

Annex

Scope of Work

and

Minutes of Meetings on Scope of Work

SCOPE OF WORK

FOR

MASTER PLAN STUDY

ON

DONG NAI RIVER AND SURROUNDING BASINS
WATER RESOURCES DEVELOPMENT
IN
THE SOCIALIST REPUBLIC OF VIET NAM

AGREED UPON BETWEEN

MINISTRY OF WATER RESOURCES

AND

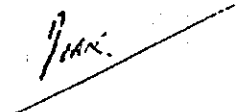
JAPAN INTERNATIONAL COOPERATION AGENCY

HANOI, 15 MARCH 1994

Dr. NGUYEN DINH THINH
Vice Director
Institute of Water Resources
Planning and Management
Ministry of Water Resources



Mr. PHAN DOANH
Vice Director
Department of Agriculture,
Forestry & Fishery
State Planning Committee



杉村 淑人
Mr. YOKITO SUGIMURA
Leader
Preparatory Study Team
Japan International
Cooperation Agency

I. INTRODUCTION

In response to the request of the Government of the Socialist Republic of Viet Nam (hereinafter referred to as "Viet Nam"), the Government of Japan has decided to conduct the Master Plan Study on Dong Nai and Surrounding Basins Water Resources Development (hereinafter referred to as "the Study") in accordance with the relevant laws and regulations in force in Japan.

The Japan International Cooperation Agency (hereinafter referred to as "JICA"), the official agency responsible for the implementation of the technical cooperation programs of the Government of Japan, will undertake the Study, in close cooperation with the authorities concerned of Viet Nam.

The present document sets forth the Scope of Work with regard to the Study.

II. OBJECTIVES OF THE STUDY

The objectives of the Study are;

- 1) To formulate a master plan for the Water Resources Development in the Dong Nai river and Surrounding Basins; and
- 2) To transfer technology of planning and investigation to Vietnamese counterparts through their direct participation in the Study.

III. STUDY AREA

The study area shall cover Dong Nai mainstream, four principle tributaries (Be river, Saigon river, La Nga river, Vam Co river) and adjacent coastal river catchments.

IV. SCOPE OF THE STUDY

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The Study shall include the following;

(Phase I)

1. Data collection and analysis

- a. Previous reports regarding the water resources development
 - b. Topographic data
 - c. Meteorological data
 - d. Hydrological data
 - e. Geological data
 - f. Socio-economic data
 - g. Existing water supply plants and water demands
 - h. Existing electric power plants and their performance
 - i. National hydropower supply program and power demand
 - j. agro-economic data
 - k. Agriculture data
 - l. Existing irrigation/drainage areas and facilities, agricultural development plans, available water sources and intake of water, etc.
 - m. Existing industrial development plans, electric power development plans and water supply plans.
 - n. Inundation area and flood damages in relation to flood discharges, and existing flood protection works
 - o. Environmental data
 - p. Salinity intrusion
 - q. Other necessary data and information
2. Field reconnaissance for review and identification of problems related to water use and water resources development needs

3. Formulation of basic water resources development strategy

(Phase II)

1. Collection and review of supplemental data and information

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2. Study of potential development projects
 - a. Hydropower development
 - b. Irrigation and agricultural development
 - c. Industrial development
 - d. Flood control

3. Field surveys and investigation, if necessary
 - a. Meteorological and hydrological survey
 - b. Topographic survey
 - c. Geological survey
 - d. Observation of present river conditions
 - e. Survey on the condition of actual water use
 - f. Flood inundation and damage survey
 - g. Survey on the condition of actual land use and assets
 - h. Soil survey

4. Water demand projection for the year of 2000 and 2015

5. Evaluation of potential water resources and analysis of water balance

6. Selection of priority projects for a master plan.

(Phase III)

1. Execution of supplemental field surveys, if necessary
 - a. Preparation of topographic maps of such major structure sites as dams for the priority projects with the aerial photographic method.
 - b. Other necessary field surveys

2. Formulation of a master plan
 - a. Plan for optimum water resources development and use
 - b. Facility plan
 - c. Estimation of costs for construction, operation and maintenance
 - d. Organization and management plan
 - e. Implementation program

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- f. Initial environmental examination
- g. Project evaluation
- h. Selection of projects for the feasibility study and preparation of terms of references for them

V. STUDY SCHEDULE

The schedule will be executed in accordance with the attached tentative schedule.

VI. REPORTS

JICA will prepare and submit the following reports in English to the Government of Viet Nam.

- (1) Inception Report
Thirty(30) copies at the commencement of the Study in Viet Nam.
- (2) Progress Report(1)
Thirty(30) copies within four(4) months after the commencement of the Study.
- (3) Interim Report(1)
Thirty(30) copies within six(6) months after the commencement of the Study.
- (4) Progress Report(2)
Thirty(30) copies within ten(10) months after the commencement of the Study.
- (5) Interim report(2)
Thirty(30) copies within thirteen(13) months after the commencement of the study.
- (6) Progress Report(3)
Thirty(30) copies within seventeen(17) months after the commencement of the Study.
- (7) Draft final Report
Thirty(30) copies within twenty one(21) months after the commencement of the Study.

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(8) Final Report

Fifty(50) copies within two(2) months after the receipt of the written comments on the Draft Final report from the Government of Viet Nam, while these comments are expected to be delivered to JICA within one(1) month after the submission of the Draft Final Report.

VII. UNDERTAKING OF THE GOVERNMENT OF VIET NAM

1. The Government of Viet Nam shall facilitate the carrying out of the Study in accordance with the prevailing laws and regulations stipulated by the Vietnamese State, as below:

- (1) To secure the safety of the Study Team;
- (2) To permit the members of the Study Team to enter, leave and stay in Viet Nam for duration of their assignment therein, and exempt them from foreign registration requirements and consular fees;
- (3) To exempt the members of the Study Team from taxes, duties and other charges on equipments, machinery, and other materials brought into and out of Viet Nam for the conduct of the Study;
- (4) To exempt the members of the Study Team from income taxes and other charges of any kind imposed on or in connection with any emoluments or allowances paid to the members of the Study Team for their services in connection with the implementation of the Study;
- (5) To provide necessary facilities to the Study Team for remittance as well as utilizations of the funds introduced into Viet Nam from Japanese in connections with the implementation of the Study;

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(6) To obtain permission for entry into special area for the purpose of implementing the Study;

(7) To secure permission which is considered and issued by the relevant authorities for the Study Team to take out all data and documents including maps and photographs related to the Study out of Viet Nam to Japan; and

(8) To provide medical services as needed and its expense will be chargeable on the members of the Study Team.

2 The Government of Viet Nam shall bear claims, if any arises against members of the Study Team resulting from, occurring in the course of or otherwise connected with, the discharge of their duties in the implementation of the Study, except when such claims arises from gross negligence or willful misconduct on the part of the members of the Study Team.

3 Ministry of Water Resources (hereinafter referred as to "MWR") shall act as a counterpart agency to the Study Team and also as a coordinating body in relation with other governmental and non-governmental organizations for the smooth conduct of the Study.

4 MWR shall, at its own expense, provide the Study Team with the following, in cooperation with other organizations concerned.

(1) Available data and information related to the Study;

(2) Necessary number of counterpart personnel including project coordinator throughout the Study period;

(3) Credentials or identification cards; and

(4) Suitable office space with necessary equipment and clerical services.

VIII. UNDERTAKING OF JICA

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For the implementation of the Study, JICA shall take the following measures.

1. To dispatch, at its own expense, the Study Team to Viet Nam; and
2. To pursue technology transfer to the Viet Nam counterpart personnel in the course of the Study.

IX. OTHERS

JICA and MWR shall act consult with each other in respect of any matter that may arise from or in connection with the Study.

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TENTATIVE WORK SCHEDULE

MONTH DESCRIPTION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
WORK IN VIET NAM																							
WORK IN JAPAN																							
REPORT PRESENTATION																							
	▲			▲	▲	▲				▲	P/R(2)		▲	IT/R(2)			▲	P/R(3)		▲	DF/R	▲	F/R

NOTE: IC/R = INCEPTION REPORT

P/R = PROGRESS REPORT

IT/R = INTERIM REPORT

DF/R = DRAFT FINAL REPORT

F/R = FINAL REPORT

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MINUTES OF MEETINGS

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AND

JAPAN INTERNATIONAL COOPERATION AGENCY

MARCH 15, 1994

HANOI, VIET NAM

Dr. Nguyen Dinh Thinh
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Ministry of Water Resources

Nguyen Dinh Thinh

Mr. Phan Doanh
Vice Director
Department of Agriculture,
Forestry and Fishery
State Planning Committee

Phan Doanh

杉村 邦人
Mr. Yokito Sugimura
Leader
Preparatory Study Team
Japan International
Cooperation Agency

In response to the request of the Government of the Socialist Republic of Viet Nam (hereinafter referred to as "Viet Nam"), the Government of Japan dispatched the Preparatory Study Team (hereinafter referred to as "the Team"), headed by Mr. Yokito SUGIMURA and organized by the Japan International Cooperation Agency (hereinafter referred to as "JICA"), from March 2 to March 21, to conduct a preparatory study for the Master Plan Study on Dong Nai River and Surrounding Basins Water Resources Development (hereinafter referred to as "the Study").

The Team carried out the field reconnaissance on the study area and had a series of discussions with the officials of the Ministry of Water Resources (Counterpart agency of Viet Nam side, hereinafter referred to as "MWR") and the other organizations concerned. The meetings were held on March 11, 12, 14 and 15 at the office of MWR. The list of attendants is attached in the Appendix.

Through those discussions, the Team and MWR agreed on the Scope of work. The main points discussed and agreed by the both sides in the meetings are as follows:

- (1) The Team explained the following basic concepts of Japanese side for the Study and MWR agreed to the concepts.
 - 1) The Study shall be done under the cooperation between MWR and the other organizations concerned and JICA.
 - 2) The Study comprises the formulation of the Master Plan and the preparation of Terms of References for the feasibility studies on the high priority projects selected in the Master Plan.
- (2) In preparation of the Master Plan, the effect of existing on-going projects should be reflected on the Study. The changes of objectives of these projects would be studied for the effective use of water resources.
- (3) MWR will coordinate the organizations concerned for the technical and social cooperation to the Master plan study team dispatched by JICA (hereinafter referred to as "the Study Team"). To support this coordination for the Study, The Vietnamese side will establish the Steering Committee comprising the representatives from the ministries and organizations concerned.
- (4) The Team requested MWR to organize the counterpart team corresponding to the Study Team to execute the Study jointly and to achieve the effective technical transfer. MWR agreed to assign the necessary counterparts including the staff of the organizations concerned.
- (5) MWR requested the Team to conduct the technology transfer to the counterpart personnel in Japan as well as in Viet Nam. The Team replied that these request would be delivered to JICA Tokyo

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(6) The Team requested MWR to prepare the office with sufficient working space in Ho Chi Minh city for not only Japanese Consultants but also the counterparts and the office supporting staff. The office should be equipped with desks, chairs, meeting tables, telephone, lights, etc. MWR accepted the request of the Team.

(7) Concerning the fields survey and investigation programmed in the Study, the discussions were made between the Team and MWR as follows:

1) Aerial Photo Mapping, Topographical Survey and Geo-technical Survey

MWR requested the Team to undertake, if necessary, a) the aerial photograph survey with mapping to the project areas selected at the Phase I, on the condition that the necessary areas are to be discussed between the Study Team and MWR for obtaining official permission of aerial photograph, b) the topographical survey of river sections at proposed sites selected at Phase I or II, and c) the preliminary geo-technical survey on geology and construction materials for the proposed project areas selected at Phase I or II. The Team replied to MWR that this request would be delivered to JICA Tokyo.

2) Meteo-hydrological Survey and Water Quality Survey

MWR requested the Team that JICA will provide equipment for meteo-hydrological observation and water quality analysis, on condition that MWR will construct the stations and carry out meteo-hydrological observation and water quality survey under the guidance of the Study Team. The Team replied to MWR that this request would be delivered to JICA Tokyo.

3) Transportation Vehicles

MWR requested the Team to provide necessary number of vehicles for the Study. The Team replied that this request would be delivered to JICA Tokyo.

(8) IEE (Initial Environmental Examination) should be done because it is clarified through the screening that some important environmental components might be affected by the implementation of the plans formulated in the Master Plan.

(9) The Study Area shall includes the following areas, but within the territory of Viet Nam.

1) The Dong Nai river basin including the Saigon river basin, the Be river basin, and the La Nga river basin.

2) The Vam Co river basin excluding the west side area of the West Vam Co river.

3) The adjacent coastal areas.

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(10) MWR requested to include the whole area of the Vam Co river basin as the Vam Co river is ^{is closely linked with} ~~considered to be a tributary~~ of the Dong Nai river system and the water balance study should be made including the Vam Co river. However, the Team replied that it would be difficult to include the whole area due to the following reasons.

- 1) The Vam Co river ~~would be a tributary~~ ^{is closely linked with} of the Dong Nai river ~~in a broad sense~~. However it can be considered as a different river system from a different viewpoint as the Vam Co river mouth is located in or close to the estuary.
- 2) There is no sufficient data of the Vam Co river basin study. That is, the Study Team has to carry out the various and large quantity of survey such as river cross section survey, topographic survey, agricultural survey, soil survey, canal system survey, water quality survey, flood inundation and damage survey, etc.
- 3) If the whole Vam Co river basin is included, the Study will be complicated especially due to the inter-relation with Mekong Delta. That is, it would be difficult to make a border line of the Study area between the Vam Co river and the Mekong river.
- 4) The cost of the Study will be remarkably increased if the whole Vam Co river basin is included.

MWR understood the situation, but requested the Team that the Vam Co river basin excluding the west side area of the West Vam Co river should be included in the Study area on the condition that the objective of the Study for the Vam Co river basin is to be limited only for the water balance study, that is, the other objectives such as flooding / inundation study and irrigation development planning are not be included as these studies would be made at the feasibility study stage.

The Team agreed the revised request by MWR on the condition that the Study would be carried out by using the existing data provided by MWR without the field survey by the Study Team, so that the some tentatively assumed conditions for the water requirement for the development of the Vam Co river basin.

(11) The Team suggested MWR that the Cam Ranh area should be included in the Study area as it is considerable that the water supply from the Dong Nai river basin could be diverted to the Cam Ranh area especially for the industrial water use. However, MWR explained that the Cam Ranh should not be included in the adjacent coastal area as there is no future plan of the industrial development of Cam Ranh, and there would be another water source for the Cam Ranh area.

The Team agreed to draw a border line of the Study area along the border line of the Khanh Hoa and Ninh Thuan Provinces.

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- (12) The name of main river between the river outlet to the estuary and the confluence of the Dong Nai river and Saigon river is called Nha Be river by the local people. However, said river stretch is to be called the Dong Nai river for the Study.
- (13) The Team requested MWR that MWR would get the official agreement from the organizations / agencies concerned for the cooperation to the Study Team. MWR agreed to the request.
- (14) The target year of the Master Plan should be the year of 2015.
- (15) MWR informed the Team that the Study should include the sectors of transportation (including navigation), tourism development, and economic development of the Study area. The Team replied that the Study would consider the influence to such sectors, however can not include them as one of objectives.
- (16) The Team informed MWR that the Final reports prepared by the Study Team will be opened to the public at the JICA library in Tokyo after the official submission to the Viet Nam side. MWR replied that no objection would be made to the JICA system, if it is a JICA's common practice with the other JICA projects in Viet Nam.
- (17) The Study period will be 22 months in total. However, some change will be occurred due to the unexpected conditions and the other reasons during the Study period.
- (18) MWR requested the Team to have seminars during the study period as means of discussion of study progress and results between the Study Team and the organizations concerned as well as technical transfer to the Vietnamese side. The Team replied to MWR that these request would be delivered to JICA Tokyo.

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APPENDIX

LIST OF ATTENDANTS

<< Japanese Side (Preparatory Study Team)>>

Mr. Yokito SUGIMURA	Leader/Water Resources Development
Mr. Toshio OKAZUMI	River Planning
Mr. Masato WATANABE	Task Manager
Mr. Hiroshi OKADA	Hydrology
Mr. Hiroshi TANAKA	Environment

<< Vietnamese Side>>

[Ministry of Water Resources]

Mr. Hoang Trong Quang	Director General Dept. International Cooperation
Dr. Le Van Minh	Deputy Director General International Cooperation Dept.
Ms. Dao Minh Loc	Hydraulic Engineer International Cooperation Dept.
Mr. Nguyen Minh Duong	Expert/Planning Dept.
Dr./Prof. Nguyen Dong	Director/Institute of Water Resources, Planning and Management
Dr. Nguyen Dinh Thinh	Vice Director Institute of Water Resources
Dr. Le Truc	Water Resources Planner Head of Highland Planning Div.
Mr. Pham Xuan Su	Chief of Resources and Environmental Bureau
Mr. Le Duc Nam	Hydrology Engineer/Vice Head of Resources and Environmental Bureau
Mr. Nguyen Thai Lai	Master of Engineering Science/Vice Head of Resources and Environmental Bureau
Mr. Dan Hoa Binh	Planning and Management Institute of Water Resources

[State Planning Committee]

Mr. Phan Doanh	Vice Director/Dept. of Agriculture, Forestry & fishery
Mr. Nguyen Tien Trong	Expert/Agriculture, Forestry & Fishery Dept.

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Dr. Tran An Phong	Director General/National Institute for Agricultural Planning and Irrigation
Dr. Nghiem Chung Lan	Vice Director International Cooperation Dept.
Mr. Vu Cong Lan	National Institute for Agricultural Planning and Protection

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[Ministry of Energy]

Mr. Dau Duc **Deputy Director,
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[Ministry of science, Technology and Environment]

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