation, see Table A following this section.

Construction of roads will provide accessibility to market and will significantly reduce the cost of transport. Available data and analysis show a possible reduction of about 30 per cent in both the cargo and passenger traffic costs.

Revision in the farm layout is expected to reduce time spent on "non-productive" farm activities. Available data indicate a wastage of about 34% in productive time as a result of the distances of farmers' residences from their farm lots.

The estimates of total project costs and the above mentioned direct benefits are the subject of the on-going feasibility study. The latter, which is scheduled for completion in April 1976 is being developed with the assistance of a six-man team of experts from Taiwan. A preliminary comparative analysis of family income and expenditures with and without the project is shown at Table B.

The economic and financial indicators as well as the sensitivity analysis that will be derived in the feasibility study will serve as an important basis for the project paper.

Table C gives an economic analysis of the agriculture physical infrastructure and support service components of the project. This analysis, though based on preliminary data, indicates that the project is economically viable. The Internal Rate of Return is estimated to be about 15 percent and the benefit/cost ratio is 1.06 with a net present value of 3.4 million pesos. These estimates are based on the preliminary engineering design and costs as established by the AEC consultants based on experience gathered to date in the 300 hectare pilot project scheduled

for completion in 1976. The results of the latter will also be available as an important basis of the project paper. The benefits were based on the feasibility study conducted for the Libmanan-Cabusao project, which is comparable to the proposed project. In fact the project area has more potential, less flood risk, and exhibits better productivity potential as indicated in the on-going land classification study for the Basin area. It should also be pointed out that the only source of benefits included in the analysis, is the incremental value added and does not include the savings in time and transport costs.

Expanding and intensifying irrigation and drainage of the Bula project area appears to be feasible based on increased cropping intensity, incremental yields per crop, and additional land brought into production. The proposed IAD II project at this stage in the feasibility study and physical design includes only that degree of land consolidation and restructuring (including alignment and land leveling) that can be economically justified. Contour design may replace the ideal grid design in some areas. Engineering and design will also be done in such a way that the more intensive land development (additional farm roads, irrigation and drainage canals on pre-engineered alignment and rights-of-way) can be undertaken as the value of the land and its production increases in real terms compared to the economy as a whole.

The SSRU Research Report No. 6 will be updated prior to submission of the project paper to ensure social and relevant attitudinal issues have or will be satisfactorily resolved.

It will be possible to adjust or modify the amount of the proposed loan and GOP counter part funds depending on the final feasibility analysis of the different project components. One or more other irrigation system sites could also be included in the Project Paper and IAD loan. Results of ongoing Comprehensive Water Resources Survey being conducted in the Bicol River Basin may have a bearing on the proposed project and suggest other project sites.

At this time, there does not appear to be any financial issues of note. The GOP has given the Bicol Program very high priority and financial commitment has not been, nor is it expected to be, a problem. The loan agreement will require the usual assurance of continued support.

TABLE A

PRELIMINARY ESTIMATED RICE PRODUCTION
IN TOTAL BDLA PROJECT AREA - 1980

Without Project:

1. Yield Per Hectare		
a. Irrigated Land	--	80 cavans/hectare/crop
b. Non-irrigated Land	--	40 cavans/hectare/crop
2. Cultivated Area		
a. Area Irrigated	--	375 hectares
b. Area Non-Irrigated	--	1,230 hectares
c. Non-Cultivated	--	895 hectares
3. Crop Intensity	--	2 crops/year - irrigated 1 crop/year - non-irrigated
4. Total Production:		
a. Irrigated Land	--	60,000
b. Non-irrigated Land	--	50,000
c. Total	--	110,000 cavans/year

With Project:

1. Irrigated Land	--	80 cavans/hectare/crop
2. Area Irrigated*	--	2000 hectares
3. Cropping Intensity	--	2.5 crops/year
4. Total Production	--	440,000 cavans/year

* 300 hectares for roads and other right-of-ways and Community sites.

TABLE B

COMPARATIVE ANALYSIS OF FAMILY INCOME AND EXPENDITURES:

<u>Aspect</u>	<u>Without Project</u>	<u>With Project</u>
A. Income:		
Cash	₱ 1,550.71	₱ 7,510.41
Non-cash	<u>3,250.23</u>	<u>3,744.83</u>
	₱ 4,800.94	₱ 11,255.24
B. Expenses:		
Cash	₱ 4,956.64	₱ 5,291.06
Non-cash	<u>2,859.68</u>	<u>4,171.76</u>
	₱ 7,816.32	₱ 9,462.82
Net Income	(3,015.38)	1,792.42
Marginal prosperity to save	-24%	16%

TABLE C

ECONOMIC ANALYSIS - AGRICULTURE EFFICIENCY IMPROVEMENT & RISK REDUCTION

BULU-NINGLISAC PROJECT AREA (2,000 HAs.)

Year	INCREMENTAL COSTS (P000)				INCREMENTAL BENEFITS (P000)	
	CONSTR. COSTS ^{a/}	O & M	OPERATION COSTS ^{b/}	TOTAL	VALUE ADDED	NET PRESENT VALUE ^{c/}
1	20,000	-	-	20,000	17,287	-
2	7,666	-	1,580	9,246	6,929	-
3	7,666	-	3,000	10,666	7,518	5,037
4	7,666	-	4,850	12,516	7,159	4,795
5	-	797	5,820	6,617	7,139	4,537
6	-	797	5,820	6,617	6,859	4,287
7	-	797	5,820	6,617	6,580	4,037
8	-	797	5,820	6,617	6,301	3,787
9	-	797	5,820	6,617	6,022	3,537
10	-	797	5,820	6,617	5,743	3,287
11	-	797	5,820	6,617	5,464	3,037
12	-	797	5,820	6,617	5,185	2,787
13	-	797	5,820	6,617	4,906	2,537
14	-	797	5,820	6,617	4,627	2,287
15	(20,625) ^{c/}	797	5,820	(14,008)	933	2,037
TOTAL					<u>55,227</u>	<u>32,227</u>

INDICATORS:

- Benefit/Cost Ratio = 1.06
- Net Present Value = 73.4 M
- Internal Rate of Return = 16%

a/ 3-Year Construction period for Phase II to IV
(Phase I - Pilot Project to be Completed FY 76)

b/ Based on 15% Rate of Discounting

c/ Based on 40-Year Project Economic Life

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6. Other Donor Coordination

With regard to the program generally, USAID as well as the BRBC coordinate closely with other donors regarding their participation in the Bicol River Basin Program. For example, in the case of the Libmanan-Cabuseo Integrated Area Development Project, a close working relationship has existed between the Basin, USAID and the UNDP. The UNDP is directly supporting the Bureau of Soils, which conducted the land classification study for the project area. The Bureau of Soils and the United Nations technicians worked closely with the National Irrigation Administration and the USAID's Irrigation Advisor in developing the appropriate land classification methodology for determining the irrigability suitability of project lands.

At present, there are no projects in the Basin financed by external donors. However, the BRBC and USAID are keeping the IBRD and the Asian Development Bank apprised of the water resource planning work now underway in the Basin. The IBRD has expressed to the GOP their interest in supporting the major water resource projects of the Basin, the pre-feasibility studies for which are being financed by USAID. The ADB has expressed interest in financing the upgrading of the railroad from Manila to and through the Bicol. They also have under consideration the financing of the Quirino Highway which would shorten the road distance to Manila by 77km. and open up the upper portions of the basin area. Given the anticipated large capital requirements necessary to implement the Bicol River Basin's flood control and irrigation development program, it is imperative that the GOP keep other donors apprised of the planning now underway. The Government has clearly recognized this need and has taken several ADB and IBRD missions on field trips to the project area. Several working-level missions are planned over the upcoming months to identify discrete project packages for financial commitments by ADB and IBRD, as well as several bilateral donors. The GOP is anticipating major financial commitments from other donors to be made in CY 1977 with implementation in 1978 and beyond.

With regard to the project proposed in this PRP, there has not been any ~~other direct~~ donor contribution. However, several other donor efforts carried out on a national scale will have an important impact in the project area. For example, IBRD is financing the construction and staff training of the rural health units planned for the area. WHO efforts in various health programs will also have a beneficial impact in the project area. And, FAO's land classification survey in the Bicol basin will help reinforce similar works now underway in the project area.

7. Financial Plan

The proposed loan of \$3million will be the third U.S. AID loan in direct support of the GOP Bicol River Basin Development Program and it is intended to provide the foreign exchange needed to implement the efforts described in earlier sections of this paper. Earlier loan activities include the Libmanan-Cabusao Integrated Area Development Project for \$3.5 million which was signed in July 1975 and the Bicol Secondary and Feeder Road Project for \$10 million, authorization of which is expected in FY 1976.

Although the feasibility study and engineering design now underway will definitively spell out the full range of costs associated with the project as well as the timing of resource inputs, the BRBC and the team of Taiwan consultants estimate the total cost will run in the neighborhood of \$7,500,000 of which \$3 million will be required in the form of foreign exchange. The latter will be needed to finance irrigation pumps, heavy equipment to augment the present capability of the National Irrigation Authority (dump trucks, bulldozers, payloaders, graders, road rollers, ditchers and ancillary equipment), and other commodities needed for the titling phase (survey, documentation), as well as the completion of the six village sites. A preliminary estimate of funding requirements are broken down in the table next under.

Should the feasibility study indicate the desirability of handling the construction elements through local contract rather than forced account, that component will be financed through a special letter of credit with AID financing up to the 50% of local contract construction costs. Fixed amount reimbursement procedures will be used.

Other U.S.AID financial resources will be brought to bear in the project as appropriate. For example, cooperative training for the farmers would be handled through an AID-financed program under the auspices of the Farm Services Development Corporation. Other possible linkages such as in health and population are being studied by U.S.AID and will be spelled out in the PP. The Small Scale Irrigation Loan was considered as a possible funding source for this project but the scope and size fall beyond the former's purpose.

Given the nature of the foreign exchange cost components of the project, their criticality to GOP ability to effectively implement the project, and the clear conformance of the project to the basic thrusts and intent of the Congressional Mandate regarding U.S. bilateral assistance, it is believed justifiable that the GOP obtain this assistance on the most concessional terms possible. The Mission, therefore, recommends that the terms of the proposed loan be at the legislative minimum.

Preliminary Estimate of
budgetary requirements
For Life of Project
FY 1977 through FY 1979
 (7.5 pesos = 1 U.S. dollar)

1.	<u>Engineering Work</u> , including labor and operating costs during implementation phases II through IV		P 33,000,000
2.	<u>Cost of Equipment and Commodities</u>		21,750,000
3.	<u>Cost of Consultant Services</u>		750,000
4.	<u>Titling:</u>		
	Survey and Approval	P450,000	
	Documentation	100,000	
	Overhead	<u>200,000</u>	<u>750,000</u>
	T O T A L		<u>P 56,250,000</u>
			(\$ 7,500,000)*

*Of the estimated total project cost of \$7.5 million, the GOP has proposed that AID provide \$2.0 million in FX for equipment and consultancy, and \$1.0 million through a Special Letter of Credit, to provide local currency for fixed amount reimbursement of construction costs.

8. Implementation Plan

The project will be implemented through the coordinating mechanism of the Bicol River Basin Council (BRBC). Created on 17 May 1973 by virtue of Executive Order 412, the BRBC has been mandated to provide coordinative leadership and rational direction to development activities within the basin through carefully prepared development plans and feasibility studies for domestic and foreign financing. Major implementation responsibilities will be delegated to the National Irrigation Authority, the Farm Services Development Corporation, and the Department of Agrarian Reform in their respective areas of responsibility, NIA would take responsibility for the construction of the farm roads as well as the irrigation and drainage structures.

Within the Council itself is an operational Program Office headed by an Executive Director and four Deputy Directors for Plans and Programs, Physical Infrastructure, Social Infrastructure, and Finance and Administration. A Management Directorate composed of all Regional Directors of line agencies assists the management in program planning and project implementation; while an Advisory Committee from the private sector provides consultative advice and directions. Planning and programming functions are executed through interagency planning groups.

To ensure effective implementation of integrated projects at the field level, the basin is being divided into eight (8) Development Areas (DA), each composed of from 5 to 6 municipalities, and managed by an Area Development Team (ADT). The team will be headed by a Chairman (a Mayor elected from among the Mayors), and will be made up of local line agency field heads. Moreover, all field technicians within a DA will be brought into a sustained working relationships under the direction of the ADT. In this sense, the ADT is seen as (1) a crucial link between Basin planners and the people, (2) a unit to effectively integrate the different sectoral agencies and their programs at the field level and in so doing increase the efficiency of government services and properly exploit program complementarities, and (3) as a unit to bring municipal governments serving the same economic sub-regions of the Basin into sustained and productive working arrangements with each other and with national and provincial level agencies. The Pili ADT will oversee implementation of the project at the field level to ensure full inter-agency coordination on a day to day operational basis.

An important part of the ADT concept is the creation of an integrated extension service within the basin area. It is projected that each ADT will have about 100 such extension personnel assigned to it. The plan calls for training some of the existing extension workers and recruiting and training new ones in the basics of development. These will include

community organization techniques as well as the basics of health, sanitation, education, agriculture, family planning, nutrition, and so on. All recruits will be from the Bicol, and where possible from the respective project areas themselves.

Utilization of the BRBC as the overall coordinator of the project activities has been a standard procedure and has been an effective mechanism over the past two years.

A detailed implementation plan, together with time phased input projections and evaluation schedules will be finalized upon completion of the feasibility study and the engineering designs in April 1976. The implementation schedule presently envisioned follows:

- Phase IA, 300 hectares, completed June 1976
- Phase IB, 300 hectares, completed August 1977
- Phase II, 207 hectares, completed September 1978
- Phase III, 363 hectares, completed March 1979
- Phase IV, 1,330 hectares, completed December 1979

Under the proposed loan, \$100,000 will be used for the contracting of consultants to advise and assist the GOP during the implementation phase, particularly in the area of land consolidation. A contract with the ROC consultants who are presently assisting the GOP in the development of the project is envisioned for this purpose. Other consultants will be needed during the life of the project for independent inspections and evaluations of the project's progress.

9. Project Development Schedule

This project has been and will continue to be developed collaboratively with the GOP. Just as in the case of this FRP, which was prepared by a team made up of the BRBC/Manila, the Plans and Project Development Office of the Department of Public Works, the Department of Agrarian Reform, the BRBC Program Office/Bicol, the RDC Consultants, Area Development Team/Pili members, the Provincial Development Staff, and USAID, the project paper and all supporting studies and documents will be jointly developed and fully coordinated at all levels.

The feasibility study together with engineering designs will be completed by April 1976. The line agencies will prepare supporting social infrastructure plans during May and June. The SSRU Research Report will be updated between July and August, 1976 to ensure the plans take fully into account the aspirations of the people, both social and economic, and an evaluation plan and schedule will also be developed in the context of both the baseline profile of the people residing in the project area as well as the overall project direction. Based on these inputs, an overall integrated implementation plan will be prepared and completed during the months of September and October 1976. The Project Paper itself will be based on all of the above items and will be prepared during the months of October and November 1976 and submitted to AID/W on December 1, 1976.

No AID/W assistance will be required in the project development.

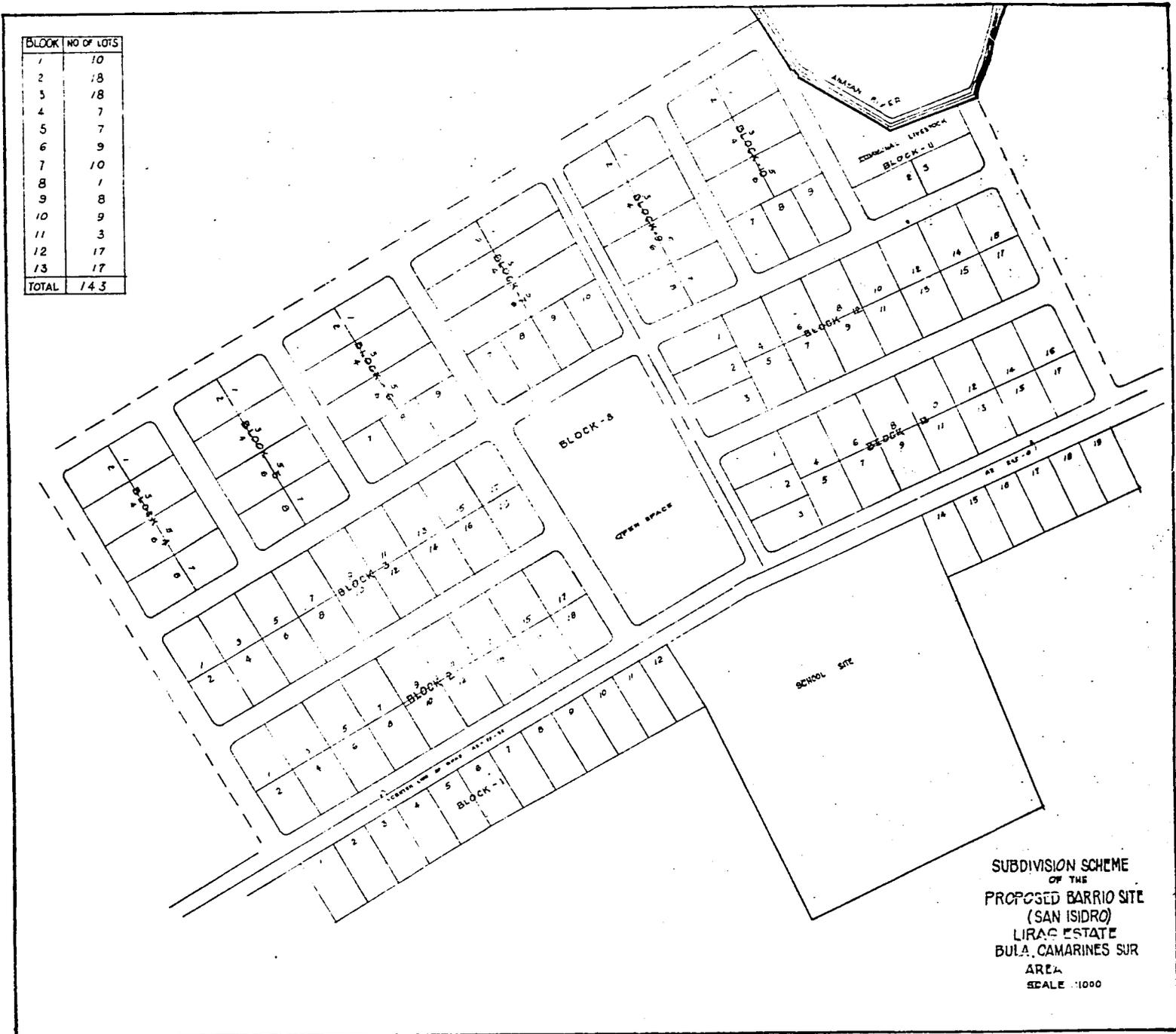
PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project:
From FY 77 to FY 85
Total U.S. Funding \$1,000,000
Date Prepared: 22 September 77

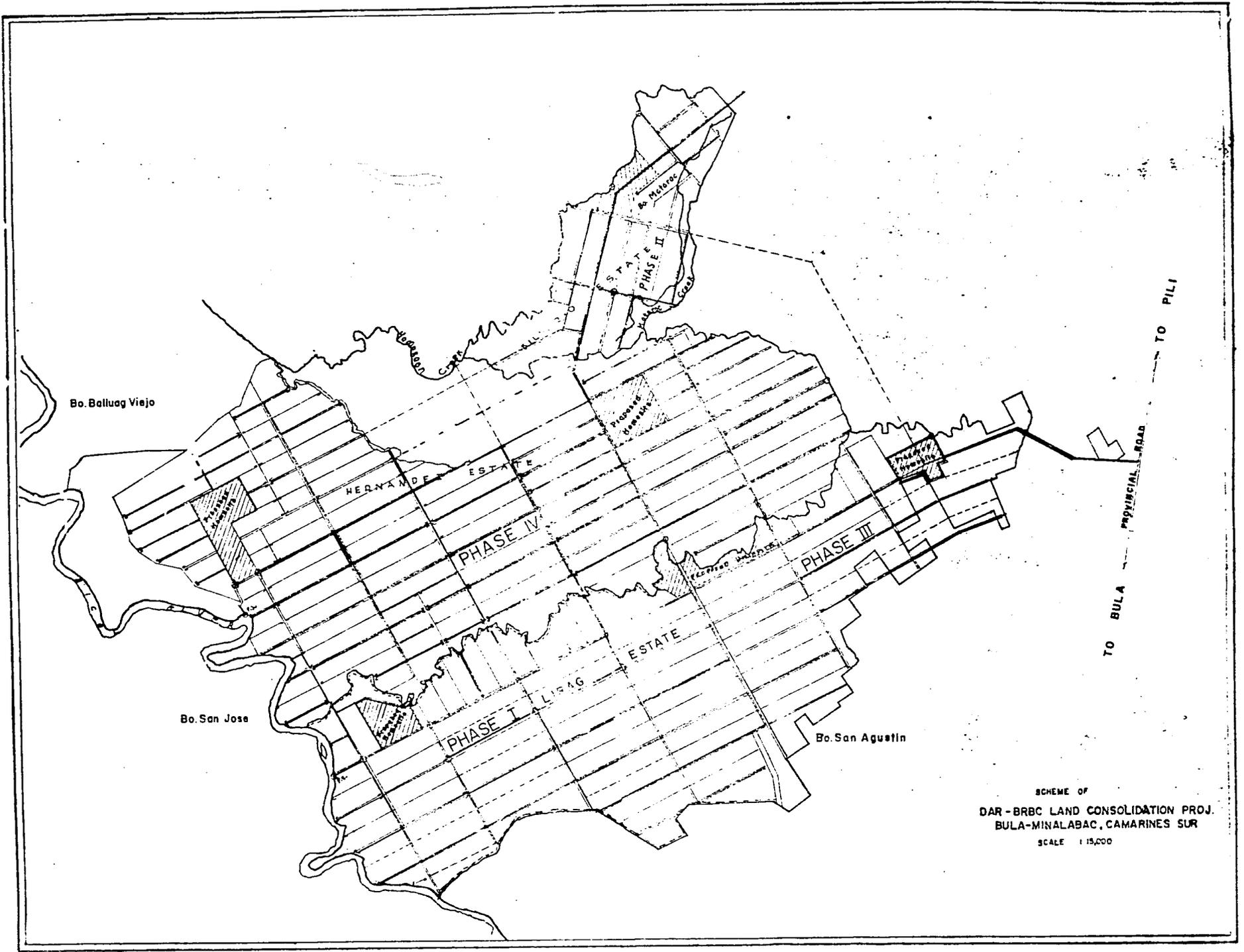
Project Title & Number: Rural Integrated Area Development II #492-0275

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>Program or Sector Goal: The broader objective to which this project contributes: (A-1) Socio-economic situation of the rural poor in the Bicol River Basin raised to acceptable levels.</p>	<p>Measures of Goal Achievement: (A-2)</p> <ol style="list-style-type: none"> 1. Average farm household income of the poorest half of the rural population (1969-70) increased to more than 1,500 pesos (1975) per year by 1985. 2. Annual unemployment rate reduced to national average by 1985. 3. Land reform extended to 37,000 hectares and corn tenants and titles issued by 1981. 4. Increase in per capita rice yield to 1,442 pesos in 1985; effective annual growth rate of 5.5 per cent between 1975 and 1980 and 6.8 per cent from 1980 to 1985. 5. Population growth rate reduced from 3.5 per cent to 3.0 per cent by 1985. 6. Minimum food requirements of 125,000 MT of cereals and 117,100 MT per annum of meat, poultry and fish to support adequate food needs of people by 1985. 7. Basic health services and planning of functional education expanded to 90% of the total basin population by 1985. 	<p>(A-3)</p> <p>A. Annual socio-economic surveys and evaluations utilizing socio-economic baseline data and an initial profile of the poor majority as their reference points.</p>	<p>Assumptions for achieving goal targets: (A-4)</p> <p>A. The GOP continues to place high priority on improving the quality of life of the nation's poor majority.</p> <p>B. Integrated area development with its implicit assumptions regarding concentration of scarce internal and external resources into delimited geographic areas remains politically acceptable.</p> <p>C. Current GOP efforts to decentralize development planning and implementation authorities and responsibilities to regional and sub-regional government echelons continue to be carried out and at a pace commensurate with the program's needs.</p>
<p>Project Purpose: (B-1)</p> <ol style="list-style-type: none"> 1. Increase agricultural production, 2. Increase small farmer income and employment, and 3. Generate social development in the Bula project area 	<p>Conditions that will indicate purpose has been achieved: End-of-Project status: (B-2)</p> <ol style="list-style-type: none"> 1. Total rice production increased from 111,000 to 436,000 cavans per year 2. Farmer income at least doubled; unemployment and underemployment reduced to national levels. 3. a. Six villages established with health, education, family planning, and sanitation facilities and services available to the residents. b. Compact Farms, Samahang Nayon, and Irrigation Association established and successfully functioning. 	<p>(B-3)</p> <ol style="list-style-type: none"> 1. National Grain Authority records, on-site surveys. 2. Tax records and on-site evaluations; GOP labor statistics; provincial government surveys, and SSRU evaluations. 3. a. On-site verification and evaluation by SSRU; b. SSRU survey and evaluation and rural credit banks records. 	<p>Assumptions for achieving purpose: (B-4)</p> <ul style="list-style-type: none"> - No major crop losses due to typhoons. - GOP line departments and agencies allocate necessary resources to construct and staff social infrastructure facilities. - Continuation of current GOP and private rural banks credit policies and credit availability.
<p>Project Outputs: (C-1)</p> <ol style="list-style-type: none"> 1. All farm parcels in project area aligned and consolidated. 2. Access roads and internal project area feeder roads completed. 3. Irrigation and drainage facilities installed. 4. Villagers completed with social infrastructure facilities and services in place. 5. Farmer organizations established. 	<p>Magnitude of Outputs: (C-2)</p> <ol style="list-style-type: none"> 1. 4,500 hectares aligned and consolidated by 1980, in addition to 300 hectares completed in 1975. 2. 110 kilometers of small feeder and access roads constructed by 1980. 3. 100 kilometers of irrigation and drainage facilities installed by 1979. 4. Six village sites established by 1979. Social infrastructure include at a minimum: <ul style="list-style-type: none"> - one rural health unit per village built, staffed and functioning successfully - one classroom with teacher in place per thirty population within national compulsory education age group - family planning advice and supplies available WHO standard potable water available to all residents - sanitation facilities at par with national public health standard 5. 100 Compact Farm, 6 Samahang Nayon, and one Irrigation Association established by 1980. 	<p>(C-3)</p> <ol style="list-style-type: none"> 1. On-site inspection 2. End of project evaluation 	<p>Assumptions for achieving outputs: (C-4)</p> <ul style="list-style-type: none"> - GOP feasibility study, engineering designs, and other plans completed on schedule as they relate to this project. - Commodities and consultants financed under this proposed loan arrive according to schedule. - GOP provides budgetary and other resources required in a timely fashion.
<p>Project Inputs: (D-1)</p> <p>AID: FY77 - Loan \$3 million in commodities and services</p> <p>GOP: FY77-79 Budgetary allocations for locally procured commodities, staff, and operational support of the project in the amount of \$4.3 million.</p>	<p>Implementation Target (Type and Quantity) (D-2)</p> <p>Project implementation plan which will appear in the Project Paper will include specific targets by type and quantity. PIP will be based on feasibility study and engineering design scheduled for completion in April 1976</p>	<p>(D-3)</p> <ul style="list-style-type: none"> - GOP/BRAC and AID documentation and records 	<p>Assumptions for providing inputs: (D-4)</p> <p>That GOP and AID priorities result in continued support of the program.</p>

BLOCK	NO OF LOTS
1	10
2	18
3	18
4	7
5	7
6	9
7	10
8	1
9	8
10	9
11	3
12	17
13	17
TOTAL	143



SUBDIVISION SCHEME
 OF THE
 PROPOSED BARRIO SITE
 (SAN ISIDRO)
 LIRAG ESTATE
 BULA, CAMARINES SUR
 AREA
 SCALE : 1000



SCHEME OF
 DAR - BRBC LAND CONSOLIDATION PROJ.
 BULA-MINALABAC, CAMARINES SUR
 SCALE 1:15,000

4920275-10
 PO-ADD-305
 Sp

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

1. PROJECT IDENTIFICATION
 ORIGINAL CHANGE
 ADD DELETE

PID DOCUMENT CODE 1

2. COUNTRY/REGIONAL ENTITY/GRANTEE
 Republic of the Philippines

3. DOCUMENT REVISION NUMBER

4. PROJECT NUMBER
 492-2275

5. BUDGET
 A. SYMBOL: EN B. CODE: 2

6. FISCAL YEAR DOCUMENT
 A. DATE: 1976
 B. ESTIMATED FISCAL AUTHORIZATION/OBLIGATION

7A. PROJECT TITLE - SHORT (STAY WITHIN BRACKETS)
 Bicol Integrated Area Development II

7B. ESTIMATED COST (LIFE OF PROJECT)
 (\$1000 OR EQUIVALENT, \$1 = 17.00)
 A. INITIAL FY [77] B. FINAL FY [79]

7C. PROJECT TITLE - LONG (STAY WITHIN BRACKETS)

PROGRAM ELEMENTS	AMOUNT
A. AID APPROPRIATED	3,000
B. OTHER U.S.	
C. HOST GOVERNMENT	2,000
D. OTHER DONOR(S)	
TOTAL	5,000

10. ESTIMATED COSTS/AID APPROPRIATED FUNDS (\$1000)

A. APPROX. PRIORITIZATION (ALPHA CODE)	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE	I. AID FUNDS			II. OTHER U.S. (\$1000)		
			D. ORYNT	E. LEAD	F. LEAD	G. PROGRAM TYPE	H. FIRST YEAR	I. ALL YEARS
IN				3,000	3,000			
TOTAL				3,000	3,000	TOTAL		

12. PROJECT GOAL (STAY WITHIN BRACKETS)
 Increased income, equitably distributed; increased employment opportunities; and improved perceived quality of life by the general population of the Bicol River Basin and, specifically, the population within selected projects.

13. PROJECT PURPOSE(S) (STAY WITHIN BRACKETS)
 Establish a viable Integrated Area Development organization structure with the management capability to plan and implement Integrated Area Development projects in the Bicol River Basin to include applicable flood control, land reform, land consolidation, irrigation and drainage, intensified agricultural production and farm level organization components.

14. PLANNING RESOURCE REQUIREMENTS (STAFF/FUNDS)
 None

15. ORIGINATING OFFICE SIGNATURE
 SIGNATURE: Richard M. Dangler
 TITLE: _____
 DATE SIGNED: _____

16. DATE RECEIVED IN AID/AF, OR FOR AID/AF DOCUMENTS, DATE OF DISTRIBUTION
 NO. | DAY | YR. |

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PROJECT IDENTIFICATION DOCUMENT (PID)
BIACOP, INTEGRATED AREA DEVELOPMENT

A. Summary of the Project to be Financed by the Government.

1. This is a continuing program, first approved for a one-time loan funding in FY 75 for the Biacop/CIADMO Integrated Area Development Project.

The rural development strategy of the Government of the Philippines (GRP) has traditionally been a "top-down" approach. The "policy" directives determined at the national level, such as the National River Basin Development Authority (NRDA) and the National River Basin Development Authority (NRDA) are intended to coordinate and integrate the planning process, to ensure appropriate government capability at the Regional and Local Government levels in this area), and to adequately coordinate and integrate the development level participation in the overall development process. The strategy of the GRP has always been to concentrate development resources on the national level (external sources but also those available at the national level) and to direct them out to the region to address geographic needs, (1) to satisfy socio-economic need, and (2) to address specific regional problems and challenge is to carry out an accelerated development effort that makes a measurable difference in the lives of the rural poor (perceived quality of life of the rural poor is a composite index of income of \$300). This incremental addition of local funds to an integrated and decentralized planning and development approach is proposed to further test and institutionalize this innovative approach.

The Bicol River Basin Project has stimulated greater interest in regional level integrated area development (CIADMO). Local Councils at Councils have been organized in the eleven regions of the country. The Mindoro Island (Mindoro) Area Development Program financed by the World Bank (\$25 million) is another variation.

The Provincial Development Assistance Program supported by USAID is also a decentralized action program but located at the provincial level. It is designed to strengthen the institutional base supporting rural development in selected provinces (particularly road construction and improved local government). The IAD and PDA programs covered in the current IAP are complementary. By definition and design, all GRP development efforts in the Bicol River Basin (from area coverage rural electrification to land reform and accelerated local agribusiness and industrial investments, etc.) will be taken into account in the integrated planning and implementation process.

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2. Proposed project. Several areas within the Bicol River Basin have been identified for development as part of the IRRP. Also, a U.S. consulting engineering firm is conducting a feasibility study on water resource development for the Bicol River Basin. It will not be possible to develop a detailed plan until the study is completed. Development costs, project outputs, physical resources required as stated in the IRRP, and the Cabusao Integrated Area Development Project approved by the Development Loan Committee June, 1973, the initial condition component synergistic development. This development includes extraordinary development needs, such as land reclamation, drainage, water diversion, etc., which are recommended as an outcome of the U.S. consultant's study.

One or more preliminary development plans, but supportable to the IAD, projects with a cost of 100,000,000 dollars. It may prove desirable to initiate the development of these projects prior to the proposed IAD, and to include them in the IAD as a single IAD of 2500 hectares.

The life of a joint IRRP/IBRD development project is estimated to run for a minimum of five years. Inputs would normally be more during the first two years, and decrease over the five years or longer duration of the development.

3. All major assumptions and beneficiaries are discussed in the "Philippines - Water Resources Development Project" paper approved June 1973 and are applicable to this project. Copies of the project paper are available from IRRP/IBRD.

B. Financial Requirements and Plans

1. Based on experience to date, the cost of developing road and water resources infrastructure, farmer's organizations and the initial production components of an IAD project is at least \$2,000 (\$34,000) per hectare for agricultural land in the project area. The proposed project area is 2,500 hectares.

The anticipated IAD share of the direct costs of the project is 60% with GCP direct cost sharing at 40%. However, indirect costs, such as participating GCP agency, admin costs, salaries, etc., would increase total host country share considerably higher than 40%.

The estimated total project cost is \$5,000,000.

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2. Amount of AID assistance:

- a. Loan \$3,000,000
- b. Grant

Total AID Assistance

3. Amount of Host Country Input \$2,500,000 (estimated)

C. Development of the Project

1. How will the project be developed?

USAID is currently supporting a feasibility study on 18-month General Services Administration (GSA) project in the Philippines (GSA/USAID) which will be completed by the end of 1975. This study will provide a preliminary assessment of the project's technical, financial, and economic feasibility and will be used to guide the development of a more detailed study. The study will include a detailed description of the project, an estimate of the project's costs, and an analysis of the project's benefits. The study will also include a description of the project's organizational structure and a description of the project's implementation schedule. The study will be completed by the end of 1975 and will be used to guide the development of a more detailed study. The study will also include a description of the project's organizational structure and a description of the project's implementation schedule. The study will be completed by the end of 1975 and will be used to guide the development of a more detailed study. The study will also include a description of the project's organizational structure and a description of the project's implementation schedule.

Employing the EIB approach, which requires supervised construction; would be the main project activity. The project will require control structures and the irrigation and drainage systems to be well designed before activities can be carried out. The project could be required to participate in the water resources development program.

2. What is the proposed time frame for project development?

A TDP is proposed for submission prior to August 1975 and the PP in the first quarter of 77.

3. Best estimate of AID resources necessary to prepare the TDP and PP.

An on-farm water advisor (TASA) and an economist/planner (contract) will be funded under the Ricol Project for 24 months beginning early FY 76. Together with expertise expected to continue to be available within the USAID Philippines Mission over the next 24 months, and the expertise within the COP Ricol River Basin Council-Program Office and supporting line agencies, adequate planning and analysis capability should be available to prepare the project for all loan activities.

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D. Issuance of a Policy on Programmable Income

1. It is assumed that by FY 77, the GOP policy of supporting Integrated Area Development Programs will have been articulated, strengthened and the application expanded. It is further assumed that adequate GOP resources will be allocated to counteract loan losses proposed by UNDP.

2. It is assumed that the Biliran/Obispo ID project will have demonstrated the feasibility and application of the ID approach and that acceptable progress will have been made toward achievement of project purpose and goal by FY 77.