

Chapter 3 Implementation Plan

3.1 Implementation Plan

3.1.1 Implementation Concept

The implementing agency of this project is the Pangasinan province. A Japanese construction company selected by the public tender will execute the implementation, while a Japanese consulting firm will carry out the detail design and supervision.

Common materials concerned with the implementation available in the Philippines. However, special materials that can not be provided in the nation, such as the inclined conduit, maintenance bridge of the spill way, steel slide gate, pressure reducing valve, valve for the pipe line and the big size steel pipe joint, are imported from Japan.

Common construction machinery can be provided in the nation generally. However, special machinery concerned with the dam construction such as a grouting machine, batcher plant and tamping roller, are to be imported from Japan.

Average annual rainfall in the project area is approximately 3,230.6 mm during past five years. The season is clearly divided into the rainy season and the dry season. The rainy season starts in May and continues until October. Approximately 95% of the annual rainfall is concentrated during these 6 months.

Annual workable days are estimated as approximately 227 days (the annual workable day ratio is 62.2 %), in consideration of national holidays and the effects of the rainy day. However, during the rainy season, especially June to September, the workable day ratio is very low (36.1 %). Moreover, the condition of the site also becomes unsuitable for construction machinery. Therefore, it is decided that the implementation period is the dry season and rainy season except June to September.

The local contractor will be able to execute the implementation on the standard civil works such as the irrigation canal construction and related structures, road construction, pipe line and various kinds of reclamation, without any problem. However, it will be necessary to dispatch engineers from Japan to set up the inclined conduit and pressure reducing valve, and also to perform grouting works because the local construction dose not have enough experience.

The general supervisor of the dam construction work has to supervise the dam construction at some important stage of the implementation in order to gain good progress and have a good result.

Because the dam height is 34 m, moreover, the period is limited.

The local firms will execute the land survey and the soil survey that are necessary for the detail design because they have ability to execute them sufficiently.

3.1.2 Implementation Conditions

(1) General Condition

- To pay attention to cooperate with the inhabitants and to protect against trouble because the implementation extends over a comprehensive area.
- To construct the settling basin in order to protect the outflow of muddy water or oil due to the implementation.
- To station a person for traffic control at places on roads with heavy traffic by heavy machinery concerned with the implementation for the purpose of preventing traffic accidents.
- To construct turnouts to passage of heavy machinery and common traffic without problem in the village.
- To implement leveling and land reclamation for the spoil bank or the borrow pit in order to protect against collapse or landslides in the future.

(2) Dam construction

- To pay sufficient attention to the machinery, method of implementation and quality control of the implementation. The foundation excavation and foundation treatment must be executed during one dry season. Additionally, implementation will dominate the safety of the fill-type dam.
- To safely execute the dewatering of the riverbed by the temporary drainage facility and the submerged pump. The dewatering dominates the quality of the foundation treatment.
- To set up a lighting system sufficient for the purpose of safe embankment of the dam during the night. The temporary power source for construction will be preserved after completion to survey the present situation of electricity in the area and will be discussed with NPCO.
- To bank the core material up after mixing and controlling the quality at the stock yard in order to execute the sure quality control of the material.
- To pay attention to safety storing of the powder that is used for the foundation excavation of the spill way and excavation of the quarry site, in compliance with the domestic law of the Philippines.

- (3) Road improvement around the reservoir dam
- To sufficiently compact cutting and banking occurs on the mountainside of heights. Such places are susceptible to erosion due to rain.
 - To compact backfilled places sufficiently the protection concrete for the toe of slopes will be executed. The backfilling place will be the embankment of the road.
- (4) Irrigation canal improvement
- To hold sufficient prior consultation with inhabitants for the purpose of preventing any misunderstanding. It will be necessary to stop the irrigation water for a time to improve the irrigation canal.
 - To inform the Philippine government regarding the proposed canal route and needed width of land as soon as possible in order to prevent the delay of implementation. The Philippine government must acquire the land for the new irrigation canal route based on these data. The government already started to get the agreement of land owner.
- (5) Village road improvement
- To pay sufficient attention to the safety of common traffic during implementation. The purpose of village road improvement is to extend and improve the existing road.
 - To take countermeasures against the dust that could adversely effect inhabitants along the road. There is a possibility that clouds of dust can arise due to the implementation during the dry season.
 - To dig the ditch on the cutting side of the road as a drainage in case of heavy rain.
- (6) Resettlement, Nursery, Post harvest facility
- To hold sufficient meetings on the land acquisition with the government of the Philippines in order to prevent delay of the implementation. The government of the Philippines must acquire the land for facilities before the implementation. The government already started to get the agreement of land owner.
 - To pave the access road of the resettlement area with gravel, and the living road with concrete, and to compact the roadbed of the concrete pavement in order to prevent cracks due to the subsidence of the roadbed.
 - To simultaneously execute the head race pipe of the domestic water supply for the resettlement area and the related irrigation canal. The head race pipe from the dam will be laid side along the new irrigation canal.

3.1.3 Scope of Works

The scope of works on the project is shown in Table 3-1.

Table 3-1

Scope of works

Scope of works	Scope of works	
	Japan	Philippines
1. Dam and reservoir construction		
1) Acquisition of land for construction		○
2) Acquisition of land for temporary works such as detour and material storage		○
3) Construction of the dam	○	
4) Setting up and evacuation of temporary road	○	
5) Leading works of temporary power source	○	
6) Application and proceeding of necessary permission for construction work in the river		○
2. Irrigation canals		
1) Acquisition of land for canal and inspection road		○
2) Acquisition of land for temporary works such as material storage		○
3) Construction of main irrigation canal	○	
4) Construction of secondary, tertiary irrigation canal		○
5) Adjustment on preparation of irrigation water during execution		○
3. Road improvement		
1) Acquisition of land for new road and widening		○
2) Acquisition of land for temporary works such as material storage		○
3) Improvement of roads, construction of roads and bridges	○	
4) Environmental countermeasure such as Preventing dust	○	
4. Resettlement area		
1) Acquisition of land for resettlement area		○
2) Land reclamation of the housing area	○	
3) Construction of road in the area	○	
4) Construction of domestic water supply	○	
5) Execution of power receiving and distribution facility		○
6) Construction of houses for resettlers		○
7) Implementation of resettlement and support including selection of resettlers		○

Scope of works	Scope of works	
	Japan	Philippines
5. Nursery		
1) Acquisition of land for nursery		○
2) Reclamation of nursery area and construction of major facilities	○	
3) Construction of water supply facility	○	
4) Seedling and afforestation		○
6. Payment of charges for the Japanese foreign exchange bank based on the bank agreement		○
7. Formalities of customs for import		
1) Transportation cost to the Philippines	○	
2) Exemption of tax and formalities of customs		○
3) Domestic transportation cost in the Philippines (Manila to the si	○	
8. Recognition of entry into the Philippines and visit concerning the project		○
9. Proper operation and maintenance of facilities and equipment that are delivered by Japanese grant aid		○
10. Payment of all expense for the construction cost of facilities and transportation cost of the equipment that are excluded from Japanese grant aid		○

3.1.4 Consultant Supervision

(1) Detail design and public tender service

After have terminated the Exchange of Notes, the consulting company shall make a contract with the government of Pangasinan province at once. The consulting company shall hold in depth discussion of the detail design with the government after the start of the detail design. The implementation schedule will be discussed during field reconnaissance. The government of Pangasinan province will execute arrangements for the implementation, such as land acquisition for the construction or temporary works and the temporary office, before the start of execution. Activities related to the detail design are as follows.

Supplementary survey (Entrusted local contractor will execute)

1. Survey

a) Center line longitudinal survey

- Irrigation canal: L=21.7 km (50 m intervals and additional points)

Reason: Supplementary survey of the basic design study

- Village road: L=7.5 km (50 m intervals and additional points)

Reason: Supplementary survey of the basic design study

- Road around the reservoir: L=17.0 km (50 m intervals and additional points)

Reason: Supplementary survey of the basic design study

- Resettlement area: L=2.4 km (50 m intervals and additional points)

Reason: Supplementary survey of the basic design study

- Dam axis longitudinal survey L=0.4 km (50 m intervals and additional points)

Reason: Supplementary survey of the basic design study

- Spillway longitudinal survey L=0.3 km (50 m intervals and additional points)

Reason: Supplementary survey of the basic design study

b) Cross section survey

- Irrigation canal: Width=20 m (434 sections)

Reason: To ensure the accuracy of the detail design

- Village road: Width=20 m (150 sections)

Reason: To ensure the accuracy of the detail design

- Road around the reservoir: Width=20 m (340 sections)

Reason: To ensure the accuracy of the detail design

- Resettlement area: Width=20 m (48 sections)

Reason: To ensure the accuracy of the detail design

- Dam axis cross-section survey: Average width=150 m (25 sections)
Reason: To ensure the accuracy of the detail design
- Spillway cross-section survey: Average width=30 m (20 sections)
Reason: To ensure the accuracy of the detail design

c) Plane table survey

- Irrigation canal: A=2,500 m² (Scale=1/100, Bamban weir intake site)
Reason: To ensure the accuracy of the detail design
- Village road: A=5,000 m² (Scale=1/100, Bridge sites)
Reason: To ensure the accuracy of the detail design
- Nursery area: A=60,000 m² (Scale=1/100)
Reason: To ensure the accuracy of the detail design
- Post harvest facilities: A=20,000 m² (Scale=1/100)
Reason: To ensure the accuracy of the detail design
- Dam site: A=420,000 m² (Scale=1/1000)
Reason: To ensure the accuracy of the detail design

2. Geological and Soil Investigation

a) Boring investigation

- Bridge sites: 4 holes (2 holes each for 2 bridges, Depth=20 m each)
Item: Core extraction, Standard penetration test 60 times
Reason: To confirm the bearing layer that could not investigate during the basic design study
- Dam sites: 13 holes (Dam axis and spillway, Depth=30 m each)
Item: Core extraction, Standard penetration, Insitu permeability test (Lugion test)
Reason: As the result of the basic design study, the dam site was moved upper stream

b) Seismic survey

- Dam sites and Land slide area:
Reason: To ensure the accuracy of the detail design

c) Grouting test

- Dam sites: 8 holes
Reason: To ensure the accuracy of the detail design

d) Material survey

- Core materials: 8 locations (Depth=5 m, 16 samples)

Item: Moisture content, Specific gravity, Grain size test, Liquid limited/ Plastic limited
Insitu moisture content, Proctor compression test, Permeability test
Unconfined compression test, Triaxial compression test

Reason: To confirm the dynamical character at selected sites

- Random materials: 8 locations

Item: Specific gravity, Grain size, Unconfined compression test (Samples from boring
core box), Triaxial compression test

Reason: To confirm the dynamical character at selected sites

- Filter materials/ Concrete aggregate materials: 4 locations (Depth=3 m, 8 samples)

Item for filter materials: Specific gravity, Grain size test

Item for aggregate materials: Specific gravity, Grain size test, Unit weight
Soundness test, Absorbed water content

Detail design

- 1) Confirmation on the basic design based on the topographical survey and Geological and Soil investigation.
- 2) Estimation of the project cost based on the detail design.

Drawing up tender documents and Procedure of the public tender as well as a contract

- 1) Drawing up design plans for the tender
- 2) Drawing up tender documents for the execution and granted equipment
- 3) The public tender to select a contractor shall require approval by the client before a tender is made.

The prequalification shall first be executed to select tenderers. This public announcement shall be published in a major Japanese daily newspaper related to construction by name of the client. The consulting company shall distribute prequalification documents to applicants. The consulting company shall distribute tender documents to firms who have succeeded in passing the prequalification of the tenderer. The consulting company shall receive tender documents of the firms and shall unseal them in the presence of a person authorized by the government of Pangasinan province. The consulting company and the client shall evaluate the documents at once after they have been unsealed. Then the consulting company and the client shall decide a negotiator for the contract as well as draw up draft contract documents.

(2) Supervision

After having terminated the contract of construction, the general responsible person of the consulting company shall discuss and confirm the implementation schedule with the client and the contractor. The general responsible person of the consulting company shall be stationed to the site at the beginning and ending period of the execution of each fiscal year to supervise the execution. Moreover, the general responsible person shall periodically report the situation of the execution to the client, JICA and the Embassy of Japan in the Philippine. Experts of each field shall be dispatched in addition to resident supervisors on demand because the components of this project are various fields and the execution is concentrated during the dry season. Supervisors shall make effort to attain the determination of the execution within the term that has been decided, with a peaceful procedure of the execution and best results. Summaries of the supervision are as follows.

Suggestion and guidance concerning the contract of the execution

Prequalification of the tenderer, evaluation of tender documents, support upon the selection of the contractor of the execution, presence of the contract on the execution.

Examination and inspection of implementation plan

Examination of documents on implementation plans, application for permission of the execution, sample of materials, specifications of machinery that the contractor will submit. Inspection of processed articles in a factory.

Examination and guidance of the execution

Investigation and guidance on the scheme of the execution as well as the schedule. Comprehension and guidance on the procedure of the execution. The interim inspection and the completion inspection of the execution.

Payment recognition

Confirmation and inspection on the production that are necessary for publications of certificates on stage payment and the certificate of completion of work under execution as well as after completion.

Report on the procedure of the execution

The supervisor shall make a monthly report of the execution and periodically report the procedure of the execution to the client, JICA and the embassy of Japan in the Philippines. The supervisor shall hold consultations with them to strive for the smooth execution.

Delivery of completed facilities

After completion, the supervisor shall be present at the delivery of facilities after having confirmed that conditions of the contract have been accomplished certainly.

3.1.5 Procurement plan

Construction materials and equipment are basically provided in the Philippines. However, special materials that can not be provided or are very difficult to obtain in the nation, or for which the quality is not adequate, shall be imported from Japan. Most of construction materials and equipment can be provided in the nation. Construction equipment that will be imported from Japan includes grouting machines, the Batcher plant and the tamping roller. Construction materials that will be imported from Japan are the inclined conduit, the maintenance bridge of the spillway, the steel slide gate, the pressure reducing valve, the valve for the pipe line and big size steel pipe joint. Granted equipment is to be imported from Japan as the result of the price comparison.

The granted equipment is not utilized for the execution due to following reasons as the result of investigation.

- The granted equipment is machinery for the hauling and the construction of roads. The machinery for the construction of roads can not be utilized during first fiscal year in which the road construction is a lot because it takes approximately a half-year to deliver the equipment, even if proceeding is taken at an early stage.
- The hauling machine is used in high frequency in the execution. Therefore, there is very high risk of reducing the repaying period in comparison with operation and maintenance.

Procurement plan of principal construction materials and equipment are shown in Table 3-2.

Construction materials and equipment that are provided in Japan are transported by ship to Manila port. Then they are transported by land from Manila port to the site. Land transportation from Manila port to the site does not have a problem particularly because the roads are paved with asphalt and it is not necessary to reinforce bridges. It will take approximately 20 days to arrive at the site from Japan.

Table3-2 Procurement plan of principal construction materials and equipment

Items	Material or equipment	Procurement plan		
		Philippine	Japan	Third country
Materials	Cement, aggregate	○		
	Reinforced bar, form	○		
	Fuel, lubricating oil	○		
	Pipe (excepted big size steel pipe)	○		
	Concrete pipe, roof tile	○		
	Steel gate		○	
	Valve		○	
	Inclined conduit		○	
	Big size steel pipe joint		○	
	Maintenance bridge of spill way		○	
	Equipment	Back hoe	○	
Bulldozer		○		
Dump truck		○		
Tractor shovel		○		
Crawler crane		○		
Mobile concrete pump		○		
Road sprinkler		○		
Tamping roller			○	
Vibrating roller		○		
Concrete breaker		○		
Portable air compressor		○		
Grouting center plant			○	
Grouting pump			○	
Grouting mixer			○	
Grouting discharge pressure measurer			○	
Grouting data recorder			○	
Grouting data processing machine			○	
Batcher plant			○	
Submerged pump, generator	○			

Procurement plan of granted equipment

Items	Machinery or equipment	Procurement plan		
		Philippine	Japan	Third country
Granted equipment	Dump truck		○	
	Motor grader		○	
	Bulldozer		○	
	Back hoe		○	

3.1.6 Implementation schedule

Detail design takes 6.0 months and the execution as well as procurement of construction materials and equipment takes 20.0 months in the case of this project. The construction period will extend to 3 years, so 3 dry seasons (October to next May) will be necessary for the execution.

The implementation schedule is shown in Table 3-3.

3.1.7 Obligations of recipient country

The necessary obligations of the recipient country of the project are as follows.

- 1) Acquisition of land and permissions of land utilization for the project.
- 2) Acquisition of land and permissions of land utilization to construct the access road from the existing road to the dam site.
- 3) Traffic permission of the national road and village road for construction machinery and cars.
- 4) Exemption of import tax and proceeding cost. To take necessary action against the formalities of customs for construction materials and equipment as well as their accessories that are necessary to the project.
- 5) Following payment of charges for the Japanese foreign exchange bank based on the bank agreement.
 - Notice charge of authority to pay (A/P)
 - Payment charges
- 6) Recognition of entry into the Philippines and visit during the execution for the Japanese who have been stationed to the project under certified contract.
- 7) Exemption of taxes such as domestic tax and others that are taxed in the Philippines for the Japanese who have been stationed to the project under certified contract.
- 8) Proper operation and maintenance of facilities and equipment that are delivered by Japanese grant aid.
- 9) Payment of all expense for the construction cost of facilities and transportation cost of the equipment that are excluded from Japanese grant aid.

Table 3-3

Implementation plan on second execution

【Detail design】

1	2	3	4	5	6	7	8	9	10	11	12
(Feild reconnaissance)											
(Home office works)											
						(Feild confirmation)					
(Total 6.0 months)											

【First pysical year】

1	2	3	4	5	6	7	8	9	10	11	12
(Preparation works)											
(Village road improvement)											
(Road improvement around the reservoir dam)											
(Post harvest facilities)											
						(Delivery, inspection)					
(Total 6.0 months)											

【Second pysical year】

1	2	3	4	5	6	7	8	9	10	11	12
(Preparation works)											
(Irrigation canal improvement)											
(Dam construction)											
(Resettlement area)											
(Total 6.0 months)											

【Third pysical year】

1	2	3	4	5	6	7	8	9	10	11	12		
(Irrigation canal improvement)						(Irrigation canal improvement)							
(Dam construction)						(Dam construction)							
						(Nursery)							
(Resettlement area)						(Resettlement area)							
(Total 8.0 months)										(Delivery, inspection)			

3.2 Operation and Maintenance Plan

The total amount of the annual expenses needed for the operation maintenance and administration of the dam, irrigation facilities, and roads is estimated as Ps. 3,073 thousand, as shown below. However, average annual expense mentioned below is an aim for ensuring of budget. Therefore, it will be actually changed every year according to the necessary of maintenance and renovation of facilities. It is necessary that the balance of budget should be transferred to next year. The cost for nursery and afforestation is average of the total period, therefore, after completion of afforestation, the cost will reduce sharply.

	Name of facilities	Annual O & M cost (Pesos)
1.	Dam and Reservoir (1 place)	408,000
2.	Irrigation facilities (21.7 km)	155,000
3.	Village road and Road around the reservoir (24 km)	601,000
4.	Resettlement area (220 ha)	65,000
5.	Nursery (2.35 ha), Afforestation	1,844,000
	Total	3,073,000

Details of annual maintenance expenses of each facility are as follows.

(1) Dam

One full-time manager and an assistant manager will be stationed for control and maintenance of the dam and reservoir, and measurement of leakage amount. Weeding on the side slope of the dam will be performed twice a year.

Personnel expenses:	Full-time manager Ps.12,000/month x 12 months = Ps. 144,000
	Assistant manager Ps. 6,000 /month x 12 months = Ps. 72,000
	Laborers 5 persons x 2 days x Ps.180/day = Ps. 1,800
Repairing cost:	Ps. 6,000 /month x 12 months = Ps. 72,000
Renovation cost:	Ps. 1,000,000 x 0.05 = Ps.50,000
Miscellaneous expenses (25% of the above total)	= 67,960
Total	= Ps. 407,760
	(Approximately Ps. 408,000)

(2) Irrigation facilities

Canals and related facilities will be maintained twice a year. The labor necessary for this is estimated for the total canal length of 21.7 km x twice/year / 0.5 km/person/day = 87 persons/day. Since the durable period of the steel gate to be installed at the diversion structure is approximately 20 years, 5% of the gate construction cost is taken for gate renovation cost.

Personnel expenses:	87 persons/day x Ps.180/day	= Ps. 15,660
Renovation costs:	Ps.2,500,000 x 0.05	= Ps. 125,000
Miscellaneous expenses (10% of the above total)		= Ps. 14,066
<hr/>		
Total		Ps. 154,726
	(Approximately	Ps. 155,000)

(3) Village roads and roads around the reservoir

The average road maintenance cost in the Philippines is approximately Ps. 35,000 /km (2 lane road). The proposed village roads are 2 lanes, and the roads around the reservoir are one lane. Both are paved with gravel. Therefore, estimation is made with the coefficient 0.65 which is estimated based on the ratio of single lane and 2 lanes.

Personnel, material and equipment expenses:	24 km x Ps.35,000 x 0.65	= Ps. 546,000
Miscellaneous expenses (10% of the above)		= Ps. 54,600
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Total		Ps. 600,600
	(Approximately	Ps. 601,000)

(4) Resettlement area

The facilities to be constructed under the project include domestic water supply facilities and roads. Since the domestic water supply facilities are provided with a distribution pond that needs filtration and disinfection by chlorine, expense for one person x 30% (workable) per year is estimated. Almost no maintenance cost is necessary for the roads in the resettlement area, since they are planned to be paved with concrete.

Personnel expenses:	Ps. 12,000 /month x 12 months x 0.3	= Ps. 43,200
Laborer	Ps. 180 /day x 10 persons x 2 days	= Ps. 3,600
Material expenses:	Filter 50 m ³ x Ps.300 /m ³	= Ps. 15,000
	Chlorine agent (for disinfection) Ps. 3000 /year	3,000
<hr/>		
Total		Ps. 64,800
	(Approximately	Ps. 65,000)

(5) Nursery, Afforestation

One full-time manager, an assistant manager and labor will be necessary for operation and maintenance of the nursery. Repairing costs of facilities and procurement cost of pot, fertilizer, agricultural chemicals, equipment (spray, culture equipment, laboratory equipment) are necessary too. It is necessary to include the afforestation cost.

Personnel expenses:	Full-time manager Ps.12,000/month x 12 months = Ps. 144,000	
	Assistant manager Ps. 8,000 /month x 12 months = Ps. 96,000	
	Permanent laborers 2 persons x Ps. 4,000 /month x 12 months = Ps. 96,000	
	Temporary laborers 5 persons x Ps. 4,000 /month x 4 months = Ps. 80,000	
Repairing and transportation cost:	Ps. 5,000 /month x 12 months	= Ps. 60,000
Material and equipment cost:	Ps. 10,000 /month x 12 months	= Ps. 120,000
Afforestation cost:	1,200 trees/ha x 450 ha/year x 2 pesos/tree	= Ps. 1,080,000
Miscellaneous expenses (10% of the above total)		= Ps. 167,600
Total		= Ps. 1,843,600
	(Approximately	Ps. 1,844,000)

The expenses of dam, reservoir and irrigation facilities are covered by the irrigation fees collected from the irrigation associations of farmer basically. The village roads and roads around the reservoir are managed by budget of the Infanta Municipal Government. The maintenance and operation expenses of the resettlement area are basically paid by resettlers themselves, however, the Provincial Government and related organizations will support them for a few years until the resettlers can become economically independent. The operation and maintenance of nursery is programmed in the afforestation plan of the Provincial Government. The implementation is taken care of mainly by OPAG of the Provincial Government and DENR. In case of necessary, the Infanta Municipal Government and PSU will cooperate to the operation and maintenance.

3.3 Status of Implementation Plan

The implementation plan shown in the previous section is a plan on the assumption that present subjects/problems could be cleared and the projects execution with the present components could be evaluated to be reasonable.

Chapter 4 Project Evaluation

4.1 Project Effects

The following social and economic benefits are expected to be realized if the project is implemented in compliance with the requests from the Philippines' side made before the Study:

- The irrigation will alleviate the poverty, especially in rural areas, by increasing agricultural productivity and securing stable income. (This coincides with the main objective in the national development plan.)
- The rural road construction and improvement will improve the daily convenience of the inhabitants and the transportation of agricultural products.
- The afforestation using the project's nursery will enhance the environmental conservation and improvement. (This coincides with the national reforestation programs.)
- Providing stable living conditions for Mt. Pinatubo eruption victims will contribute to their resettlement.

In addition, indirect benefits such as the increase in employment opportunities are expected to be realized by the project.

The Study, however, has identified the several issues as already described in Section 2.3.3 which are itemized in the following:

- (1) The area of approximately 220 ha that is planned by the project to be developed for Mt. Pinatubo victims for resettlement has been evaluated to be not suitable for farming in terms of soil conditions. Thus the project will not be able to provide those victims with farm lands as the foundation of their living.
- (2) Concerning the compensation for land acquisition and resettlement that is to be made by the Pangasinan Provincial Government, the acquisition of agreements from the land owners and the resettling inhabitants has not been all completed yet.
- (3) The geological survey on the dam site has shown that the dam foundation has a layer with high permeability. An additional study would be necessary to analyze appropriate measures to deal with this problem in this layer, and there

may be a possibility that the cost for foundation treatment will increase dramatically.

- (4) Concerning the construction of the second and third channels and the O & M for the whole facilities including the dam that are to be handled by the Pangasinan Provincial Government, it is evaluated that the Provincial Government will be burdened to undertake them.

From these above issues, the following conclusions are derived:

- (1) The benefits for Mt. Pinatubo victims, which were the major reason for adopting the project, are considerably decreased by the fact that the project can provide only housing for those victims, and now the project can be merely regarded as an irrigation project with a dam construction. Hence the project cannot be given high priority compared to other projects.
- (2) Preconditions for the implementation of the project have not completely been fulfilled yet.
- (3) A further study on dam related matters is required because of technical difficulties expected in dam construction.
- (4) The Provincial Government will face with the financial difficulties to manage the irrigation system effectively and efficiently.

Based on the above, it is finally concluded that the project does not have feasibility from both the social and the economic points of view.

Basic Design Study Report
on
the Project for
Infanta Impounding Irrigation
and Environmental Improvement
in
The Republic of the Philippines
(the second report)
(APPENDIX)

March 1998

Japan International Cooperation Agency
INA Cooperation
NAIGAI Engineering Co., Ltd.

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Appendices

- Appendix 1. Member List of the Survey Team
- Appendix 2. Survey Schedule
- Appendix 3. List of Party Concerned in the Recipient
Country
- Appendix 4. Minutes of Discussion
- Appendix 5. Cost Estimation Borne by the Ricipient
Country
- Appendix 6. Other Relevant Data
- Appendix 7. References

Appendix 1. Member List of the Survey Team

- (1) Discussion of Inception Report on Basic Design Study
 1. Leader, Shosiro HORIGOME
Development Specialist, Institute for International Cooperation, JICA
 2. Project Coordinator, Tsutomu SHIMIZU
First Basic Design Study Division, Grant Aid Study and Design Department, JICA
 3. Project Manager / Operation and Management Planner, Hiroshi OKADA
I.N.A Co., Ltd.
 4. Dam and Water Reservoir Planner / Hydrological Analysis, Akihiro IRIE
I.N.A Co., Ltd.

- (2) Basic Design Study (Fiscal Year of 1996)
 1. Leader, Shosiro HORIGOME
Development Specialist, Institute for International Cooperation, JICA
 2. Project Manager / Operation and Management Planner, Hiroshi OKADA
I.N.A Co., Ltd.
 3. Agricultural and Irrigation Planner, Sumio SHINDOU
Naigai engineering Co., Ltd.
 4. Dam and Water Reservoir Planner / Hydrological Analysis, Akihiro IRIE
I.N.A Co., Ltd.
 5. Facility Designer (Irrigation, Road), Masanobu SAKURAI
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 6. Facility Designer (Dam), Toshiaki MURAOKA
I.N.A Co., Ltd.
 7. Nursery and Tree Planting Planner, Katsumi CHIDA
I.N.A Co., Ltd.
 8. Geologist, Youji TERAZU
I.N.A Co., Ltd.
 9. Construction Planner / Cost Estimator, Atsuhiko YAMAMOTO
Naigai engineering Co., Ltd.
 10. Environment Planner, Michio MAENO
Naigai engineering Co., Ltd.

- (3) Explanation of Draft Final Report on the Basic Design Study (Fiscal Year of 1996)
1. Leader, Shosiro HORIGOME
Development Specialist, Institute for International Cooperation, JICA
 2. Project Coordinator, Shokichi SAKATA
First Basic Design Study Division, Grant Aid Study and Design Department, JICA
 3. Project Manager / Operation and Management Planner, Hiroshi OKADA
I.N.A Corporation
 4. Agricultural and Irrigation Planner, Sumio SHINDOU
Naigai engineering Co., Ltd.
 5. Dam and Water Reservoir Planner / Hydrological Analysis, Akihiro IRIE
I.N.A Corporation
- (4) Additional Basic Design Study (Fiscal Year of 1997)
1. Leader, Shosiro HORIGOME
Development Specialist, Institute for International Cooperation, JICA
 2. Engineering Advisor, Teiichi Takahashi
Chief Geologist, Ministry of Agriculture, Forestry and Fishery
 3. Project Coordinator, Hakusi HAMAOKA
First Basic Design Study Division, Grant Aid Study and Design Department, JICA
 4. Project Manager / Operation and Management Planner, Hiroshi OKADA
I.N.A Co., Ltd.
 5. Facility Designer (Irrigation, Road), Masanobu SAKURAI
Naigai engineering Co., Ltd.
 6. Facility Designer (Dam), Toshiaki MURAOKA
I.N.A Co., Ltd.
 7. Geologist, Akio Niibe
I.N.A Co., Ltd.
 8. Geologist, Youji TERAZU
I.N.A Co., Ltd.
 9. Material Surveyor, Susumu Fukuma
I.N.A Co., Ltd.
- (5) Explanation of Draft Final Report on the Additional Basic Design Study (Fiscal Year of 1997)
1. Leader, Junji YOKOKURA
First Basic Design Study Division, Grant Aid Study and Design Department, JICA
 2. Assistant Leader, Shosiro HORIGOME
Development Specialist, Institute for International Cooperation, JICA
 3. Project Coordinator, Hakusi HAMAOKA

- First Basic Design Study Division, Grant Aid Study and Design Department, JICA
4. Project Manager / Operation and Management Planner, Hiroshi OKADA
I.N.A Co., Ltd.
 5. Agricultural and Irrigation Planner, Masanobu SAKURAI
Naigai engineering Co., Ltd.

Appendix 2. Survey Schedule

(1) Discussion of Inception Report on Basic Design Study

No.	Day of the Month	Day of the week	Contents
1	09 Apr.	Tue.	Okada, Irie: Narita ⇄ Manila
2	10 Apr.	Wed.	Horigome, Sakata: Narita ⇄ Manila , Courtesy call for JICA Office, Embassy of JAPAN
3	11 Apr.	Thu.	Courtesy call for NEDA, NIA, BSWM
4	12 Apr.	Fri.	Manila ⇄ Pangasinan, Courtesy call and discussion for the Pangasinan Provincial Government and NIA Region I Office
5	13 Apr.	Sat.	Survey
6	14 Apr.	Sun	Team meeting, Survey
7	15 Apr.	Mon.	Discussion on the Minutes
8	16 Apr.	Tue.	Signing the Minutes
9	17 Apr.	Wed.	Horigome, Shimizu: Manila ⇄ Narita, Okada, Irie: Survey
10	18 Apr.	Thu.	Okada, Irie: Survey
11	19 Apr.	Fri.	Okada, Irie: Survey
12	20 Apr.	Sat.	Okada, Irie: Pangasinan ⇄ Manila
13	21 Apr.	Sun	Okada, Irie: Collection and adjustment of data
14	22 Apr.	Mon.	Okada, Irie: Report to JICA Office, NIA
15	23 Apr.	Tue.	Okada, Irie: Manila ⇄ Narita

(2) Basic Design Study

No.	Day of the Month	Day of the week	Contents
1	02 Oct.	Wed.	Horigome, Okada, Sakurai, Shindou, Irie, Terazu: Narita ⇔ Manila Courtesy call for JICA Office, Embassy of JAPAN
2	03 Oct.	Thu.	Discussion with the Pangasinan Provincial Government
3	04 Oct.	Fri.	Survey
4	05 Oct.	Sat.	Survey
5	06 Oct.	Sun	Survey
6	07 Oct.	Mon.	Discussion on the Minutes
7	08 Oct.	Tue.	Signing the Minutes
8	09 Oct.	Wed.	Horigome: Report to JICA Office, Embassy of JAPAN Consulting members: Survey
9	10 Oct.	Thu.	Horigome: Manila ⇔ Narita, Consulting members: Survey
16	17 Oct.	Thu.	Muraoka, Maeno: Narita ⇔ Manila
21	22 Oct.	Tue.	Chida, Yamamoto: Narita ⇔ Manila
30	31 Oct.	Thu.	Shindou, Irie: Manila ⇔ Narita
44	14 Nov.	Thu.	Report to JICA Office, Embassy of JAPAN, NIA
45	15 Nov.	Fri.	Okada, Sakurai, Muraoka, Chida, Terazu, Yamamoto, Maeno: Manila ⇔ Narita

(3) Explanation of Draft Final Report on the Basic Design Study

No.	Day of the Month	Day of the week	Contents
1	26 Feb.	Wed.	Okada, Shindou, Irie: Narita ⇔ Manila Courtesy call for JICA Office, Embassy of JAPAN
2	27 Feb.	Thu.	Courtesy call for NEDA, Manila ⇔ Pangasinan
3	28 Feb.	Fri.	Explanation of Draft Final Report to Provincial Government of the Pangasinan
4	01 Mar.	Sat.	Survey
5	02 Mar.	Sun	Okada, Shindou, Irie: Survey, Sakata: Bangkok ⇔ Manila
6	03 Mar.	Mon.	Horigome: Narita ⇔ Manila, Horigome, Sakata: Courtesy call for JICA Office, Embassy of JAPAN Others: Explanation of Draft Final Report to Provincial Government of the Pangasinan
7	04 Mar.	Tue.	Horigome, Sakata: Manila ⇔ Pangasinan Others: Explanation of Draft Final Report to Provincial Government of the Pangasinan
8	05 Mar.	Wed.	Discussion with Provincial Government of the Pangasinan
9	06 Mar.	Thu.	Discussion with Provincial Government of the Pangasinan
10	07 Mar.	Fri.	Signing the Minutes
11	08 Mar.	Sat.	Okada, Shindou, Irie: Pangasinan ⇔ Manila Horigome, Sakata: Survey
12	09 Mar.	Sun	Okada, Shindou, Irie: Manila ⇔ Narita Horigome, Sakata: Pangasinan ⇔ Manila
13	10 Mar.	Mon.	Horigome, Sakata: Report to JICA Office, Embassy of JAPAN Horigome: Manila ⇔ Bangkok
14	11 Mar.	Tue.	Sakata: DPWH
15	12 Mar.	Wed.	Sakata: DPWH
16	13 Mar.	Thu.	Sakata: DPWH
17	14 Mar.	Fri.	Sakata: Manila ⇔ Narita

(4) Additional Basic Design Study (First Survey in the Fiscal Year 1997)

No.	Date	Day	Survey Contents
1	June 16	Mo.	Narita ⇄ Manila, Courtesy call for JICA office
2	June 17	Tu.	Meeting with NEDA, NIA, BSWM, Manila ⇄ Pangasinan
3	June 18	We.	Discussion with PGP
4	June 18	Th.	Site survey
5	June 18	Fr.	Site survey
6	June 18	Sa.	Internal meeting, Site survey
7	June 18	Su.	Site survey
8	June 18	Mo.	Signing the minutes, Horigome, Takahashi, Hamaoka : Pangasinan ⇄ Manila
9	June 18	Tu.	Horigome, Takahashi, Hamaoka : Meeting with JICA · Embassy, Consultant members: Site survey(continued)
10	June 18	We.	Horigome, Takahashi, Hamaoka : Manila ⇄ Tokyo , Consultant members: Discussion with PGP
11	June 18 -July 8		Consultant members: Site survey(continued) and discussion with PGP
12	July 9	We.	Consultant members: Site survey(end) and the last discussion with PGP
13	July 10	Th.	Consultant members: Pangasinan ⇄ Manila
14	July 11	Fr.	Consultant members: Meeting with JICA and NIA
15	July 12	Sa.	Consultant members: Manila ⇄ Tokyo

(5) Additional Basic Design Study (Second Survey in the Fiscal Year 1997)

No.	Day	Date	Contents
1	Aug. 17	Su.	Niibe : Tokyo ⇄ Manila, Courtesy call to JICA office
2	Aug. 18	Mo.	Niibe : Manila ⇄ Pangasinan
3	Aug. 19	Tu.	Niibe : Site survey (Continued)
4	Aug. 20	We.	Okada, Fukuma : Tokyo ⇄ Manila, Courtesy call to JICA office
5	Aug. 21	Th.	Okada, Fukuma : : Meeting with NIA and BSWM
6	Aug. 22	Fr.	Okada, Fukuma : : Manila ⇄ Pangasinan
7	Aug. 23	Sa.	Discussion with PM

8	Aug. 24 --- Sept. 4		Site survey(continued) Discussion with PGP. (Sept 4 ; Pangasinan ⇔ Manila)
9	Sept. 5	Fr.	Meeting at JICA · NIA · Embassy · BSWM
10	Sept. 6	Sa.	⇔ Manila ⇔ Tokyo(Narita)

(6) Explanation of Draft Final Report on the Revised Basic Design Study

No.	Date	Day	Contents
1	Feb. 12	Thu.	Tokyo (Narita) ⇔ Manila Courtesy call for JICA Office, Embassy of JAPAN
2	Feb. 13	Fri.	Courtesy call for NEDA, Manila ⇔ Pangasinan
3	Feb. 14	Sat.	Site survey, Meeting with Infanta mayor
4	Feb. 15	Sun	Site survey
5	Feb. 16	Mon.	Meeting with PGP
6	Feb. 17	Tue.	Meeting with PGP
7	Feb. 18	Wed.	Pangasinan ⇔ Manila, Meeting with JICA office, etc.
8	Feb. 19.	Thu.	Manila ⇔ Tokyo

Appendix 3. List of Party concerned in the Recipient Country

Pangasinan Provincial Government / Project Management Group

⊙	Engr. Victoriano Sevilleja	Chairman/ Project Manager
	Atty. Feliciano M. Bautista	Provincial Administrator
	Ms. Armi O. Nieto	Provincial Planning and Development Office
	Mr. Roel T. Anonuevo	Provincial Planning and Development Office
	Dr. Melchor N. Mallare	Mayor of Infanta
⊙	Engr. Helsy Bermudez	Provincial Irrigation Officer (Region 1)
	Mr. Ernesto A. Pamoceno	Prov'l Agrarian Reform Officer
⊙	Engr. Roger Bernardo	Office of the Provincial Agriculturist
	Mr. Romeo E. Nalupta	Prov'l Env. & Natural Resources Office
	Engr. Filipino G. Soriano	Provincial Engineer
	Mrs. Constanca F. de Guia	Prov'l Social Welfare & Development Office
	Engr. Alvin Bigay	Chief, Prov'l Housing & Urban Coord. Center
	Mr. Joe Almendares	Assistant Provincial Agriculturist
	Mr. Maximo Monje	Vice Mayor of Infanta, Pangasinan
	Mr. Leopoldo Merza	Municipal Planning & Development Officer
	Ms. Consolacion Madarang	Municipal Agriculturist
	Mr. Onofre Mayo	Municipal Assessor
⊙	Mr. Jo Almendares	Office of the Provincial Agriculturist
⊙	Atty. Carlo Magno J. Verzo	Provincial Legal Officer
⊙	Mr. Nestor P. Quiambao	Provincial Assessor's Office
⊙	Ms. Luzviminda N. Muego	Provincial Population Officer
⊙	Mr. Jeremy S. Regino	Provincial Governor's Office
⊙	Engr. Alvin L. Bigay	Prov'l Housing & Urban Development Office
⊙	Mr. Rafael F. Baraan	Consultant of the Governor
⊙	Col. Rosendo N. Ferrer	Philippine National Police
⊙	Mr. Ernesto A. Pamoceno	Department of Agrarian Reform
⊙	Engr. Leodegario U. Ramos	Department of Public Works of Highways
⊙	Mr. Joselito A. Aquino	Philippine Coconut Authority
⊙	Mr. Reynaldo Reynoso	Pangasinan Electric Cooperative I

Notes: ⊙ means Counter part.

National Irrigation Administration (NIA)

Mr. Edilberto B. Punzal	Manager, Project Development Department
Mr. Edilberto B. Payawal	Office in Charge, Systems Operation and Equipment Management and Manager, Systems Management Department
Mr. Abelardo Y. Armenita	Division Manager, PED, PDD
Engr. Leodencio I. Baraquo	Regional Operations Manager (Region 1)

Bureau of Soils and Water Management (BSWM)

Rogelio N. Concepcion Ph. D.	Assistant Director
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Department of Environment and Natural Resources (DENR)

Atty. Eldipio Fabian	Department of Environmental Natural Resources
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National Economic and Development Authority (NEDA)

Ms. Aley Alejar-Bernardo	Chief, Japan Desk Officer, Public Investment Staff
Ms. Cristina Marie C. Santiago	Japan Desk Officer, Public Investment Staff
Ms. Edna B. Capacillo	Project Monitoring Staff

Embassy of JAPAN

Mr. Katsuhiko YAMAUCHI	First Secretary
Mr. OKUDA	First Secretary

JICA Office in Manila

Mr. Hiroshi GOTO	The Head
Mr. Toshiro RIKIISHI	Vice Director
Mr. SYUKUNOBE	Staff
Mr. Akira NAKAMURA	Staff (In charge of Infanta Project)
Mr. Tetuji HIDA	Staff (In charge of Infanta Project)

JICA Expert

Mr. Yuji SAKAMOTO	NIA
Mr. Tatsuo HOKARI	NIA
Mr. Tokuichi TSUJII	DCIEP
Mr. Tamaki YASUDA	BSWM
Mr. Araragi	BSWM

Appendix 4 : Minutes of Discussion

Minute of Discussion : April 16, 1996
Minute of Discussion : October 8, 1996
Minute of Discussion : November 12, 1996
Minute of Discussion : March 6, 1997
Minute of Discussion : June 23, 1997
Letter from JICA to PGP * : February 18, 1998
Letter from PGP to JICA * : February 18, 1998

* : The letter was submitted from the respective side instead of signing on the minutes.

Minutes of Discussions (April 16, 1996)

MINUTES OF DISCUSSIONS
ON
THE BASIC DESIGN STUDY ON THE PROJECT FOR
INFANTA IMPOUNDING IRRIGATION AND
ENVIRONMENTAL IMPROVEMENT
IN
THE REPUBLIC OF THE PHILIPPINES


Based on the results of the Preliminary Study, the Japan International Cooperation Agency (JICA) decided to conduct a Basic Design Study on the Project for Infanta Impounding Irrigation and Environmental Improvement (hereinafter referred to as "the Project"), and entrusted the study to the Japan International Cooperation Agency (JICA).


JICA sent to the Republic of the Philippines the Basic Design Study Team (hereinafter referred to as "the Team"), which is headed by Mr. SHOSHIRO HORIGOME, Development Specialist, Institute of International Cooperation, JICA, and is scheduled to stay in the country from April 9 to April 23, 1996.

The Team held a series of discussions with concerned officials of the Government of the Philippines and conducted field surveys at the study area.

In the course of discussions and field surveys, both parties have confirmed the main items described on the attached sheets. The Team will proceed to further works and prepare the Basic Design Study report.

Pangasinan, April 16, 1996


Mr. SHOSHIRO HORIGOME
Leader,
Basic Design Study Team,
JICA


Mr. OSCAR M. ORBOS
Governor,
Province of Pangasinan,
The Republic of the Philippines

ATTACHMENT

1. Objective

The objective of the Project is to enhance productivity of agricultural lands through effective irrigation methods, to assist in the resettlement of Mt. Pinatubo eruption victims and to contribute to environmental improvement in watershed, through the development of the Infanta district area.

2. Project area

The project area is located in the Municipality of Infanta, the Province of Pangasinan. (See ANNEX-I)

3. Responsible and Executing Organization

Responsible and executing organization for the Project is the Provincial Government of Pangasinan. (hereinafter referred to as "the Provincial Government").

4. Items requested by the Provincial Government

After discussions with the Team, the following items were finally requested by the Provincial Government.

- (1) Reservoir and dam construction including its appurtenances
(Effective capacity 9.5 MCM with the dam height 28m and length 267m)
- (2) Main irrigation canals with maintenance road
(Unlined open canal of length 19.8 km)
- (3) Development of 220ha Resettlement area with water supply facilities
- (4) Tree nurseries of 5ha with water supply facilities
- (5) Road construction

Around Reservoir	17km
Road improvement	5km
- (6) Post harvest facilities

However, the figures of each component mentioned above will be subjected to further studies.

5. Japan's Grant Aid System

- (1) The Provincial Government has understood the system of Japan's Grant Aid on ANNEX-II as explained by the Team.
- (2) The Provincial Government will take the necessary measures described in ANNEX-III for the smooth implementation of the Project, on condition that the Grant Aid Assistance by the Japanese Government is extended to the Project.

6. Schedule of the Study

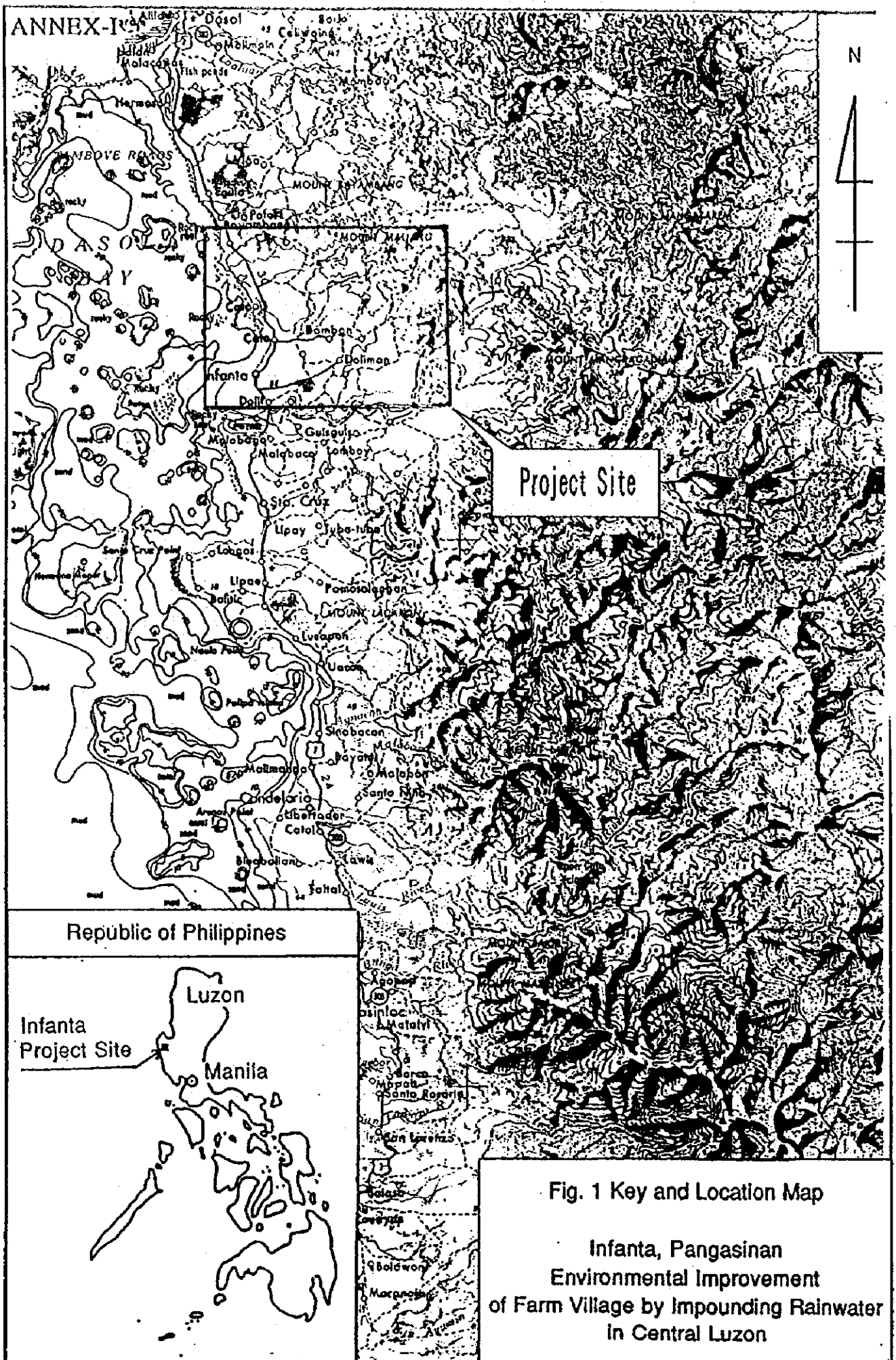
- (1) The consultants will proceed to further studies in the Philippines until April 23, 1996.
- (2) JICA will dispatch a second Basic Design Study Team around October 1996.

7. Summary of Discussions

- (1) Provincial Government earnestly requested the earlier implementation of the Project.
- (2) The Team explained that it is considered necessary to establish the stream gaging station in the Nayom river as well as in the San Felipe river to carry out hydrological analysis based on the reliable records. The Provincial Government agreed to establish the gaging stations by the end of April and conduct hydrological observation in accordance with ANNEX IV.
- (3) The Team has confirmed that following amount of budget is assured by the Provincial Government for the implementation of the Project
5.8 million pesos for FY 1996 and FY 1997
9 million pesos after the Project implementation
The details are shown in attachment 11 of the Answer to Questionnaire of the Preliminary Study.
- (4) The Team requested the Provincial Government to explain the Project contents, including the necessity of house relocation and the resettlement plan of Pinatubo eruption victims, to inhabitants of the Project area and to conclude agreement with inhabitants regarding the implementation of the Project by early October 1996. The Provincial Government agreed to the request.
- (5) The Team requested the Provincial Government to conduct the Project's environmental study according to the relevant laws. The Provincial Government agreed to do so in cooperation with the Team.
- (6) It was reconfirmed by both sides that the Provincial Government is responsible for foresting development component, including its funding and forestation, whereas the tree nursery area is to be prepared by the Japanese side.
- (7) It was reconfirmed by both sides that the Provincial Government is responsible for power supply, housing and other necessary facilities in the resettlement area, after the Japanese side prepare the land and provides the water supply facilities in a portion of the area.
- (8) It was reconfirmed by both sides that the Provincial Government is responsible for funding the construction of secondary and tertiary canals, after the construction of main canals is completed by the Japanese side.
- (9) The Provincial Government agreed to provide the Team with counterpart during the second field survey (from early October to mid-November) in accordance with the request by the Team.

- (10) The Provincial Government agreed to provide a main office in Lingayen and a field office in Infanta, during the second field survey (from early October to mid-November).
- (11) The Provincial Government agreed to assist the Team in the data collection and other matters for the study.

A large, stylized handwritten signature in black ink, consisting of several overlapping loops and a long, sweeping tail.A smaller, more compact handwritten signature in black ink, with a few distinct strokes.



ON JAPAN'S GRANT AID PROGRAM

1. Japan's Grant Aid Procedures

- (1) The Japan's Grant Aid Program is executed by the following procedures.
- Application (request made by a recipient country)
 - Study (Preliminary Study / Basic Design Study conducted by JICA)
 - Appraisal & Approval (Appraisal by the Government of Japan and Approval by the Cabinet of Japan)
 - Determination of Implementation (Exchange of Notes between both Governments)
 - Implementation (Implementation of the Project)

(2) Firstly, an application or a request for a project made by the recipient country is examined by the Government of Japan (the Ministry of Foreign Affairs) to see whether or not it is suitable for Japan's Grant Aid. If the request is deemed suitable, the Government of Japan entrusts a study on the request to JICA (Japan International Cooperation Agency).

Secondly, JICA conducts the Study (Basic Design Study), using a Japanese consulting firm. If the background and objective of the requested project are not clear, a Preliminary Study is conducted prior to a Basic Design Study.

Thirdly, the Government of Japan appraises to see whether or not the Project is suitable for Japan's Grant Aid Program, based on the Basic Design Study report prepared by JICA and the results are then submitted for approval by the Cabinet.

Fourthly, the Project approved by the Cabinet becomes official when pledged by the Exchange of Notes signed by both Governments.

Finally, for the implementation of the Project, JICA assists the recipient country in preparing contracts and so on.

2. Contents of the Study

(1) Contents of the Study

The purpose of the Study (Preliminary Study / Basic Design Study)

conducted on a project requested by JICA is to provide a basic document necessary for appraisal of the project by the Japanese Government. The contents of the Study are as follows:

- a) to confirm background, objectives, benefits of the project and also institutional capacity of agencies concerned of the recipient country necessary for project implementation,
- b) to evaluate appropriateness of the Project for the Grant Aid Scheme from a technical, social and economical point of view,
- c) to confirm items agreed on by both parties concerning a basic concept of the project,
- d) to prepare a basic design of the project,
- e) to estimate cost involved in the project.

Final project components are subject to approval by the Government of Japan and therefore may differ from an original request.

Implementing the project, the Government of Japan requests the recipient country to take necessary measures involved which are itemized on Exchange of Notes.

(2) Selecting (a) Consulting Firm(s)

For smooth implementation of the study, JICA uses (a) consulting firm(s) registered. JICA selects (a) firm(s) through proposals submitted by firms which are interested. The firm(s) selected carry(ies) out a Basic Design Study and write(s) a report, based upon terms of reference made by JICA.

The consulting firm(s) used for the study is(are) recommended by JICA to a recipient country after Exchange of Notes, in order to maintain technical consistency and also to avoid possible undue delay in implementation caused if a new selection process is repeated.

(3) Status of a Preliminary Study in the Grant Aid Program

A Preliminary Study is conducted during the second step of a project formulation & preparation as mentioned above.

A result of the study will be utilized in Japan to decide if the Project is to be suitable for a Basic Design Study.

Based on the result of the Basic Design Study, the Government would proceed to the stage of decision making process (appraisal and approval).

It is important to notice that at the stage of Preliminary Study, no commitment is made by the Japanese side concerning the realization of the Project in the scheme of Grant Aid Program.

3. Japan's Grant Aid Scheme

(1) What is Grant Aid?

The Grant Aid Program provides a recipient country with non reimbursable funds needed to procure facilities, equipment and services for economic and social development of the country under the following principles in accordance with relevant laws and regulations of Japan. The Grant Aid is not in a form of donation or such.

(2) Exchange of Notes (E/N)

The Japan's Grant Aid is extended in accordance with the Exchange of Notes by both Governments, in which the objectives of the Project, period of execution, conditions and amount of the Grant, etc. are confirmed.

(3) "The period of the Grant Aid" means one Japanese fiscal year which the Cabinet approves the Project for. Within the fiscal year, all procedure such as Exchange of Notes, concluding a contract with (a) consulting firm(s) and (a) contractor(s) and a final payment to them must be completed.

(4) Under the Grant, in principle, products and services of origins of Japan or the recipient country are to be purchased.

When the two Governments deem it necessary, the Grant may be used for the purchase of products or services of a third country origin.

However the prime contractors, namely, consulting, contractor and procurement firms, are limited to "Japanese nationals". (The term "Japanese nationals" means Japanese physical persons or Japanese juridical persons controlled by Japanese physical persons.)

(5) Necessity of the "Verification"

The Government of the recipient country or its designated authority will conclude into contracts in Japanese yen with Japanese nationals. Those contracts shall be verified by the Government of Japan. The "Verification" is deemed necessary to secure accountability to Japanese tax payers.

(6) Undertakings required to the Government of the recipient country

In the implementation of the Grant Aid, the recipient country is required to undertake necessary measures such as the following:

- a) to secure land necessary for the sites of the project and to clear and level the land prior to commencement of the construction work,
- b) to provide facilities for distribution of electricity, water supply and

- drainage and other incidental facilities in and around the sites,
- c) to secure buildings prior to the installation work in case the Project is providing equipment,
 - d) to ensure all the expenses and prompt execution for unloading, customs clearance at the port of disembarkation and internal transportation of the products purchased under the Grant Aid,
 - e) to exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which will be imposed in the recipient country with respect to the supply of the products and services under the Verified Contracts,
 - f) to accord Japanese nationals whose services may be required in connection with the supply of the products and services under the Verified Contracts, such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work.

(7) Proper Use

The recipient country is required to maintain and use facilities constructed and equipment purchased under the Grant Aid properly and effectively and to assign staff necessary for their operation and maintenance as well as to bear all expenses other than those to be borne by the Grant Aid.

(8) Re-export

The products purchased under the Grant Aid shall not be re-exported from the recipient country.

(9) Banking Arrangement (B/A)

- a) The Government of the recipient country or its designated authority shall open an account in the name of the Government of the recipient country in an authorized foreign exchange bank in Japan (hereinafter referred to as "the Bank"). The Government of Japan will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by Government of the recipient country or its designated authority under the contracts verified.
- b) The payments will be made when payment requests are presented by the Bank to the Government of Japan under an Authorization to pay issued by the Government of the recipient country or its designated authority.

ANNEX-III

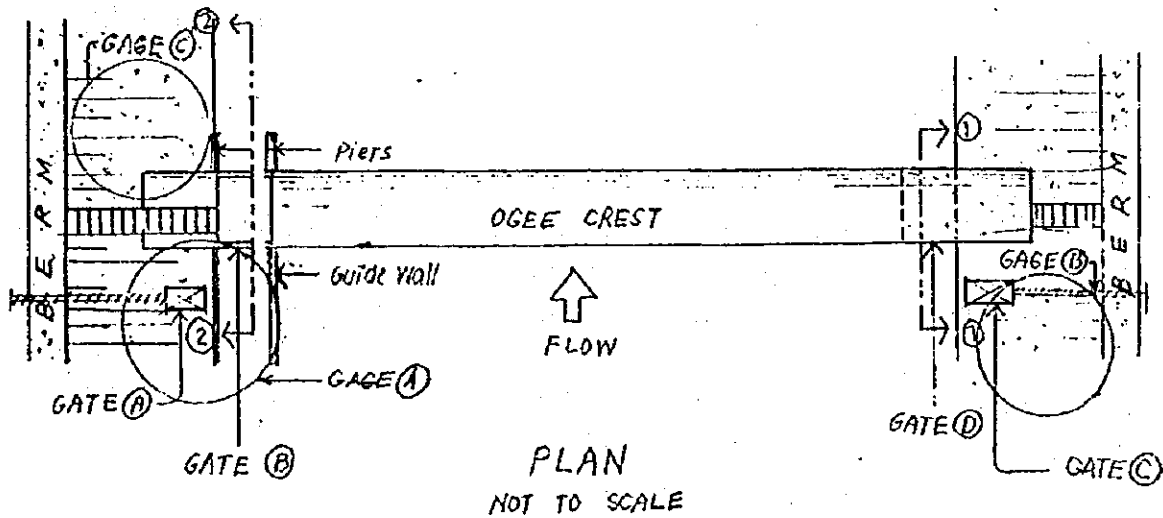
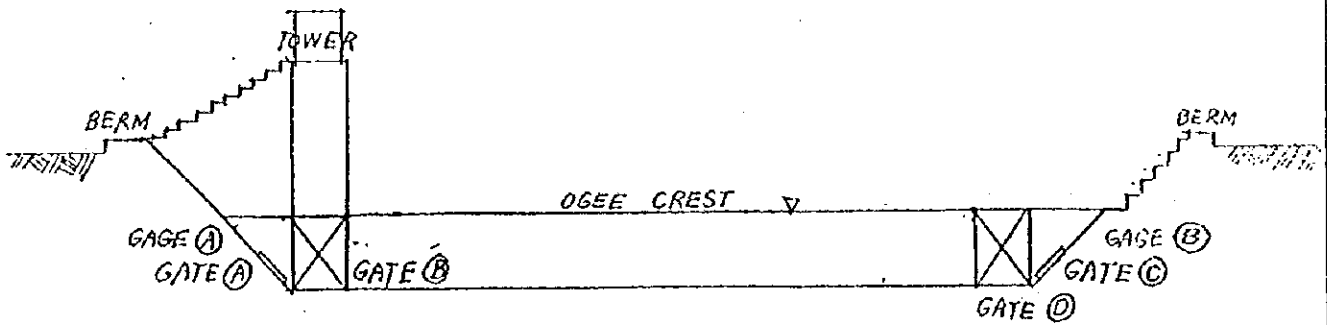
NECESSARY MEASURES TO BE TAKEN BY THE GOVERNMENT OF THE PHILIPPINES IN CASE JAPAN'S GRANT AID IS EXTENDED.

1. To provide data and information necessary for the Project;
2. To secure the site for the Project;
3. To provide a proper access road to the Project site, if necessary;
4. To construct and/or installation of road, drainage and utilities such as electricity, water supply, telephone system to the Project site;
5. To bear two kinds of commissions to the Japanese foreign exchange bank for its banking services based upon the Banking Arrangement (B/A) namely,
 - the advising commission of the "Authorization to Pay (A/P)" and
 - the payment commission;
6. To ensure prompt unloading, tax exemption, and customs clearance at the port of disembarkation in the Philippines and prompt internal transportation therein of the materials and equipment for the Project purchased under the Grant Aid;
7. To exempt Japanese nationals or a staff from a third country engaged in the Project from customs duties, internal taxes and other fiscal levies which may be imposed in the Philippines with respect to the supply of the products and services under the verified contracts;
8. To accord Japanese nationals or a staff from a third country whose services may be required in connection with supply of the products and services under the verified contracts, such facilities as may be necessary for their entry into the Philippines and stay therein for the performance of their work;
9. To provide necessary permissions, licenses, and other authorization for implementing the Project, if necessary;
10. To assign appropriate budget and staff members for proper and effective operation and maintenance of the facilities constructed under the Project;
11. To maintain and use properly and effectively the facilities constructed and the equipment provided under the Project;
12. To bear all the expenses other than those to be borne by the Grant Aid within the scope of the Project.

ANNEX IV

NAYOM RIVER IRRIGATION SYSTEM (NRIS)

LOCATION: GUINABON, STA. CRUZ, ZAMBALES

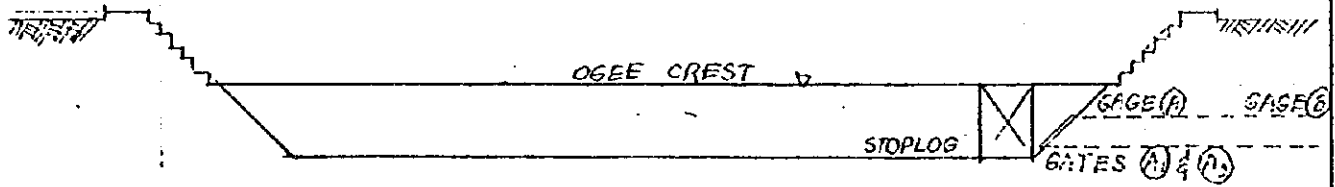


MEASUREMENT *	WHERE TO MEASURE (Tentative)	GATE OPENING
U/S WL at GATE A	GAGE B	GATE A
U/S WL at GATE B	GAGE A	GATE B
U/S WL at GATE C	GAGE B	GATE C
U/S WL at GATE D	GAGE B	GATE D
U/S WL at OVERFLOW SECTION	GAGE A	-
D/S WL at OVERFLOW SECTION & GATE B	GAGE C	-

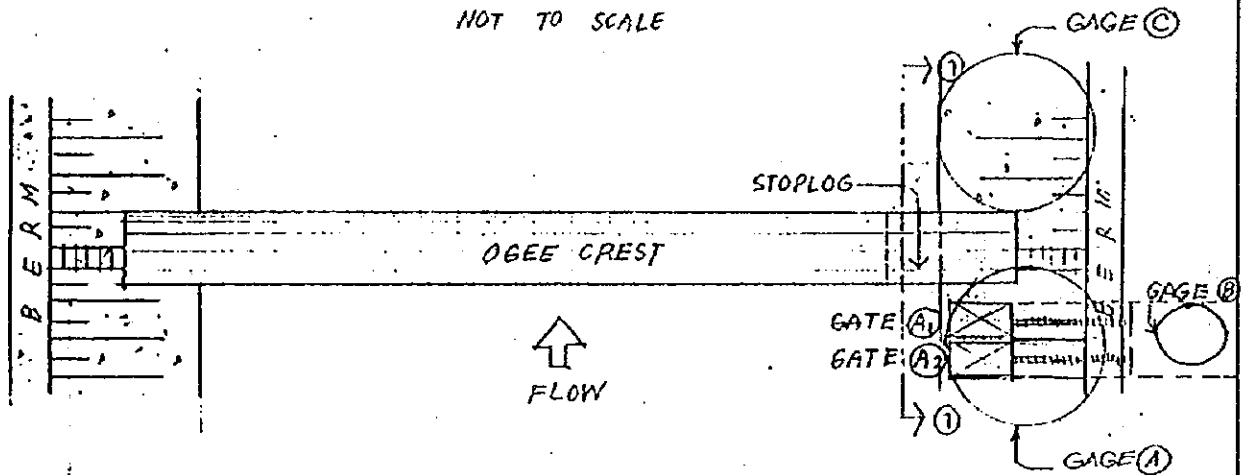
- * NOTE: 1) Period of measurement is from beginning stage (May 1996) of Basic Design until Detailed Design or until such time as required by the Japanese side.
 2) Recorded data must be submitted weekly to the Japanese side.

BAMBAN IRRIGATION SYSTEM (BIS)

LOCATION: SAN FELIPE RIVER
BAMBAN, INFANTA, PANGASINAN



ELEVATION
NOT TO SCALE



PLAN
NOT TO SCALE

MEASUREMENT *	WHERE TO MEASURE (Tentative)	GATE OPENING
U/S WL at GATE (A1)	GAGE (A)	GATE (A1)
U/S WL at GATE (A2)	GAGE (A)	GATE (A2)
U/S WL at STOPLOG	GAGE (A)	HEIGHT OF STOPLOG
U/S WL at OVERFLOW SECTION	GAGE (A)	-
D/S WL at OVERFLOW SECTION	GAGE (C)	-
D/S WL at MAIN CANAL	GAGE (B)	-

- *NOTE:
- 1) Period of measurement is from beginning stage (May 1996) of Basic Design until Detailed Design or until such time as required by the Japanese side.
 - 2) Recorded data must be submitted weekly to the Japanese side.

NAME OF SYSTEM: NAYON RIVER IRRIGATION SYSTEM (NRIS)
 LOCATION: GUINABON, STA. CRUZ, ZAMBALES

1996		J A N U A R Y			D E C E M B E R		
DAY	TIME	WATER LEVEL *		GATE OPENING		GATE (D)	
		UPSTREAM	DOWNSTREAM	GATE (A)	GATE (C)		
1.	6:00 12:00 17:00						
2	6:00 12:00 17:00						
3	6:00 12:00 17:00						
↓	31						

* DURING flood (Elevation _____), measurements should be made at 30 minute intervals.

TENTATIVE RECORDING SHEET

Minutes of Discussions (October 8, 1996)

MINUTES OF DISCUSSIONS
ON
THE BASIC DESIGN STUDY ON THE PROJECT FOR
INFANTA IMPOUNDING IRRIGATION AND ENVIRONMENTAL
IMPROVEMENT
IN
THE REPUBLIC OF THE PHILIPPINES


Based on the results of the Preliminary Study, the Japan International Cooperation Agency (JICA) decided to conduct a Basic Design Study on the Project for Infanta Impounding Irrigation and Environmental Improvement (hereinafter referred to as "the Project"), and entrusted the study to JICA.

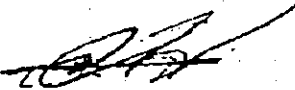
JICA sent to the Republic of the Philippines the Basic Design Study Team (hereinafter referred to as "the Team"), which is headed by Mr. SHOSHIRO HORIGOME, Development Specialist, Institute for International Cooperation, JICA, and is scheduled to stay in the country from October 2 to November 15, 1996.

The Team held a series of discussions with concerned officials of the Government of the Philippines and conducted field surveys at the study area.

In the course of discussions and field surveys, both parties have confirmed the main items described on the attached sheets. The Team will proceed to further works and prepare the Basic Design Study report.

Pangasinan, October 8, 1996


Mr. SHOSHIRO HORIGOME
Leader
Basic Design Study Team
JICA


Mr. OSCAR M. ORBOS
Governor
Province of Pangasinan
Republic of the Philippines

ATTACHMENT

1. Objective

The objective of the Project is to enhance productivity of agricultural lands through the effective irrigation methods, to assist in the resettlement of Mt. Pinatubo eruption victims and to contribute to the environmental improvement in watershed through the development of the Infanta district area.

2. Project Area

The project area is located in the Municipality of Infanta, the Province of Pangasinan. (See ANNEX-I)

3. Responsible and Executing Organization

Responsible and executing organization for the Project is the Provincial Government of Pangasinan (hereinafter referred to as "the Provincial Government").

4. Items requested by the Provincial Government

After discussions with the Team, the following items were finally requested by the Provincial Government:

- (1) Reservoir and dam construction including its appurtenances
(Effective capacity of 9.5 MCM with the dam height of 28m and a length 267m)
- (2) Main irrigation canals with maintenance road
(Unlined open canal of 19.8 km in length)
- (3) Development of 220 ha resettlement area with water supply facilities
- (4) Tree nurseries of 5 ha with water supply facilities
- (5) Road construction

Around reservoir	17 km
Road improvement	5 km
- (6) Post-harvest facilities

However, the figures of each component mentioned above will be subjected to further studies.

5. Japan's Grant-Aid System

- (1) The Provincial Government has understood the Japan's Grant-Aid system as described in ANNEX-II through the explanation by the Team.

- (2) The Provincial Government will take the necessary measures described in ANNEX-III for the smooth implementation of the Project, on the condition that the Japan's Grant-Aid is extended to the Project.

6. Schedule of the Study

- (1) The consultant members of the Team will proceed to conduct further studies in the Philippines until November 15, 1996.
- (2) JICA will prepare a draft basic design report and dispatch a mission in order to explain its contents in February 1997.
- (3) In the event that the contents of the draft basic design report are accepted in principle, JICA will finalize the basic design study report and send it to the Government of the Philippines sometime in April 1997.

7. Other Relevant Issues

- (1) The Provincial Government of Pangasinan (PGP) explained that a group consisting of PGP engineers and agriculturists, irrigators' associations, and NIA engineers will have the responsibility for the operation and maintenance of facilities like dam, main canal, water supply facilities, and roads.

- (2) PGP explained the responsible agencies/group for the O&M of the secondary and tertiary canals as follows:

After the completion of main canals, construction of the secondary and tertiary canals will be undertaken by the NIA, PEO and OPAg. Maintenance of these structures will be the responsibility of the farmer beneficiaries with the supervision of the NIA, PEO and OPAg.

- (3) PGP explained the agreement with the inhabitants and land owners as follows:

(a) For areas to be submerged by the reservoir, a written agreement will be prepared before mid-November when the Study Team is scheduled to leave for Japan. The marking survey of submerged area will be carried out by PGP side under the supervision of the Study Team.

(b) For canal route areas, a written agreement will be prepared by late February 1997 when the JICA Mission will visit Pangasinan for the explanation of the draft final report of the Basic Design Study. (The Study Team will prepare the draft plan of canal routes before mid-November.)


(4) The Study Team explained about the probable interruption of water supply to the canal during the construction period. Although PGP explained that the farmers are amenable to this interruption of water supply for purposes of construction, PGP however requested that an interruption schedule be prepared in consideration of the cultivation and cropping activities of the farmers in the area.

(5) The Study Team asked about the agency responsible for and difficulties, if any, concerning the land acquisition and compensation aspect in the project area. PGP assured that they are responsible for the land acquisition and compensation for the project but execution of the actual acquisition of the lands will be carried out by the LGU of Infanta in cooperation with the PGP. Further, PGP explained that there would be no difficulties whatsoever as to the land acquisition and compensation concern required for the implementation of the project as the project has long been expected by each and every inhabitant of Infanta municipality.

(6) The Study Team asked about the water use rights on the San Felipe River, to which PGP explained that there is no definite water use rights on the area at the moment. However, it would be necessary to supply more water than the present volume of water being supplied to the existing irrigation areas after the completion of the project.

(7) The Study Team requested PGP to show a resettlement plan of Pinatubo victims which must include the following items or matters:

- location of resettlement area
- land acquisition plan
- present land use and suitability as an agricultural land of the resettlement area
- economic stability of the resettlers (area of farm for each resettler)
- relation with present inhabitants

 PGP explained the tentative plan and present situation of the resettlement component of the project and informed that a report on resettlement plan will be submitted to the Study Team by November 10 of this year.

(8) The Study Team requested to show the forestation plan of the project's environmental improvement component after the construction of the tree nursery. PGP explained briefly the tentative forestation plan and informed the Study Team.

that the plan would be prepared and made available by November 10, 1996.

- (9) The Team asked the establishment of new irrigators' associations after the completion of the project, to which PGP acceded to do so by organizing one new irrigators' association after the project completion by dissolving the existing associations.
- (10) The Study Team asked the current situation of environmental clearance in accordance with relevant laws and acts. PGP explained that they will hire the services of consultants to undertake the preparation of the Environmental Impact Study. However, a letter will be communicated to the Office of the President for the granting of exemption from the Environmental Compliance Certificate (ECC) since the project has, in fact, an environmental enhancement component. It is expected that the certificate would be issued without difficulty or delay. ECC is to be issued before mid-February 1997. The progress on this matter will be informed to the Study Team occasionally.
- (11) PGP informed the Study Team that the hydrological observation at the gaging stations which they themselves established would be continued until the commencement of the dam construction works.
- (12) PGP submitted to the Study Team a letter requesting additional structures and equipment to be provided through the project. The Study Team answered that the request letter will be transmitted to the JICA head office in Japan (ANNEX-IV).
- (13) PGP requested to invite PGP engineers for training in Japan especially for the operation and maintenance of project structures and facilities, such as dam and main canals. The Study Team answered that this request will be conveyed to the JICA head office.

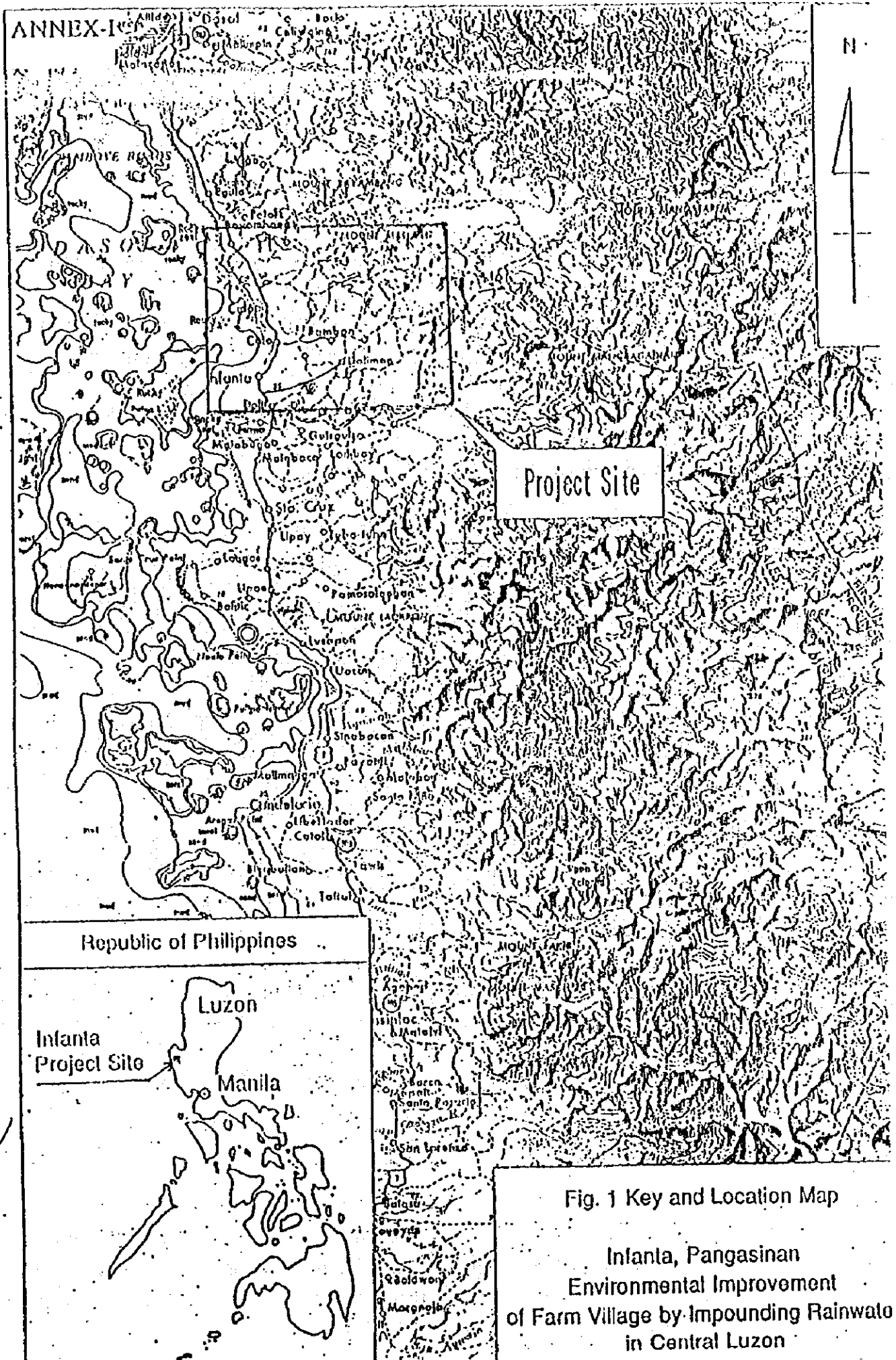


Fig. 1 Key and Location Map
 Infanta, Pangasinan
 Environmental Improvement
 of Farm Village by Impounding Rainwater
 in Central Luzon

ON JAPAN'S GRANT AID PROGRAM

1. Japan's Grant Aid Procedures

(1) The Japan's Grant Aid Program is executed by the following procedures.

- Application (request made by a recipient country)
- Study (Preliminary Study / Basic Design Study conducted by JICA)
- Appraisal & Approval (Appraisal by the Government of Japan and Approval by the Cabinet of Japan)
- Determination of Implementation (Exchange of Notes between both Governments)
- Implementation (Implementation of the Project)

(2) Firstly, an application or a request for a project made by the recipient country is examined by the Government of Japan (the Ministry of Foreign Affairs) to see whether or not it is suitable for Japan's Grant Aid. If the request is deemed suitable, the Government of Japan entrusts a study on the request to JICA (Japan International Cooperation Agency).

Secondly, JICA conducts the Study (Basic Design Study), using a Japanese consulting firm. If the background and objective of the requested project are not clear, a Preliminary Study is conducted prior to a Basic Design Study.

Thirdly, the Government of Japan appraises to see whether or not the Project is suitable for Japan's Grant Aid Program, based on the Basic Design Study report prepared by JICA and the results are then submitted for approval by the Cabinet.

Fourthly, the Project approved by the Cabinet becomes official when pledged by the Exchange of Notes signed by both Governments.

Finally, for the implementation of the Project, JICA assists the recipient country in preparing contracts and so on.

2. Contents of the Study

(1) Contents of the Study

The purpose of the Study (Preliminary Study / Basic Design Study) conducted on a project requested by JICA is to provide a basic document necessary for appraisal of the project by the Japanese Government. The contents of the Study are as follows:

... of the country under the following principles in accordance with relevant laws and regulations of Japan. The Grant Aid is not in a form of donation or such.

(2) Exchange of Notes (E/N)

The Japan's Grant Aid is extended in accordance with the Exchange of Notes by both Governments, in which the objectives of the Project, period of execution, conditions and amount of the Grant, etc. are confirmed.

(3) "The period of the Grant Aid" means one Japanese fiscal year which the Cabinet approves the Project for. Within the fiscal year, all procedure such as Exchange of Notes, concluding a contract with (a) consulting firm(s) and (a) contractor(s) and a final payment to them must be completed.

(4) Under the Grant, in principle, products and services of origins of Japan or the recipient country are to be purchased.

When the two Governments deem it necessary, the Grant may be used for the purchase of products or services of a third country origin.

However the prime contractors, namely, consulting, contractor and procurement firms, are limited to "Japanese nationals". (The term "Japanese nationals" means Japanese physical persons or Japanese juridical persons controlled by Japanese physical persons.)

(5) Necessity of the "Verification"

The Government of the recipient country or its designated authority will conclude into contracts in Japanese yen with Japanese nationals. Those contracts shall be verified by the Government of Japan. The "Verification" is deemed necessary to secure accountability to Japanese tax payers.

(6) Undertakings required to the Government of the recipient country

In the implementation of the Grant Aid, the recipient country is required to undertake necessary measures such as the following:

- a) to secure land necessary for the sites of the project and to clear and level the land prior to commencement of the construction work,
- b) to provide facilities for distribution of electricity, water supply and drainage and other incidental facilities in and around the sites,
- c) to secure buildings prior to the installation work in case the Project is providing equipment,
- d) to ensure all the expenses and prompt execution for unloading, customs clearance at the port of disembarkation and internal transportation of the products purchased under the Grant Aid,
- e) to exempt Japanese nationals from customs duties, internal taxes and

- a) to examine background, objectives, benefits of the project and also institutional capacity of agencies concerned of the recipient country necessary for project implementation,
- b) to evaluate appropriateness of the Project for the Grant Aid Scheme from a technical, social and economical point of view,
- c) to confirm items agreed on by both parties concerning a basic concept of the project,
- d) to prepare a basic design of the project,
- e) to estimate cost involved in the project.

Final project components are subject to approval by the Government of Japan and therefore may differ from an original request.

Implementing the project, the Government of Japan requests the recipient country to take necessary measures involved which are itemized on Exchange of Notes.

(2) Selecting (a) Consulting Firm(s)

For smooth implementation of the study, JICA uses (a) consulting firm(s) registered. JICA selects (a) firm(s) through proposals submitted by firms which are interested. The firm(s) selected carry(ies) out a Basic Design Study and write(s) a report, based upon terms of reference made by JICA.

The consulting firm(s) used for the study is(are) recommended by JICA to a recipient country after Exchange of Notes, in order to maintain technical consistency and also to avoid possible undue delay in implementation caused if a new selection process is repeated.

(3) Status of a Preliminary Study in the Grant Aid Program

A Preliminary Study is conducted during the second step of a project formulation & preparation as mentioned above.

A result of the study will be utilized in Japan to decide if the Project is to be suitable for a Basic Design Study.

Based on the result of the Basic Design Study, the Government would proceed to the stage of decision making process (appraisal and approval).

It is important to notice that at the stage of Preliminary Study, no commitment is made by the Japanese side concerning the realization of the Project in the scheme of Grant Aid Program.

3. Japan's Grant Aid Scheme

(1) What is Grant Aid?

The Grant Aid Program provides a recipient country with non reimbursable funds needed to procure facilities, equipment and services for

other fiscal levies which will be imposed in the recipient country with respect to the supply of the products and services under the Verified Contracts,

- f) to accord Japanese nationals whose services may be required in connection with the supply of the products and services under the Verified Contracts, such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work.

(7) Proper Use

The recipient country is required to maintain and use facilities constructed and equipment purchased under the Grant Aid properly and effectively and to assign staff necessary for their operation and maintenance as well as to bear all expenses other than those to be borne by the Grant Aid.

(8) Re-export

The products purchased under the Grant Aid shall not be re-exported from the recipient country.

(9) Banking Arrangement (B/A)

- a) The Government of the recipient country or its designated authority shall open an account in the name of the Government of the recipient country in an authorized foreign exchange bank in Japan (hereinafter referred to as "the Bank"). The Government of Japan will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by Government of the recipient country or its designated authority under the contracts verified.
- b) The payments will be made when payment requests are presented by the Bank to the Government of Japan under an Authorization to pay issued by the Government of the recipient country or its designated authority.

ANNEX-III

NECESSARY MEASURES TO BE TAKEN BY THE GOVERNMENT OF THE PHILIPPINES IN CASE JAPAN'S GRANT AID IS EXTENDED.

1. To provide data and information necessary for the Project.
2. To secure the site for the Project.
3. To bear two kinds of commissions to the Japanese foreign exchange bank for its banking services based upon the Banking Arrangement (B/A) namely,
 - the advising commission of the "Authorization to Pay (A/P)" and
 - the payment commission.
4. To ensure prompt unloading, tax exemption, and customs clearance at the port of disembarkation in the Philippines and prompt internal transportation therein of the materials and equipment for the Project purchased under the Grant Aid.
5. To exempt Japanese nationals or a staff from a third country engaged in the Project from customs duties, internal taxes and other fiscal levies which may be imposed in the Philippines with respect to the supply of the products and services under the verified contracts.
6. To accord Japanese nationals or a staff from a third country whose services may be required in connection with supply of the products and services under the verified contracts, such facilities as may be necessary for their entry into the Philippines and stay therein for the performance of their work.
7. To provide necessary permissions, licenses, and other authorization for implementing the Project, if necessary.
8. To assign appropriate budget and staff members for smooth construction works and proper and effective operation and maintenance of the facilities constructed and equipment provided under the Grant Aid.
9. To maintain and use properly and effectively the facilities constructed and the equipment provided under the Project.
10. To bear all the expenses other than those to be borne by the Grant Aid within the scope of the Project.



OSCAR M. ORBOS
Governor

October 07, 1996

Hon. Shoshiro Horigome
Basic Design Study Leader
Japan International Cooperation Agency
Philippine Office

Dear Mr. Horigome:

I wish to convey to JICA Philippines through your Basic Design Study Group, the following supplemental requests for the municipality of Infanta, to wit:

1. Solar Dryers for each Barangays Bamban, Potol, Doliman, Nangalisan, Cato, Fatima, Nayom and Maya (25 x 35 meters)
2. Mechanical Dryers for each Barangays Potol, Doliman, Nangalisan, Fatima, Nayom, Maya and Bamban
3. Repair of Barangay (Access) Road
4. One (1) Grader
5. One (1) Dump Truck
6. Construction of Warehouse with Rice Mills for each Barangays Bamban, Nangalisan, Potol, Doliman, Maya and Nayom
7. One (1) Fire Truck
8. One (1) Garbage Truck
9. Construction of Four (4) Bridges
10. Two (2) Mini Cruiser Jeeps

We trust that you please give preferential attention to our requests.

We are hoping for a greater cooperation between our two governments.

For & in behalf of the
Governor:


ATTY. FELICIANO M. BAUTISTA
Provincial Administrator

List of Participants in the conference between the JICA Basic Design Study Group and the Provincial Counterpart from the Province of Pangasinan from October 3-7, 1996 at Lingayen, Pangasinan.

1. Shoshiro HIRIGOME
Leader, Development Specialist, Institute for International Cooperation, JICA
2. Hiroshi OKADA
Project Manager/Operation and Management Planner
I.N.A Corporation
3. Sumio SHINDOU
Agricultural and Irrigation Planner
NAIGAI Engineering Co., Ltd.
4. Akihiro IRIE
Dam and Water Reservoir Planner/Hydro-analysis
I.N. A Corporation.
5. Masanobu SAKURAI
Facility Design(Irrigation, Road)
NAIGAI Engineering Co., Ltd.
6. Youji TERAZU
Geologist
I.N.A Corporation
7. Akira Nakamura
Institute for International Cooperation, JICA
8. Atty. Feliciano M. Bautista
Provincial Administrator
9. Engr. Victoriano Sevilleja
Consultant/ Office of the Governor
10. Engr. Roel Añonuevo
Provincial Planning and Development Office
11. Engr. Roger Bernardo
Office of the Provincial Agriculturist

12. Mr. Romeo B. Nalupa
Forester III
Prov'l. Environment & Natural Resources Office
13. Engr. Filipino G. Soriano
Provincial Engineer
14. Mrs. Constanca F. de Guia
Provincial Social Welfare & Development Office
15. Engr. Alvin Bigay
Chief, Prov'l. Housing and Urban Coordinating Center
16. Mr. Joe Almendarez
Assistant Provincial Agriculturist
17. Mr. Ernesto Pamuceno
Provincial Agrarian Reform Officer
18. Mayor Melchor Mallare
Infanta, Pangasinan
19. Vice Mayor Maximo Monje
Infanta, Pangasinan
20. Mr. Leopoldo Merza
Municipal Planning & Development Officer
Infanta, Pangasinan
21. Mrs. Consolacion Madarang
Municipal Agriculturist
Infanta, Pangasinan
22. Mr. Onofre Mayo
Municipal Assesor
Infanta, Pangasinan

Minutes of Discussions (November 12, 1996)

MINUTES OF MEETING ON THE BASIC DESIGN STUDY FOR THE PROJECT OF INFANTA IMPOUNDING IRRIGATION AND ENVIRONMENTAL IMPROVEMENT

The meeting was held on Nov. 12 at the office of the Governor in Lingayen, Pangasinan, between the PGP (the Provincial Government of Pangasinan) officers concerned and the JICA study team.

The major objectives of the meeting were as follows :

- To explain the present status of basic design study by the study team
- To confirm the status of preparatory activities by the PGP side
- To discuss about the necessary items/work after the study team leaving for Japan
- To discuss about the other matters concerned

1. The present status of basic design study

The study team explained the present status of the basic design study for the following components :


- (1) Dam and reservoir
- (2) Irrigation canals
- (3) Resettlement area
- (4) Tree nursery area
- (5) Road
- (6) Post-harvest facilities

The study team informed that the major design study will be carried out in Japan and the results (Draft final report) will be submitted to PGP possibly in late February in 1997 when the JICA mission will visit the Philippines for the discussion about the results of basic design with the PGP side.

2. The status of preparatory activities by PGP

The PGP side explained the status of preparatory activities for the project implementation and discussed the matters with the study team as follows:

- (1) Written agreement from the inhabitants living in the proposed reservoir/submerged area.

 PGP submitted the written agreement from the inhabitants living in the proposed submerged area. PGP explained that a few of the inhabitants did not sign the agreement yet however it does not mean they are not willing to go out of the area. There are the following reasons:

- A representative person of the family is out of the village.
- More definite information for the compensation is necessary.
- Assurance to move to the resettlement area is necessary.

PGP assured that the agreement from such inhabitants could be obtained before the JICA mission coming again in February.

- (2) Marking survey of submerged area and proposed resettlement area with a board/flag at each point which can be seen from a distance.

PGP explained that the survey work was suspended soon after the starting due to several internal reasons, however the survey work was started again and almost 60% of the survey for reservoir area was completed.

PGP informed that the survey for not only the reservoir area but also the resettlement area could be completed within this year.

- (3) A report of resettlement plan

PGP submitted the report to the study team.

PGP asked the study team to review the report although the report was prepared in reference to the occasional consultation with the study team.

The study team informed that the comments after the review would be sent from Tokyo.

PGP agreed that the report would be revised, if necessary, in accordance with the comments from the study team and be submitted/sent to the study team as early as possible.

- (4) A report of forestation plan

PGP submitted the report to the study team.

PGP asked the study team to review the report although the report was prepared in reference to the occasional consultation with the study team.

The study team informed that the comments after the review would be sent from Tokyo.

PGP agreed that the report would be revised, if necessary, in accordance with the comments from the study team and be submitted/sent to the study team as early as possible.

- (5) Environmental Compliance Certificate (ECC) :

PGP explained that DENR regional office already replied by a letter dated Oct.28 to PGP's letter dated Oct.8. DENR regional office informed the necessity of EIS document to be submitted to the Environmental Management Bureau of DENR for review and evaluation.

PGP explained that the discussion/consultation with DENR officials in charge would be made soon to get more definite information for the procedure and documents for ECC.

PGP requested the study team to assist in the matter. The study team answered that the preparation of ECC is basically the responsible matter of PGP as already confirmed in the minute (April & October), however the team can assist in the matter provided that PGP can make the necessary procedure and document clear

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and also the assistance is reasonable.

PGP informed that the ECC could be ready before the JICA mission coming again in February.

- (6) Land acquisition and compensation for the project, especially for the proposed resettlement area and the reservoir area.

PGP explained that the meeting with the landowners in the proposed resettlement area and the reservoir area has been held several times and confirmed that no definite objection is seen and most of them are basically agree to the land-acquisition by PGP. However, PGP explained further that they have some questions/desire especially on the following points:

- More definite information/assurance for the compensation is necessary.
- They also want to stay in the resettlement area.

PGP informed that the further discussion with the landowners would be continued and more definite confirmation with the written agreement for the land acquisition would be made before the JICA mission coming again in February.

3. The necessary items/work after the study team leaving for Japan

The discussion was made on the matters which have to be continued or carried out by the PGP side after the study team leaving for Japan, that is after Nov.15.

- (1) The matters described in the above Item 2, (1) to (6).

The items only are listed below:

- Written agreement from the inhabitants living in the proposed submerged area
- Marking survey of submerged area and proposed resettlement area
- A report of resettlement plan
- A report of forestation plan
- Environmental Compliance Certificate (ECC)
- Land acquisition and compensation for the project for the proposed resettlement area and the reservoir area.

- (2) Land acquisition of the proposed canal route

The study team submitted PGP the draft plan of main canal routes in a map of 1/5,000.

PGP informed that a written agreement from the landowners along the proposed canal routes will be prepared before the JICA mission coming again in late February, 1997.

- (3) Land acquisition for the proposed road route

The study team submitted PGP the draft plan of new road routes to be constructed by the project in a map of 1/5,000 or 1/10,000. The team explained that the plan is still tentative and needs the approval/agreement from JICA and the other Japanese agencies concerned.

PGP informed that the present ownership of the road routes will be investigated and

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the explanation to the landowners will be made beforehand. PGP further informed that a written agreement will be obtained after the study team assures the road plan approved by JICA but before the JICA mission coming again in late February, 1997.

The study team informed that the plan will be confirmed as early as possible.

(4) Land acquisition for the proposed solar drier

The study team requested PGP to decide the locations of proposed solar drier at one site each in 8 Barangays and assure the land acquisition. PGP answered that the locations will be decided earlier and the results will be informed to the study team. And the agreement from landowners will be obtained before the JICA mission coming again in late February, 1997.

(5) Monthly information report

PGP agreed to prepare the monthly report (Nov., Dec., Jan.) about the status of the above items as well as the others and send the report to the study team.

(6) Hydrological observation

It is reconfirmed that the hydrological observation at the gaging stations which PGP themselves established at the Nayom weir and the Bamban weir would be continued until commencement of the dam construction works.

(7) Storage of drilling core boxes

The drilling core boxes of the basic design study team are stored in the provincial office. (The boxes will be transported from the site by a contractor possibly in late November.)

4. The Others

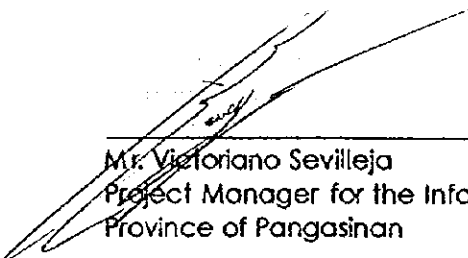
The discussion was made on the other items/matters. Some significant points are noted as follows:

- (1) The study team suggested that the Project manager should be assigned only for the Infanta project or at least mainly for the project, if possible, and with the corresponding authority for taking responsibility of the activities by the PGP side. Then PGP answered that such suggestion would be considered and some improvement would be taken for smooth progress of the project.
- (2) The study team requested that some counterparts for the JICA study team are necessary to work together with the team. Then PGP answered that such arrangement would be taken from the detailed design stage.
- (3) The study team advised that a letter prepared by the Governor to the Municipality of Infanta will assure the people in the proposed reservoir area and the resettlement area.
- (4) The both sides agreed and confirmed that the preparation of the resettlement area would be carried out with priority for securing the implementation of the project.


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- (5) The mayor of Municipality Infanta submitted a table with a location map for the information of resettlers in the proposed reservoir area to the study team. The mayor informed that a table with a map for the proposed resettlement area could not be ready in time but would be prepared as soon as possible.
- (6) The study team extended their gratitude for the PGP's cooperation to the study during the period from the beginning of October to the middle of November.

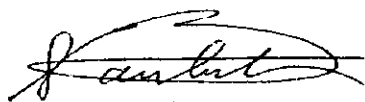
November 12, 1996
Lingayen, Pangasinan




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