CHAPTER 5. PROJECT EVALUATION AND CONCLUSION

CHAPTER 5. PROJECT EVALUATION AND CONCLUSION

5-1. PROJECT EVALUATION

The improvement of farm villages and land, as a part of the agricultural development program, will not only bring about an increase of agricultural production, farm incomes and employment opportunities from an economic point of view but also is conceived to stimulate active communities and healthy living from a social point of view. Those effects are expected to be greatest when investment is put into the areas left behind in econominc development, like the San Jorge and Gandara areas.

The benefits from the provision of irrigation systems have been estimated as the increased production of about 1,659 tons of palay from the approximately 550 tons at present to about 2,210 tons in the future through the Project in the total area of the four (4) systems whichwill make the area more than self-sufficient in rice. Moreover, an increase of the labor force engaged in agriculture, activation of markets though the increased disposable income and the purchase of agricultural input materials and up-grading of living standards are expected as intangible benefits. According to the Master Plan Study report, the farm incomes per farm operating mainly in paddy cultivation will increase from about 12,900 to 23,000 pesos on the average, including tenant operators whose income will increase from about 4,800 to 8,300 pesos.

Farm-to-market roads play a substantial role in agricultural development. Agricultural products and input materials as well as daily commodities are speedily distributed to and from markets along these roads. Farming work itself is also facilitated by these roads. The number of beneficiaries (number of inhabitants directly related to the roads) of the construction of roads will be about 6,600 persons for the total of four roads. However, seeing that peoples other than the directly related inhabitants will also pass along the roads, the number of road beneficiaries is expected to be more than the above estimation. The expansion of communications, which is one of the effects of the road project, will give farmers an incentive to improve their farming,

activate their production and enhance their livelihoods. Since the existing roads have been inaccessible and impassable by car, many benefits such as those mentioned above are expected. However, those benefits are hard to quantify.

The village water supply will provide domestic water for about 11,300 persons and farming water for the breeding of domestic animals and poultry including about 1,900 cows/carabao, about 3,800 pigs, about 19,200 domestic fowl, etc., and for the experiments, research and training in the Gandara Seed Farm and the Samar National Agricultural School. By providing farming water, it is expected that the breeding number of domestic animals and poultry will be increased and the agricultural support services will be strengthened. The domestic water supply will bring about healthy living and increased production, and will remove water shortages. These effects are also hard to quantify, though a willingness to pay 47 pesos/family/month for domestic water is assumed as estimated in the previous section.

For proper maintenance of the irrigation facilities and farm-to-market roads, the equipment for O & M are essential since the field offices of related agencies have insufficient equipment. The equipment to be procured will be used for O & M of subject facilities. However it may also be used for other areas to be developed when it is idle for maximazation of its effective use.

Aside from those benefits mentioned above, the construction of roads will disturb the existing land conditions by removing the vegetation cover of the land. This disturbance may bring about the accelerated erosion of land, an increase of runoff water and partial inundation. In addition, the perennial irrigation will cause an increase in the number of snails, intermediate hosts of schistosomiasis, in the paddy fields. These disturbances of the environment may be inevitable, providing the development program is implemented, but shall be diminished as much as possible by taking necessary measures from an engineering point of view to mitigate such disadvantages.

The project benefits, which will be brought about by the organic connection of the project components with each other, will be hard to

quantify in terms of the improvement of farm villages and land but will bring about increased agricultural production as a direct benefit and the other unquantified benefits stated above to alleviate the poverty and generate productive job opportunities as well as upgrade the standard of living

5-2. CONCLUSION

The executing agency in the Philippines, which is the Samar provincial government as stipulated in the Minutes of Discussions (Annex 4-1), shall be urgently organized for the smooth execution of the Project. In addition, it is recommended to immediately make the budgetary arrangements necessary for the civil work, land acquisition, banking charges, etc., to be undertaken by the Philippine Government. The amount to be provided by the Philippine Government is estimated to be about 16.27 million pesos.

The proposed project, as a result of the various examinations, has been confirmed in its appropriateness, necessity, organic role and the effects of its respective components as well as the capability of the Philippine Government regarding its implementation. In addition, its effects meet the requirements of the system of Japan's Grant Aid Program. Toward this end, this project will be appropriate to be implemented under Japanese grant aid.

ANNEX

ANNEX 1 LIST OF SURVEY TEAM MEMBER

1-1. ON FIELD SURVEY

Leader	:	Mr.Osamu TSUJI
Project Coordinator	:	Mr. Kenichi SHISHIDO
Agricultural Development	:	Mr.Osamu ISHIYAMA
Irrigation /Drainage	:	Mr.Masahiro IIDA
Farm-to-Market Road	:	Mr.Yutaka TOMINAGA
Village Water Supply	:	Mr.Akira NAOTSUKA
Cost Estimate	:	Mr.Shunichi HOSONO

1-2. ON EXPLANATION OF DRAFT FINAL REPORT

Leader	:	Mr. Tadashi HASHIMOTO
Agricultural Development	:	Mr. Osamu ISHIYAMA
Farm-to-Maket Road	:	Mr. Yutaka TOMINAGA

ANNEX 2 ITINERARY OF FIELD SURVEY

2-1. FIELD SURVEY DURING BASIC DESIGN STUDY

No.	Mo./Date	Day	Description
1	Jan. 29	Mon.	Trip from Tokyo to Manila, Courtesy call to JICA Manila Office and Embassy of Japan.
2	30	Tue.	Courtesy call and Meeting with SIRDPO and NEDA staff.
3	31	Wed.	Meeting with SIRDPO staff.
4	Feb. 1	Thu.	Arrangement and compilation of data.
5	2	Fri.	Meeting with study team members.
6	3	Sat.	Trip to Catbalogan via Tacloban, Meeting with staff of NEDA and line agencies concerned, Region-VIII, at office of NEDA in Tacloban and then proceeded to Project site inspection.
7	4	Sun.	Site inspection and then trip to Manila; but Tominaga stayed in site.
8	5	Mon.	Meeting with Governor for Samar Province, and visited to SIRDPO, NIA, DPWH and DA for courtesy call and discussion; and Tominaga for site inspection for roads and bridges.
9	6	Tue.	Wrap-up meeting with NEDA and line agencies concerned, signed Minutes of Discussion, and then report to JICA Manila Office and Embassy of Japan; and
10	7	Wed.	Meeting with survey team members in Manila, Team leader Tsuji and Team member Shishido left for Japan; and
11	8	Thu.	Ishiyama and Iida tripped to Catbalogan; and
12	9	Fri.	Ishiyama met with officials concerned; Iida for irrigation system inspection; and Tominaga for supervision of route survey.
13	10	Sat.	Ishiyama for site inspection; Iida for irrigation system inspection; and Tominaga for study on road location.
14	11	San.	Ishiyama for site inspection; Iida for irrigatable area inspection; and Tominaga for supervision of route survey.
15	12	Mon.	Ishiyama for meeting with Gandara Mayor and site inspection; Iida for supervision of route survey; and Tominaga for supervision of geological exploration.

No.	Mon./Date	Day	Description
16	Feb. 13	Tue.	Ishiyama visited to DA Field Offices concerned; Iida for meeting with NIA Provincial Office staff; Tominaga for supervision of geological exploration; and Naotsuka arrived in Manila.
17	14	Wed.	Ishiyama and Iida for meeting with NIA and NEDA Region-VIII Offices staff; Tominaga for investigation for road route; and Naotsuka tripped from Manila to Catbalogan.
18	15	Thu.	Ishiyama met with DPWH District Office staff; Iida for data and information collection on construction; Tominaga for supervision of geological exploration; and Naotsuka for water source investigation.
19	16	Fri.	Ishiyama for field inspection; Iida for survey of construction unit costs; Tominaga for contract management of route survey; and Naotsuka for water source investigation.
20	17	Sat.	Ishiyama for field inspection of proposed irrigation area; Iida for survey of construction unit costs; Tominaga for inspection of route survey; and Naotsuka for location of water supply pipe lines.
21	18	Sun.	Ishiyama for field inspection of proposed irrigation area; Iida for survey of construction material; Tominaga for supervision of geological exploration; and Naotsuka for supervision of route survey..
22	19	Mon.	Ishiyama for collection of agricultural statistical data; Iida for meeting with beneficial farmers; Tominaga for arrangement with DPWH District Office staff; and Naotsuka for inspection of water supply service area.
23	20	Tue.	Ishiyama for meeting with San Jorge Mayor and others; Iida for meeting with NIA Region-VIII staff; Tominaga for survey of construction materials; and Naotsuka for location of San Jorge reservoir.
24	21	Wed.	Ishiyama for field inspection; Iida for collection of climate and hydrological data; Tominaga for meeting with PEO staff and inspection of geological exploration; and Naotsuka for meeting with San Jorge Mayor.
25	22	Thu.	Trip to Tacloban, Ishiyama for meeting with DA Regional Office staff; Iida for inventory of construction materials; Tominaga for meeting with DPWH Regional Office staff; and Naotsuka met with Samar Province Governor.
26	23	Fri.	Ishiyama for meeting with NEDA Regional Office staff; Iida for NIA Region Office staff; and Tominaga and Naotsuka for meeting with DPWH Regional Office staff.
27	24	Sat.	All members tripped to Manila.

No.	Mon./Date	Day	Description
28	25	Sun.	All member for arrangement and compilation of collected data.
29	26	Mon.	Ishiyama for report to JICA Manila Office; Iida for data collection in PAGASA; Tominaga for collection of construction material costs; and Naotsuka for meeting with DPWH staff.
30	Feb. 27	Tue.	Ishiyama for meeting with NEDA and LUWA staff; Iida made arrangement with SIRDPO staff; Tominaga for arrangement of construction unit costs with NIA staff; and Naotsuka made arrangement with SIRDPO staff on basic design.
31	28	Wed.	Ishiyama made arrangement with SIRDPO staff on data collection; Iida for collection of topographic maps; Tominaga for inventory of construction materials; and Naotsuka made arrangement with SIRDPO staff on basic design.
32	Mar. 1	Thu.	Ishiyama for meeting with CCPAP staff; Iida made arrangement with NIA staff; Tominaga for review of route survey and geological exploration data; and Naotsuka for study of construction materials.
32	2	Fri.	Ishiyama made arrangement with JICA experts in NIA and DPWH; Iida for data collection in NEDA publication center; Tominaga made arrangement with SIRDPO staff; and Naotsuka for collection of data and information on construction materials.
34	3	Sat.	All members for arrangement and compilation of data.
35	4	Sun.	Meeting with all team members.
36	5	Mon.	Ishiyama made arrangement with NEDA and LUWA staff; Iida made arrangement with SIRDPO staff; Tominaga for inspection of geological exploration data; and Naotsuka for collection of data and information on construction materials.
37	6	Tue.	Ishiyama for data collection in NIA and SIRDPO; Iida made arrangement with NIA staff; Tominaga for inspection of geological exploration data; and Naotsuka made arrangement with SIRDPO staff on design.
38	7	Wed.	Ishiyama made arrangement with JICA expert in DPWH; Iida made arrangement with DAR staff; Tominaga made arrangement with DPWH staff on O & M; and Naotsuka made arrangement with LUWA staff.
39	8	Thu.	Ishiyama and Naotsuka for meeting with DPWH, WSPO Director; Iida for data collection in UP; all members had report to JICA Manila Office.
40	9	Fri.	Ishiyama and Tominaga for meeting with NEDA staff; all team members left for Japan.

2-2. EXPLANATION OF DRAFT FINAL REPORT

No.	Mon./Date	Day	Description
1	May 21	Mon.	Trip from Tokyo to Manila, Courtesy call to JICA Manila office and Embassy of Japan
2	22	Tue.	Explanation on the draft report at NEDA Board room. Meeting with NIA staff.
3	23	Wed.	Meeting with DA and DPWH staff respectively.
4	24	Thu.	Meeting with NEDA staff. Made arrangement on the Project with CCPAP.
5	25	Fri.	Wrap-up meeting at NEDA Board room. Reported to JICA Manila office and Embassy of Japan.
6	26	Sat.	Made arrangement on the Project with JICA exports and trip to Tokyo.

ANNEX 3 LIST OF PERSONNEL CONTACTED DURING THE FIELD SURVEY

3-1. EMBASSY OF JAPAN

Mr. Naoki Hayashida - First Secretary

3-2. JICA MANILA OFFICE

Mr. Moriya Miyamoto, Representative

Mr. Katsuhiko Oshima

Mr. Noriaki Niwa

Mr. Kikuo Takeuchi, Deputy Resident Representative

Mr. Fumio Kikuchi, Asst. Resident Representative

3-3. SAMAR INTEGRATED RURAL DEVELOPMENT PROJECT OFFICE (SIRDPO)

- Central

Mr. Anthony Ponce de Leon	:	Project Director
Mr. Leonardo C. Cruz	:	Chief, Project Mgt. /PO of CCPAP
Mr. Rolando Quimbo	:	Administrative Officer
Dr. Oscar Aurelio	:	Personnel Officer
Mr. Leocadio Gomez	:	Executive Assistant
Mr. Diego Espina	:	Supervising Civil Engr.
Mr. Fermin L. Panuga, Jr.	:	Sr. Dev't Mgt. Officer
Ms. Elena Maniego	:	Dev't. Project Evaluator
Mr. Sergio Fortaleza	:	Chief, Dev't. Project Coordinator

- Field Office

Mr. Zacarias Tizon	:	Chief, Dev't. Project Coordinator
Mr. Nelson Ballejos	:	Agri. Project Evaluator
Mr. Danilo Calagos	:	Sr. Dev't. Mgt. Offier
Mr. Diomedes Lelis	:	Chief, Dev't. Project Coordinator

3-4. PROVINCE OF SAMAR

Mr. Antonio M. Bolastig	:	Governor
Mr. Leo N. Dacaynos	:	Provincial Engineer, PEO
Mr. Cesar B. Basal	:	Asst. Engineer, PEO
Mr. Arthur B. Cuenco	:	PPDO
Mr. Jose C. Macopia	:	PPDO

3-5. NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY (NEDA)

- Central

Ms. Carolina S. Guina	:	ADG. NDO
Mr. J. D. Gomez	:	AD
Mr. Rolando G. Tungpalan	:	OIC Project Monitoring Staff (PMS)
Mr. J. D. Sotalbo	:	RDCS
Mr. J. Fernandez	:	Supv. EDS. PMS
Ms. Teresita Madamba	:	Public Investment Staff (PIS)
Mr. Tito Tranquiliwo	:	PIS
Mr. Jonathan L. Uy	:	PIS
Ms. Athena Baquizal	:	Sr. EDS, PMS
Ms. Elizabeth Fernando	:	Sup. DS, PMS
Ms. Malou T. Eudela	:	Sr. EDS, PMS
Ms. Aleli F. Lopes-Dea	:	Sup. DS, PMS
Mr. Wilfredo M. De Perio	:	EDS II, PMS
Mr. Oscar I. Mia	:	- do -
Ms. Rowena P. Dineros	:	EDS I, PMS
Mr. J. Fernandez	:	EDS, PMS
Ms. R. C. Corpus	:	DS II, PMS

- Region-VIII

Atty. Romeo C. Escandor	:	Regional Director
Mr. Jose U. Mazo	:	Asst. Regional Director
Mr. Pablo P. Burgos	:	Asst. Regional Director
Ms. Elvira S. Edillo	:	CEDS
Mr. Rafael C. Caintic	:	CEDS
Mr. William N. Resma	:	EDS I
Mr. Miguel G. Villegas	:	CEDS
Ms. Luz P. Navarrete	:	Sup. EDS

3-6. NATIONAL IRRIGATION ADMINISTRATION (NIA)

- Central

Mr. Jose B. del Rosario, Jr.	:	Administrator
Mr. Jose A. Gulvez	:	Assistant Administrator
Mr. Isidro R. Digal	:	Director, Planning and Development Div.
Mr. Edilberto B. Punzal	:	Chief, PDD

Mr. Arturo S. Samson	:	Principal Engr. B, PDD
Mr. Sumio Oishi	:	JICA Expert

- Region-VIII, NIA

Mr. Jose B. Corregidor	:	OIC, Regional Director
Mr. Emmanuel C. Ligutan	:	OIC, Chief, Engineer Division
Mr. Pedro C. Rubio Jr.	:	Provincial Irrigation Engr.
Mr. Cornelio Cevilla	:	Chief of Design Section
Mr. Tonie C. Sumayod	:	Public Affairs Officer

- Provincial

Mr. Pedro C. Rubio Jr.	:	Provincial Irrig. Engineer
Ms. Herminia Mabulac	:	Cost/Monitoring Engineer
Ms. Judith Yepez	:	Irrigator's Organization Worker

3-7. DEPARTMENT OF PUBLIC WORKS AND HIGHWAY (DPWH)

- Central

Mr. Manuel M. Bonoan	:	Asst. Secretary for Planning cum Manager for F/S
Mr. Trino G. Meris	:	Director
Mr. Federico de Leon	:	Project Manager, Project Mgt. Office
Mr. Florencio F. Padernal	:	Project Director, PMO for Rural Water Supply
Mr. Danny Castilon	:	Project Office and Coordinator, SIRDP
Mr. Manual Alconis	:	Engr. IV
Mr. Hideo Tsuji	:	JICA Expert
Mr. Nobuki Abe	:	JICA Expert

- Region VIII

Mr. Isidro P. Mariano	:	Director IV
Mr. Pablo P. Burgos	:	Director III
Mr. Gil U. Calina	:	Project Manager I, Water Supply
Mr. Antolin G. Galing	:	Regional Project Manager
Ms. Viola R. Enerlan	:	Project Manager I, PJHL
Mr. Abelardo M. Monge, Jr.	:	Engineer V. PDD
Mr. Damaso B. de la Cuadra	:	Engineer V, Construction Div.
Mr. Rosario V. Barcelo	:	Engineer V, Maintenance Div.

Mr. Jose K. Tupaz	:	Engineer V, Materials Quality Control and Hydrology Div.
Ms. Concesa S. Deramas	:	Economist II

- Catbalogan

Mr. Walfrido Bonifacio	:	District Engineer
Mr. Pablito C. Galicia	:	Asst. Engineer
Mr. Vicente G. Piczon, Jr.	:	Area Equipment Engineer
Mr. Nicer P. Gondaya	:	Engineer III

3-8. DEPARTMENT OF AGRICULTURE (DA)

- Central

Ms. T. C-Capellan	:	Assistant Secretary
Mr. Shigetaka Saburi	:	JICA Expert
Ms. Zenaida M. Villegas	:	Assistant Chief, IADCCO
Mr. Augustus P. Tiambeng	:	Chief, Project Packing Div., ADCCO

- Region VIII

Mr. Leopoldo b. Romano	:	Regional Director
Mr. E. Hilivano	:	Ex. Director
Mr. Pruto Adora	:	Staff Assistant
Mr. Raul C. Lluz	:	Provincial Agricultural Officer

3-9. SAMAR ELECTRIC COOPERATION I (SAMELCO I)

Mr. Eddie A. Adlao	:	Proj. Supv'r/Actg. General Manager
Mr. Leo D. Nicolasora	:	Chief Engineer

3-10. DEPARTMENT OF AGRARIAN REFORM (DAR)

- General

Mr. Romulo S. Quimbo Jr.	:	Asst. Director, Beneficiaries Development
Mr. Toshio Hirodo	:	JICA Expert

- Provincial, DAR

Mr. Reynaldo D. Villas	:	Provincial Agrarian Reform Officer
Mr. Ernest Escorro	:	Chief of Operator
Mr. Rodulfo Gonzaga	:	Support Services

3-11. LOCAL WATER UTILITIES ADMINISTRATION (LWUA)

Mr. Alfredo B. Espino	:	Manager, Planning Dept.

3-12. METROPOLITAN WATERWORKS AND SEWERAGE SYSTEM (MWSS)

Mr. Naomasa Oda	:	JICA Expert

3-13. PHILIPPINE ATMOSPHERIC GEOPHYSICAL AND ASTRONOMICAL SERVICE ADMINISTRATION (PAGASA)

Ms. Fely Espinosa	:	Weather Specialist II, Data Bank Section
Ms. Daya Rivera	:	Weather Observer IV, Data Bank Section

3-14. SAN JORGE MUNICIPALITY

Ms. Cristeta R. Corrales	:	Mayor
Mr. Rodolfo B. Corrales	:	Vice Mayor
Mr. Rene C. Nacional	:	Assessor
Mr. Raul C. Dy	:	Engineer

3-15. GANDARA MUNICIPALITY

Mr. Reynald C. Correche	:	Mayor

3-16. BARANGAY QUEZON

Mr. Rufino Bernabe	:	Brgy. Captain

3-17. BARANGAY JANIPON

Ms. Adela Verzosa	:	Brgy. Captain

3-18. BARANGAY CANTAGUIC

Mr. Potenciano Guillego	:	Brgy. Captain

3-19. BARANGAY SAN ISIDRO

Ms. Rosita Villenueva	:	Brgy. Captain

3-20. BARANGAY RAWIS

Ms. Harlen Grigorio	:	Brgy. Captain

3-21. BARANGAY - BLANCA AURENA

Mr. Constancio Bauar	:	Brgy. Captain

3-22.	**BARANGAY - GUINDAPUNAN**		
	Mr. Arsenio Bentillo	:	Brgy. Captain
3-23.	**BARANGAY - BULAO**		
	Mr. Estanislao Turtoga	:	Brgy. Captain
3-24.	**BARANGAY - BUENA VISTA II**		
	Mr. Decoroso Ramos	:	Brgy. Captain
3-25.	**BARANGAY -TOMOGBONG**		
	Mr. Felipe Salingsing	:	Brgy. Captain
	Mr. Perpetua Doblon		
3-26.	**BARANGAY - LA PAZ**		
	Mr. Lorito Llarena	:	Brgy Captain
3-27.	**BARANGAY - BUENA VISTA I**		
	Mr. Carlos Bolledo	:	Brgy Captain
3-28.	**BARANGAY - POB. II SAN JORGE**		
	Mr. Vicente Corrales	:	Brgy Captain
3-29.	**BARANGAY - SAN JUAN**		
	Mr. Dionisio Balesbes	:	Brgy Captain
3-30.	**BARANGAY - POB. I SAN JORGE**		
	Ms. Lydia C. Corrales	:	Brgy Captain
3-31.	**BARANGAY - MANCOL POB III**		
	Ms. Cecilia B. Cabarles	:	Brgy Captain
3-32.	**SAN JORGE ELEM. SCHOOL**		
	Ms. Erlianda Brazil	:	Principal
3-33.	**SAMAR NATIONAL AGRICULTURAL SCHOOL**		
	Mr. Oscar M. Neypes	:	Vocational School Administrator II

ANNEX 4 MINUTES OF DISCUSSIONS

4-1. MINUTES OF DISCUSSIONS ON ADPP

MINUTES OF DISCUSSIONS
ON
THE AGRICULTURAL DEVELOPMENT AND PROMOTION PROJECT IN WESTERN SAMAR
IN
THE REPUBLIC OF THE PHILIPPINES

In response to the request of the Government of the Republic of the Philippines, the Government of Japan decided to conduct a basic design study on the Agricultural Development and Promotion Project in Western Samar (the Project) and entrusted the study to the Japan International Cooperation Agency (JICA). JICA sent a Study Team headed by Mr. Osamu Tsuji, Manager of Water Use Division, Construction Department, Tohoku Regional Agricultural Administration Office, Ministry of Agriculture, Forest and Fisheries to the Philippines from January 29 to March 9, 1990.

The Team held a series of discussions on the Project with the officials concerned and conducted a field survey in the Project area.

As a result of the study, both parties agreed to recommend to their respective Governments that the major points of understanding reached between them, as attached herewith, should be examined towards the realization of the Project.

February 6, 1990

OSAMU TSUJI
Team Leader
Basic Design Study Team, JICA

ANTONIO H. BOLASTIG
Governor,
Samar Province

Witnessed by;

CAROLINA S. GUINA
Director, PIS
NEDA

ROMEO C. ESCANDOR
Regional Director,
Region-VIII, NEDA

MAJOR POINTS OF UNDERSTANDING

1. Objectives of the Project

The Project aims to alleviate the persistent poverty and generate productive job opportunities in the remote rural areas, providing the minimum requirements to improve the rural infrastructures and upgrade living conditions of inhabitants.

2. Project Components Requested by the Government of the Philippines

The Project components are described in ANNEX I.

3. Project Area

The proposed project area is located in San Jorge and Gandara municipalities within Samar Province (see Figure 1).

4. Executing Agency for the Project

The Provincial Government of Samar will be responsible for implementation of the Project and will coordinate activities of agencies concerned for the operation and maintenance of the completed structures and facilities.

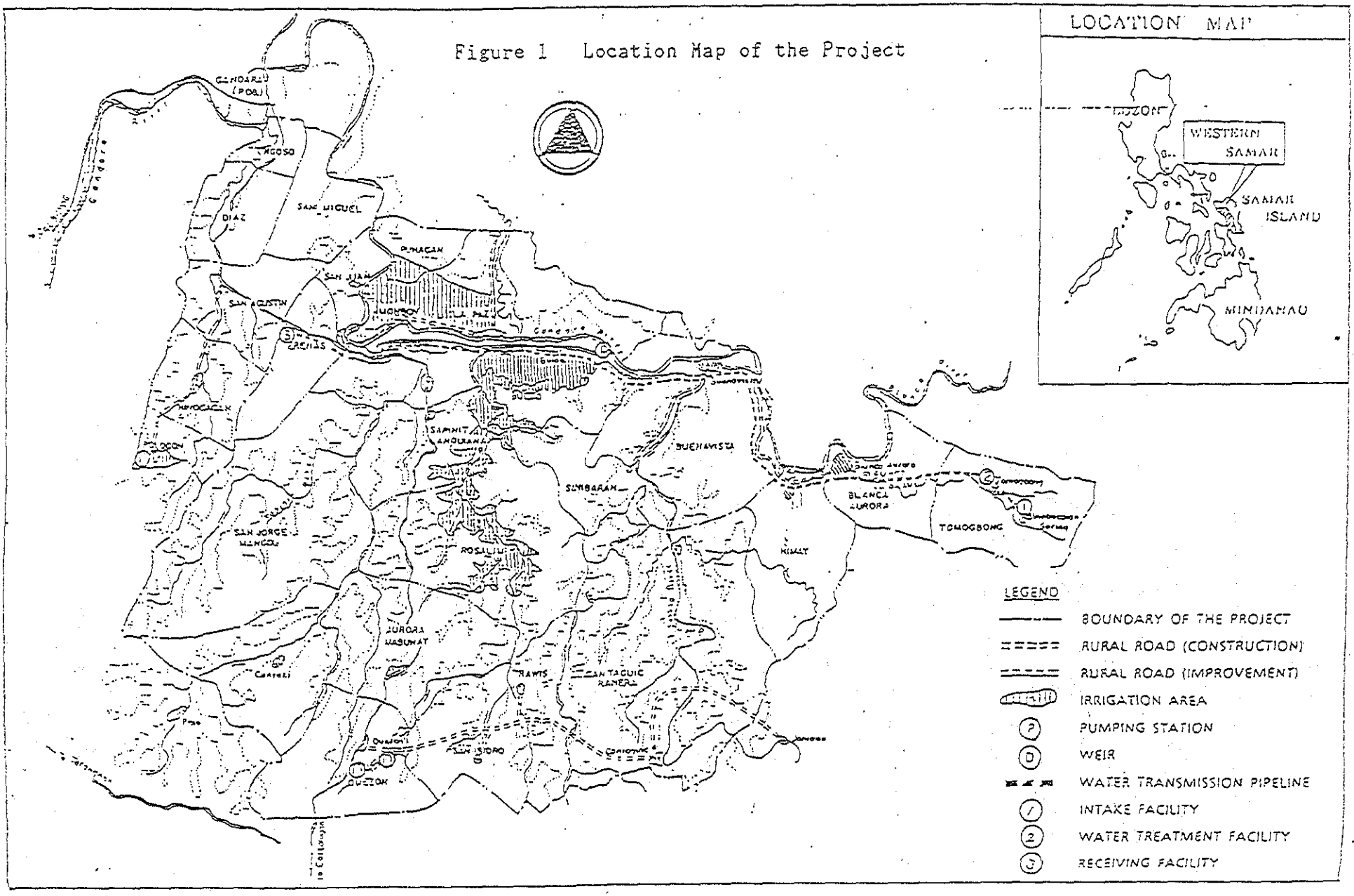
5. Japan's Grant Aid Program

The Government of the Philippines has understood the Japan's Grant Aid program, as explained by the Study Team, including the use of a Japanese Consultant firm and a Japanese General Contractor for the construction and supply of materials.

6. Undertaking by the Government of the Philippines

The Government of the Philippines will take the necessary measures as listed in Annex II on the condition that the Japan's Grant Aid would be extended to the Project.

Figure 1 Location Map of the Project



ANNEX I. PROJECT COMPONENT REQUESTED BY THE GOVERNMENT OF THE PHILIPPINES

a) Irrigation Component;
   - Rehabilitation and upgrading of Quezon communal irrigation system (CIS), La Paz and Aurora CISs covering some 185 ha;
   - Construction of Bulao pump irrigation project (PIP) and Bulao South PIP covering some 250 ha;

b) Farm-to-Market Road Component;
   - Construction of Bulao-La Paz, Quezon-Janipon and La Paz lines (about 13 km in total) with appurtenant structures; and
   - Improvement of Blanca Aurora-Buena Vista, San Agustin-Pologon and Buena Vista South lines (about 12 km in total) with appurtenant structures;

c) Village Water Supply Component;
   - Construction of water supply facilities such as a pipe line from the Binobucalan spring to San Jorge, an intake facility, a receiving well, a distribution reservoir and public faucets in San Jorge area; and

d) Procurement of Equipment;
   - Operation and maintenance equipment for irrigation systems and farm-to-market roads.

ANNEX II. UNDERTAKING BY THE GOVERNMENT OF THE PHILIPPINES

1. To provide the land for the right-of-way of canals, roads and related structures and assure compensation for the construction of structures and facilities before commencement of the construction;

2. To ensure prompt unloading and customs clearance at the port of disembarkation in the Philippines for the equipment and materials to be imported for the project implementation;

3. To exempt Japanese nationals engaged in the Project from custom duties, internal taxes and other fiscal levies which may be imposed in the Philippines with respect to the supply of materials and services under the verified contracts;

4. To assume the Value Added Tax (VAT) which is imposed on the purchase of Philippine supplies and materials for the Project;

5. To provide and accord necessary permission, licences and other authorization required for the execution of the Project;

6. To provide available data and information to the Japanese consultant and the contractor necessary for the detailed engineering services;

7. To provide lands necessary for construction works such as temporary office, working area, stock yard and others;

8. To maintain and use properly and effectively the facilities constructed under the Project;

9. To execute the construction of on-farm facilities and necessary minor works; and

10. To shoulder commission fees to the Japanese foreign exchange bank for banking services based on the banking arrangements as follows;
    - Advising commission of authorization to pay
    - Payment commission

4-2. HIGHLIGHTS OF DISCUSSION ON NEDA - JICA WRAP - UP MEETING

REPUBLIC OF THE PHILIPPINES
NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY
NEDA sa Pasig, Amber Avenue Pasig, Metro Manila

Cable Address: NEDAPHIL
P.O. Box 419, Greenhills
Tels. 673-50-31 to 50

HIGHLIGHTS OF DISCUSSION
NEDA-JICA Wrap-up Meeting on the
Agricultural Development and Promotion Project (ADPP) in Samar
9 March 1990; 9:00 - 11:30 am
NEDA-sa-Pasig, Metro Manila

I. ATTENDANCE

Mr. Rolando G. Tungpalan	NEDA - Presiding Officer
Mr. Noriaki Niwa	JICA
Mr. Yutaka Tominaga	JICA Study Team
Mr. Osamu Ishiyama	JICA Study Team
Ms. Athena Baquizal	NEDA
Ms. Teresita Madamba	NEDA
Mr. Jonathan Uy	NEDA

II. PURPOSE

This wrap-up meeting was called for the purpose of discussing the major findings of the JICA Basic Design Study Team subsequent to their field surveys, as well as the issues which were raised in the course of their discussions with concerned Philippine Government officials in the region and province. (Reference: Highlights of the ADPP Inter-Agency Consultative Meeting; 23 February 1990.)

III. HIGHLIGHTS OF THE DISCUSSIONS

1. On the Rehabilitation of the Bulao Communal Irrigation Project (CIP)

The JICA Team earlier raised the issue of which agency, i.e. the National Irrigation Administration (NIA) or the Department of Agriculture (DA), shall be responsible for the implementation of said component. Mr. Ishiyama then reported that a Memorandum of Agreement (MOA) has been entered into by the Regional Directors of NIA and DA on 5 March 1990, whereby the NIA shall be responsible for the actual rehabilitation works and operation and maintenance of the project, while the DA shall be responsible for organizing Farmer's/Irrigator's Associations and training its members.

The NEDA agreed that such arrangement was desirable and that the MOA sufficiently resolves the issue.

2. On the repair/reconstruction of the Buenavista Bridge

The JICA Team reported on the need to repair/reconstruct the Buenavista Bridge (which links two proposed roads) and have this completed by year-end 1990, before the start of ADPP implementation in early 1991, to enable movement of construction equipment across this bridge. Mr. Ishiyama, however, reported that in his meeting with Assistant Secretary Bonoan of the DPWH subsequent to the 23 February 1990 consultation in the region, he was informed that no funds are available for this purpose under the 1990 Infrastructure Program but that this may be included in the 1991 Program. In light of this, the NEDA Team explored the possibility of this component's inclusion in the Grant-in-Aid for ADPP. The JICA Team indicated that the cost of bridge reconstruction could be considered for inclusion in said grant-in-aid and that such additional cost is estimated to increase total project cost by approximately five percent (5%).

The NEDA agreed that it will be prepared to initiate a formal request, subject to the acceptability of the proposed additional project component based on consultations with and clearances of concerned Philippine Government agencies/officials.

3. On the implementation of the ADPP Roads Component

Mr. Ishiyama informed the body that in his meeting with DPWH, the latter had agreed to be responsible for the implementation and maintenance of the Project roads and to receive the road maintenance equipment to be provided under the grant, subject to an official request from the Provincial Government for it to do so.

The NEDA agreed to the desirability of this arrangement and will coordinate with the Provincial Government to facilitate the latter's request for DPWH to assume responsiblity for the implementation of the ADPP Roads Component.

4. On the implementation of the Village Water Supply Component

Mr. Ishiyama informed the body that in his meeting with Dr. Florencio Padernal of DPWH, he was informed that the DPWH is prepared to assume responsibility for the implementation of the Village Water Supply Component of the Project, inasmuch as works required by the component are in the nature of spring development which is institutionally the responsibility of DPWH.

The NEDA confirmed this arrangement.

5. On the Organzition and Management of the Project

The NEDA confirmed that implementation arrangements for the ADPP as originally envisioned, i.e. creation of a Project Board chaired by the Provincial Governor, with the participating line agencies as members, to provide overall direction to and assume supervision of the Project, and the setting up of a Project Management Unit (PMU) under the Office the Provincial Governor to see to the day-to-day management of project activities (consistent with Executive Order 363 s. 1989), shall remain the same regardless of the issuance of an Executive Order outlining the institutional arrangements for the Samar Island Development Program (SIDP).

4-3. MINUTES OF DISCUSSIONS ON DRAFT FINAL REPORT EXPLANATION

MINUTES OF DISCUSSIONS

ON

THE AGRICULTURAL DEVELOPMENT AND PROMOTION PROJECT IN WESTERN SAMAR

IN

THE REPUBLIC OF THE PHILIPPINES

In response to the request of the Government of the Republic of the Philippines, the Government of Japan decided to conduct a basic design study on the Agricultural Development and Promotion Project in Western Samar (the Project) and entrusted the study to the Japan International Cooperation Agency (JICA). JICA sent a Study Team headed by Mr. Tadashi Hashimoto to present and explain the Draft Final Report for the Project from May 21 to 26, 1990.

The Team held a series of discussions on the Project with the officials concerned in Manila.

As a result of the discussion, both parties agreed to recommend to their respective Governments that the major points of understanding reached between them, as attached herewith, should be examined towards the realization of the Project.

May 25, 1990

TADASHI HASHIMOTO
Team Leader
For Draft Report Explanation, JICA

ANTONIO M. BOLASTIG
Governor
Samar Province

Witnessed by:

ELIZABETH FERNANDO
N E D A

MAJOR POINTS OF UNDERSTANDING

1. Both parties agreed to reconfirm the Minutes of Discussions which was mutually signed on February 6, 1990. As for the undertakings of the Government of the Philippines, both parties have again confirmed the items described in Annex 1.

2. The Government of the Philippines has agreed in principle to the basic design proposed in the draft Final Report. Some minor modifications agreed by both parties in the course of the discussion will be incorporated in the Final Report.

3. The Government of the Philippines has acknowledged Japan's Grant Aid system and arranged its undertaking the necessary organization and staffing, budgetary provision for land acquisition and project implementation, and maintenance of the proposed project facilities.

4. The executing agency, the Provincial Government of Samar, will be responsible for ensuring that the concerned implementing agencies secure the right-of-way of canals, roads and related structures before starting the construction works.

5. Ten (10) copies of the Final Report will be submitted to the Government of the Philippines by the end of July 1990.

ANNEX I. UNDERTAKING BY THE GOVERNMENT OF THE PHILIPPINES

1. To provide the land for the right-of-way of canals, roads and related structures and assure compensation for the construction of structures and facilities before commencement of the construction;

2. To ensure prompt unloading and customs clearance at the port of disembarkation in the Philippines for the equipment and materials to be imported for the project implementation;

3. To exempt Japanese nationals engaged in the Project from custom duties, internal taxes and other fiscal levies which may be imposed in the Philippines with respect to the supply of materials and services under the verified contracts;

4. To assume the Value Added Tax (VAT) which is imposed on the purchase of Philippine supplies and materials for the Project;

5. To provide and accord necessary permission, licences and other authorization required for the execution of the Project;

6. To provide available data and information to the Japanese consultant and the contractor necessary for the detailed engineering services;

7. To provide lands necessary for construction works such as temporary office, working area, stock yard and others;

8. To maintain and use properly and effectively the facilities constructed under the Project;

9. To execute the construction of on-farm facilities and necessary minor works; and

10. To shoulder commission fees to the Japanese foreign exchange bank for banking services based on the banking arrangements as follows;

- Advising commission of authorization to pay
- Payment commission

ANNEX 5 SUPPLEMENTAL DATA FOR ADPP

TABLE A5-1 SUMMARY OF MAJOR STATISTIC DATA

Statistical Series	Latest Data		Compared to		Percent Change
	Reference period	Value	Reference period	Value	
1. Populations (1,000 persons)	May 1,1980	48,098	May 1,1975	42,071	14.3
2. Average family incomes (pesos)	1985		1971		
Philippines		31,052		3,726	733.4
Urban		46,127		5,867	686.2
Rural		21,875		2,818	676.3
3. Consumer price index for all items (1978 = 100)	June 1989	439.4	June 1988	400.6	9.7
4. Gross national product (million pesos)	1988		1987		
At current		823,767		703,361	17.1
At 1972 prices		101,186		64,797	6.7
5. Gross domestic product (million pesos)	1988		1987		
At 1972 Prices		101,534		95,463	6.4
6. Per capita national income (pesos)	1988		1987		
At current prices		11,545		9,685	19.2
At 1972 prices		1,419		1,316	7.8
7. Classified land area (1,000 hectares)	1988		1987		
Alienable and disposable		14,117,753		14,108,087	0.1
Forest land		15,001,090		15,010,616	(0.1)
8. Productions of agricultural crop	Crops year		Crops year		
(1,000 m.t.)	1988	43,843	1987	43,905	(0.1)
Food grains		13,399		12,818	4.5
Palay		8,971		8,539	5.1
Corn		4,428		4,278	3.5
Other foot crops		30,900		30,644	0.8
Non-foot Crops		449		444	1.1
9. Directions of external trade (million US dollars)	1988		1987		
Exports		7,074.2		5,720.2	23.7
Imports		8,159.4		6,740.0	21.1
Balance of trade		(1,085.2)		(1,019.8)	6.4
10. Total labor force	1988		1987		
(1,000persons)		23,451		22,984	2.0
Employment		21,497		20,812	3.3
Unemployment		1,954		2,173	(10.1)
11. Labor force participation rate (percent)	1988		1987		
Philippines		65.4		66.0	(0.9)

Data Source : 1989 Philippine Statistical Yearbook (NSCB)

TABELE A5-2. TOTAL NUMBER OF FAMILIES, TOTAL AND AVERAGE FAMILY INCOME (PHILIPPINES) URBAN-RURAL AND WESTERN SAMAR 1985

Income Class and Area	Total No. of Families	Income		Total r No. of Families	Income	
		Total (in Pesos 1,000)	Average (in Peso)		Total (in Pesos 1,000)	Average (in Peso)
	National			Urban		
	9,847,339	305,775,274	31,052	3,726,049	171,869,677	46,127
Under Pesos 6,000	357,849	1,695,850	4,523	44,989	195,664	4,349
6,000 - 9,999	1,116,780	9,202,175	8,240	167,556	1,380,440	8,239
10,000 - 14,999	1,778,039	22,207,257	12,490	368,988	4,678,960	12,681
15,000 - 19,999	1,539,840	26,769,814	17,385	443,629	7,786,993	17,553
20,000 - 29,999	1,936,341	47,373,441	24,465	757,310	18,737,649	24,742
30,000 - 39,999	1,085,634	37,402,390	34,452	553,342	19,202,853	34,703
40,000 - 59,999	1,043,520	50,498,966	48,393	646,567	31,447,237	48,637
60,000 - 99,999	625,740	47,225,272	75,471	457,327	34,814,518	76,126
100,000 and Over	345,598	63,396,111	183,439	286,341	53,625,363	187,278
	Rural			Samar Province		
	6,121,290	133,905,597	21,875	101,157	1,846,538	18,254
Under Pesos 6,000	330,860	1,504,186	4,546	-	-	-
6,000 - 9,999	949,225	7,821,735	8,240	33,300	237,638	7,136
10,000 - 14,999	1,409,051	17,528,298	12,440	28,913	355,631	12,438
15,000 - 19,999	1,096,211	18,982,821	17,317	12,046	201,993	16,851
20,000 - 29,999	1,179,031	28,635,792	24,288	14,368	351,961	24,496
30,000 - 39,999	532,292	18,199,536	34,191	5,338	186,617	34,961
40,000 - 59,999	396,952	19,051,728	47,995	4,177	194,467	46,560
60,000 - 99,999	168,413	12,410,754	73,692	3,016	313,232	103,870
100,000 and Over	59,256	9,770,747	164,889			

TABELE A5-3. TOTAL NUMBER OF FAMILIES, TOTAL AND AVERAGE FAMILY EXPENDITURE BY INCOME CLASS, 1985

Expenditure by Income Class	Total No. of Families	Expenditure		Total r No. of Families	Expenditure	
		Total (in Peso s 1,000)	Average (in Peso)		Total (in Pesos 1,000)	Average (in Peso)
	National			Urban		
	9,847,339	264,551,855	26,865	3,726,049	145,815,208	39,134
Under Pesos 6,000	375,849	2,079,228	5,532	44,989	288,623	6,415
6,000 - 9,999	1,116,780	9,940,445	8,901	167,556	1,577,600	5,296
10,000 - 14,999	1,778,039	22,240,849	12,509	368,988	4,921,564	13,338
15,000 - 19,999	1,539,840	25,841,737	16,782	443,629	7,907,224	17,824
20,000 - 29,999	1,936,341	44,544,140	23,004	757,310	18,359,192	24,243
30,000 - 39,999	1,085,634	33,584,417	30,935	553,342	17,572,202	31,756
40,000 - 59,999	1,043,520	43,784,284	41,558	646,567	27,996,901	43,301
60,000 - 99,999	625,740	39,067,076	62,433	457,327	29,599,596	64,723
100,000 and Over	345,598	43,469,480	125,781	286,341	37,612,306	131,355
	Rural			Samar Province		
	6,121,290	118,736,647	19,397	101,157	1,612,144	15,937
Under Pesos 6,000	330,860	1,790,605	5,412	-	-	-
6,000 - 9,999	949,225	8,382,844	8,831	33,300	273,639	8,217
10,000 - 14,999	1,409,051	17,319,285	12,291	28,913	364,512	12,407
15,000 - 19,999	1,096,211	17,934,513	16,360	12,046	195,500	16,229
20,000 - 29,999	1,179,031	26,184,948	22,209	14,368	290,945	20,249
30,000 - 39,999	532,292	16,012,214	30,082	5,338	131,111	24,563
40,000 - 59,999	396,952	15,787,583	39,772	4,177	153,902	36,848
60,000 - 99,999	168,413	9,467,480	56,216	3,016	202,535	67,162
100,000 and Over	59,256	5,857,174	98,845			

(Source : M/P report , 1988)

TABLE A-5-4 GRDP BY MAJOR ECONOMIC SECTOR IN REGION VIII

(Unit : Million Pesos)

	GRDP		Projection	
	1983(%)	1985(%)	1987(%)	1992(%)
Agriculture	1,123 (50.1)	1,231 (55.8)	1,298 (55.7)	1,761 (55.1)
Industry	322 (14.4)	222 (10.1)	233 (10.0)	340 (10.7)
Service	797 (35.5)	752 (34.1)	800 (34.3)	1,094 (34.2)
Total GRDP	2,242 (100)	2,205 (100)	2,331 (100)	3,195 (100)

Source : NEDA Regional Development Plan page 53.

TABLE A-5-5 SECTORAL VALUE ADDED, SAMAR ISLAND (THREE PROVINCES) 1985 - 87

(In Millon Pesos, 1977 Prices)

					Referecnce : Projection	
	1975	%	1987	%	1992	2000
Agriculture	901	62.7	1,688	52.6	2,193	3,332
Industry	254	17.7	854	26.6	1,416	3,178
Mining	31		106		178	405
Manufacturing	127		406		706	1,582
Electricitry	2		7		12	27
Construciton	94		315		520	1,164
Services	283	19.6	665	20.8	949	1,676
	160		376		537	949
Transportation	8		18		26	45
Services	115		270		386	682
Total	1,438	100	3,207	100	4,558	8,186

Source : NEDA

TABLE A-5-6 PROJECTION OF GROWTH ANNUAL RATE (G) AND CONTRIBUTION PERCENTAGE (C) OF MAJOR ECONOMIC SECTORTS TO GDP IN SAMAR ISLAND

	1980 - 87		1987 - 92		1992 - 2000	
	G	C	G	C	G	C
	%	%	%	%	%	%
Agriculture (Primary)	5.3	52.6	6.0	48.6	6.5	42.2
Industry (Secondary)	10.6	26.6	11.0	30.9	11.5	38.8
Service (Tertiary)	7.4	20.7	7.4	20.4	7.4	19.0
Total	7.2	100	7.7	100	8.3	100

Source : Comprehesive Development Plan by IBRD. Vol I .

TABLE A5-7 SUMMARY OF CLIMATOLOGICAL CONDITIONS OF W. SAMAR

Data	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Monthly Rainfall 1/													
Mean (mm)	234.4	147.0	130.1	109.9	168.2	203.5	246.3	218.3	262.8	306.8	315.8	304.0	2,636.3
Max. (mm)	643.9	339.2	389.8	361.8	591.4	401.2	549.6	618.3	549.3	900.2	632.7	705.8	
Min. (mm)	8.7	5.6	2.8	8.6	1.0	82.3	69.0	25.1	93.4	62.2	140.7	64.4	
Daily Rainfall 1/													
Max. (mm)	142.2	122.4	303.2	190.8	384.3	165.9	146.4	223.5	227.6	261.9	299.2	387.9	
Number of Rainy Days 2/	17	16	14	14	15	17	18	17	18	21	22	22	211
Temperature 3/													
Mean (°C)	25.8	26.3	27.3	28.3	28.9	28.5	28.1	28.6	28.1	27.7	27.1	26.4	27.6
Max. (°C)	29.9	30.8	32.1	33.2	33.6	32.9	32.2	32.6	32.3	32.0	31.3	30.4	31.9
Min. (°C)	21.7	21.7	22.5	23.4	24.2	24.1	23.9	24.7	23.8	23.4	23.0	22.4	23.2
Relative Humidity 3/ (%)	82.6	80.8	77.8	75.5	76.8	79.5	79.1	78.0	81.2	82.8	83.7	83.8	80.2
Cloudiness 3/ (Okta)	6.8	6.2	5.1	4.9	5.5	6.5	6.6	6.9	6.7	6.6	6.5	6.7	6.3
Prevailing Wind 3/													
Direction	NE	NE	NE	NE	VAR	SW	SW	SW	SW	VAR	NE	NE	NE
Velocity(m/s)	0.75	0.75	0.91	0.91	0.83	0.75	0.75	1.07	0.79	0.75	0.71	0.67	0.80
Open Pan Evaporation 4/ (mm/day)	3.4	3.9	4.7	5.0	4.7	4.1	4.3	4.5	3.9	3.5	3.0	3.0	
Number of Tropical 5/ Cyclones	5	3	5	5	11	12	17	6	12	20	29	22	1,460

Period of Record and Source

1/ 1951-1986 (at Catbalogan, PAGASA)
2/ 1951-1980 (-do- , National Institute of Climatology PAGASA Published Sept., 1985)
3/ 1974-1986 (at Catbalogan, PAGASA)
4/ 1975-1985 (at Catarman, PAGASA)
5/ 1948-1985 (PAGASA)

TABLE A5 - 8 PRESENT LAND USE

Land Category	Area (ha)	Remarks
1. Paddy Field	1,000	
- Irrigated	270	Non-functional
- Rainfed	730	
2. Corn Land	540	
3. Coconut Land	800	
4. Abaca Land	40	
Sub - Total	2,380	
5. Grass Land, etc.	6,620	
Total	9,000	

Source : JICA / SIRDP Study Team

TABLE A5 - 9 PRESENT CROP PRODUCTION

Crop		Intensity (%)	Planted Area (ha)	Yield (ton/ha)	Production (ton)
1. Irrigated Paddy	(270 ha)	(120)	320		512
- Paddy (Wet)		80	210	1.6	336
- Paddy (Dry)		40	110	1.6	176
2. Rainfed Paddy	(730 ha)	(120)	870		1,392
- Paddy (Wet)		80	580	1.6	928
- Paddy (Dry)		40	290	1.6	464
3. Upland Field	(540 ha)	(180)	970		
- Corn (wet)		80	430	1.0	430
- Corn (Dry)		70	380	1.0	380
- Peanuts, etc.		30	160	0.8	128
4. Coconut Land	(800 ha)				
- Coconut		100	800	0.4	220
5. Abaca Land	(40 ha)				
- Abaca		100	40	0.4	16

Note : (1) The same cropping intensity and yield to these for the rainded paddy are applied to estimate paddy production in the irrigated paddy because the irrigation facilities are not functional.

(2) The coconut production are estimated on the basis on the assumed.

TABLE A5 - 10 PRESENT CONDITION OF WATER SUPPLY, 1984

No.	Barangay	Popu lation	Household	Level I Service Well				Functioning Service	
				Total No.	Water Quality Not Functioning	Water Qualities Not Functioning	Service to Population	Ppulation	Well
	SUN JORGE								
1	Tomogbong	205	60	-					
2	Blanca Aurora	379	79	2	-	1	341	85	1
3	Himay	178	38	-	-	-	-	-	-
4	Buena Vista	412	77	3	-	2	370	86	1
5	Bulao	534	99	2	1	-	480	86	1
6	Lapaz								
7	Manbon	503	98	2	2	-	452	-	-
8	Spanit-Anguana	573	109	4	3	-	515	82	1
9	San Jorge-Mancol	1,275	221	5	3	-	1,138	182	2
10	Erenas								
11	San Juan	642	128	2	2	-	502	-	-
	Sub - Total	4,691	909	20	11	3	3,798	521	6
12	Sinbaran	143	27	-	-	-	-	-	
13	Cantaguic-Ranera								
14	Rawis	323	64	-	-	-	-	-	
15	San Isidro	222	47	-	-	-	-	-	
16	Pubagan	384	62	-	-	-	-	-	
17	Rosalim	312	59	2	2	-	280	-	-
18	Aurora-Mabubay	428	79	2	1	-	380	95	1
19	Canyaki	119	31	2	1	-	107	43	1
20	Quezon	291	57	2	2	-	261	-	-
	Middle Total	6,913	1,335	28	17	3	4,826	659	8
21	Cagto-og	174	34	-	-	-	-	-	-
22	Libertad	110	26	2	1	-	100	-	-
23	Calondon	38	11	-	-	-	-	-	-
24	Mabo-ob	101	24	-	-	-	-	-	-
25	Gayondato	255	50	-	-	-	-	-	-
26	Guadalupe	148	30	-	-	-	-	-	-
27	Hernandez	135	30	-	-	-	-	-	-
28	Tanipon	438	81	-	-	-	-	-	-
29	Lincora	144	26	-	-	-	-	-	
30	Matalud	632	116	2	-	-	545	218	1
31	Ranera	298	56	1	-	-	266	106	1
32	Bungliw	275	50	-	-	-	-	-	-
	Sub - Total	2,748	534	5	1	-	911	374	3
	Grand Total	9,661	1,869	33	18	3	5,737	1,033	11

Table A5-11 Components of Agricultural development and Promotion Project (ADPP) in Western in Samar

According to the results of the Master Plan study, prior to implementation of the integrated Agricultural/Rural Development Program, ADPP to be implemented consists of agricultural development, agricultural facilities development of post harvest and marketing service assistance, development of farmers' organization and establishment of Agricultural Development and Promotion Center (ADPC).

1)	Agricultural development	
a)	Rice-Based Farming Development	
	- Irrigated rice-based farming :	2 places 25 ha each
	- Rainfed rice-based farming :	2 places 10 ha each
b)	Corn-Based farming Development :	2 places 10 ha each
c)	Coco-Based Farming Development :	2 places 15 ha each
d)	Abaca Development :	2 places 15 ha each
e)	Hillside Farming / Agroforestry Development :	2 places 10 ha each
f)	Livestock Development :	
	- Gandara Animal Breeding Center :	existing
	- Animal Diagnostic and Treatment center :	1 place
	- Carabao Dispersal :	2 Brgys 11 heads each
	- Swine and Goat Dispersal :	2 Brgys 25 heads each
	- Poultry Dispersal :	2 Brgys 50 heads each
g)	Nursery Development	
	- Gandara Seed Farm :	existing
	- Nursery Station :	2 places
	- Crop Protection Observation Stand :	4 places
h)	Freshwater Fishculture Development	
	- Feshwater Fish Hatchery Station :	1 places
	- Backyard and Rice - fishculture :	2 Brgys
2)	Agricultural facilities development	
a)	Irrigation Development	
	- Gravity Irrigation Areas :	4 CISs, total 205 ha
	- Pump Irrigation Area :	2 PIPs, total 250 ha
b)	Drainage Development	
	- Drainage with Irrigation :	3 areas, total 195 ha
	- Drainage of On-farm :	7 areas, total 115 ha

c) Rural Road Development

- Improvement / Upgrading Road :	12 km
- Rural Road ;	27 km with 5 bridges
- Trunk Farm Road :	6 km with 1 bridge

d) Rural Water Supply Development

- San Jorge / Gandara Water Supply System :	Service population 11,259 Daily max. demand 1,043 m^3 Transportation pipeline 20km

e) Rural Electrification

- Energize :	15 Brgys, 830 households Distribution line 30.3 km Secondary line 10.5 km

f) Rural Health Development

- Solar Powered Cold Chain :	4 places

g) Development of Farmhouse

- Model Farmhouse :	2 houses

3) Development of post harvest and marketing service assistance

a) Post Harvest
- Pedal / Small Scaled Power Threshers and Power Corn shellers
- Multi-Purpose Dry-pavement and Mechanical Dryer
- Small Scaled Rice Mill
- Coconut Dryer, Charcoal Kiln and Chain / Disc Saw

b) Marketing Services Assistance
- Marketing research Assistance
- Tracks
- Meat Cold Storage

4) Development of farmers' organization
- Beneficiary Farmer's Organization for O & M
- Cooperative Managerial Organization for Demonstration Farms and Agricultural-related Programs.

5) Agricultural Development and Promotion Center (ADPC)
- Office for managing all Activities of Center (ADPC)
- Workshop and Garage of Activities of ADPP
- Laboratory for Soil Analysis and Inoculation and Seed Analysis
- Training and Extension
- Rural Health Unit
- Agricultural Meteorological Station
- Others

TABLE A5-12 ESTIMATED CROPPING INTENSITY AND YIELDS

Land / Crop	1987 (Present)		1992 (Short)		2007 (Long)		Remarks
	Intensity (%)	Yield (ton/ha)	Intensity (%)	Yield (ton/ha)	Intensity (%)	Yield (ton/ha)	
1. Rainfed Lowland	(1,000ha)		(545 ha)				
- Paddy (Wet)	80	1.6	80	1.8	80	2.0	
- Paddy (Dry)	40	1.6	40	1.8	40	2.0	
- Legumes (Mungbean)			10	0.6	10	0.8	
2. Irrigated Lowland			(455 ha)		(455 ha)		a/ Excluding about 270 ha of the total irrigation service area due to the non-functional facilities
- Paddy (Wet)	0a/	-	100	3.5	100	4.0	
- Paddy (Dry)	0a/	-	60	3.5	60	4.0	
- Vegetables (Stringbean)		5.0	20	7.0	20	10.0	
3. Corn Land	(540h)		(640ha) b/		(640ha)b/		b/ It is assumed that about 100 ha of corn land will be developed through development of road networks.
- Corn (Wet)	80	1.0	100	1.5	100	2.5	
- Corn (Dry)	70	1.0	60	1.5	60	2.5	
- Legumes	30	0.8	40	0.9	40	1.2	
4. Coconut Land	(800ha)		(900ha)		(1,000ha)c/		c/ It is assumed that about 200 ha of coconut land will be developed through development of road networks.
- Coconut	100	0.4	100	0.8	100	1.5	
- Corn/Upland Rice	0		10	1.5	10	2.0	
- Legumes (Peanut)	0		10	0.9	10	1.2	
- Root Crops (Sweet Potato)	0		10	5.0	10	8.0	
- Perrenial Crops (Black Pepper)	0		10	0.3	10	0.5	
5. Abaca Land	(400ha)		(40ha)		(200ha)		d/ Replanting into HYV
- Abaca	100	0.40	100	0.6 d/	100	0.8	
6. Hillside Farming (Agro-Forestry)			(30ha)		(300ha)		
- Corn/Upland Rice			10	1.5	10	2.0	
- Root Crops (Cassava)			20	7.0	20	12.0	
- Fruit Trees (Pili)			10	-	10	1.5	
- Fast Crowing Trees			60		60		

TABLE A5-13 CROP PRODUCTION (SHORT TERM)

Crop	Intensity	Planted Area	Yield	Production
	(%)	(ha)	(ton/ha)	(ton)
1. Irrigated Paddy (455ha)	180	819		3,186
- Paddy (Wet)	100	455	3.5	1,593
- Paddy (Dry)	60	273	3.5	956
- Vegetables, etc.(Stringbean)	20	91	7.0	637
2. Rainfed Paddy (545ha)	130	709		1,031
- Paddy (Wet)	80	436	1.5	654
- Paddy (Dry)	40	218	1.5	327
- Legumes (Mungbean)	10	55	0.9	50
3. Corn Land	200	1,280		1,766
- Corn (Wet)	100	640	1.5	960
- Corn (Dry)	60	384	1.5	576
- Legumes	40	256	0.9	230
4. Coconut Land (900ha)	104	1,260		1,053
- Coconut	100	900	0.8	360
- Corn/Upland Rice	10	90	1.5	135
- Legumes (Peanut)	10	90	0.9	81
- Root Crops (Sweet Potato)	10	90	5.0	450
- Perennial Crops (Black Pepper)	10	90	0.3	27
5. Abaca Land (40ha)	100	40	0.6	24
6. Hillside Farming/ Agroforestry (20ha)	100	20		31
- Corn/Upland Rice	10	2	1.5	3
- Root Crops (Cassava)	20	4	7.0	28
- Fruit Trees (Pili)	10	2	-	-
- Fast Crowing Trees	60	12	-	-
Total		3,098		6,468

TAbleA5-14 LIST OF O&M EQUIPMENT HOLD BY NIA

	Name of Equipment	Type/Model	Age	Condition	Remarks
1.	Excavator	Mitsubishi ms-100	10Yrs.	A-1	Arm Cylinder Kit Damage
2.	Generator	Kubota	7 Yrs.	A-1	
3.	Backhoe Loader	Ford 550	14Yrs.	A-1	
4.	Centrifugal Pump	Robin 2"in dia	7Yrs.	A-1	
5.	Centrifugal Pump	Robin 3"in dia	15Yrs.	A-1	
6.	Centrifugal Pump	Robin 3"in dia	5Yrs.	A-1	
7.	Centrifugal Pump	Robin 3"in dia	5Yrs.	A-1	
8.	Centrifugal Pump	Takasago Yanmar 4"dia	10Yrs.	A-1	
9.	Centrifugal Pump	Takasago Yanmar 4"dia	10Yrs.	A-1	
10.	Centrifugal Pump	Robin 2"in dia	5Yrs.	A-1	
11.	Concrete Mixer	Javahar	12Yrs.	A-1	
12.	Dozer D-31A-17	Komatsu	10Yrs.	A-1	
13.	Dozer D-41A-9	Komatsu	10Yrs.	A-1	
14.	Farm Tractor Ind	Ford 6600	15Yrs.	A-1	
15.	Dump Truck	Aeolus	8Yrs.	A-1	
16.	Dump Truck	Aeolus	4Yrs.	A-1	
17.	Conc. Vibrator		12Yrs.	A-1	
18.	Jeep	Mitsubishi	8Yrs.	A-1	
19.	Pick-Up	Mitsubishi	6Yrs.	A-2	For engine tune-up
20.	Pcik-Up	Mitsubishi	6Yrs.	A-2	Rocker Area Damage
21.	Rockdrill Breaker	Pionjar	12Yrs.	A2	Subject for Repair
22.	Rockdrill Breaker	Pionfar	12Yrs.	A-2	-do-
23.	Motorcycle	Suzuki	10Yrs.	A-2	-do-
24.	Motorcycle	Suzuki	10Yrs.	A-2	-do-
25.	Motorcycle	Yamaha	14Yrs.	A-2	-do-
26.	Welding Machine	Miller	14Yrs.	A-1	
27.	Generator	AC-Yanmar	18Yrs.	A-1	
28.	Pick-Up Truck	Romar	7Yrs.	A-1	

TABLEA-5-15 LIST OF O&M EQUIPMENT HOLD BY DPWH

(OFFICE OF THE AREA EQUIPMENT ENEGINEER, CATBALOGAN, SAMAR)

	Name of Equipment	Type/Model	Age	Unit
1.	Dump Truck	Isuzu,TD-50 175HP	15Yrs.	5
2.	Road Maintainer, multipurpose	Sakai, FA102	7 Yrs.	2
3.	Bulldozer	Komatsu, D80-8 160HP	22Yrs.	2
4.	Roader	Michigan 75-III 105HP	24Yrs.	1
5.	Roader	Clark 50B	7Yrs.	1
6.	Roader Grader	Komatsu GD-37-5H 118HP	21Yrs.	2
7.	Road Grader	Mitsubishi LG-2H 125HP	7Yrs.	3
8.	Maintenance Shop Truck	Anzen AU-208	21Yrs.	1
9.	Hydraulic Excavafor	Mitsubishi MS-062	12Yrs.	1
10.	Road Roller	Sakai SH-1508, 10ton, 34 HP Steel Roller	21Yrs.	1
11.	Road Roller	Sakai PTS-80, 80ton Pneumatic Roller	21Yrs.	1

FIGURE A5-1 SAMARL ISLAND, EXISTING ROAD NETWORK

Note: This road network is only described main road such as national road, provincial road and main feeder road.

LEGEND :

National Road

Provincial Road and Feeder Road

FIGURE-A5-2 ORGANIZATION OF PROVINCIAL GOVERMENT (SUMAR)

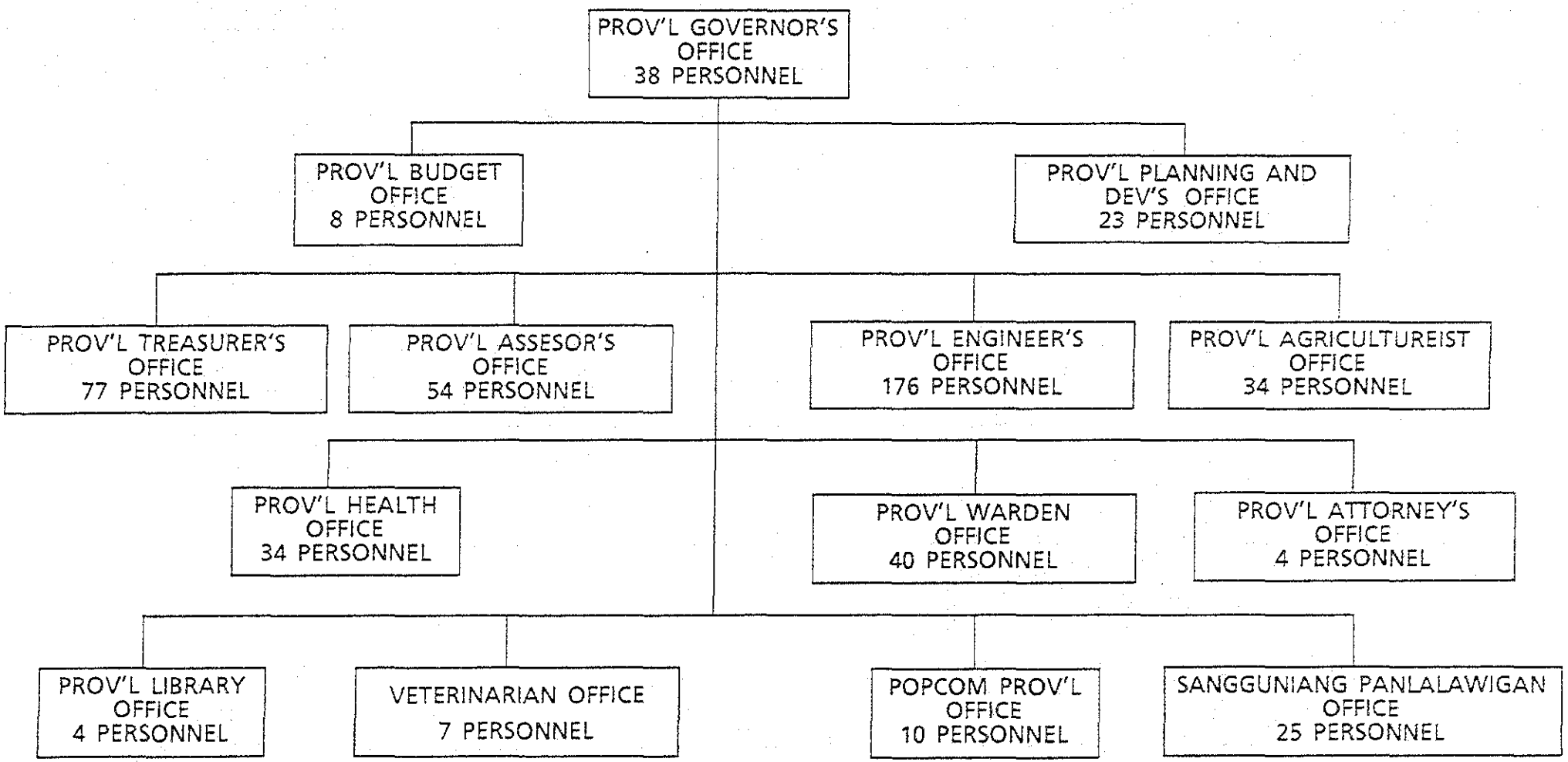


FIGURE-A5-3 RESULT OF GEOROGICAL INVESTIGATION (AT LA PAS BRIDGE SITE)

Left-Side Bank

Depth	Geo.Description	Standard Pene. Test 2 4 6 8
1	Clayey Sandy Silt	
2	Sandy Clayer Silt	
3		
4	Sandy Silty Clay	
5		
6		
7	Clayer Silt	
8	Sandy Clayer Silt	
9		
10	Silty Sand	
11		
12		
13	Sandy Siltly Clay	
14		
15	Sandy Clayer Silt	
16		
17	Clayer Sandy Silt	
18		
19		
20		
21	Sandy Clayer Silt	
22		
23		
24		
25	Sandy Clayer Silt	
26		
27	Sandy Siltly Clay	
28		
29	Clayer Silt	
30	Sandy Clayer Silt	
31	Clayer Silty Sand	
32	Clayer Sandy Silt	

Right-Side Bank

Depth	Geo.Description	Standard Pene. Test 2 4 6 8
1	Sandy Silt	
2	Sandy Clayer Silt	
3		
4		
5	Clayer Silt	
6		
7		
8		
9	Silty Sand	
10		
11		
12	Sandy Siltly Clay	
13	Sandy Clayer Silt	
14		
15	Clayer Sandy Silt	
16		
17		
18		
19		
20		
21	Sandy Clayer Silt	
22		
23		
24		
25		
26		
27		
28		
29	Sandy Siltly Clay	
30		
31	Clayer Silt	
32