

## 2 . Scope of Works (S/W)

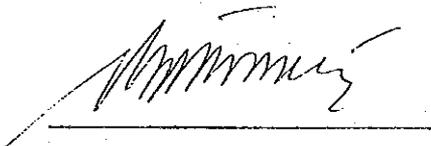


SCOPE OF WORK  
FOR  
THE STUDY ON  
CIUJUNG-CIDURIAN INTEGRATED WATER RESOURCES  
IN  
THE REPUBLIC OF INDONESIA

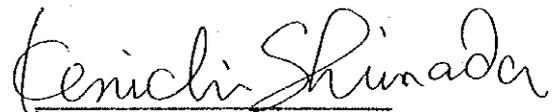
AGREED UPON BETWEEN

DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT  
MINISTRY OF PUBLIC WORKS  
AND  
JAPAN INTERNATIONAL COOPERATION AGENCY

Jakarta, December 14 ,1992



DJOKO S. SARDJONO  
DIRECTOR OF PLANNING AND PROGRAMMING  
DIRECTORATE GENERAL OF WATER  
RESOURCES DEVELOPMENT,  
MINISTRY OF PUBLIC WORKS



KENICHI SHIMADA  
LEADER  
PREPARATORY STUDY TEAM  
JAPAN INTERNATIONAL  
COOPERATION AGENCY

## I. INTRODUCTION

In response to the request of the Government of the Republic of Indonesia (hereinafter referred to as "Government of Indonesia"), the Government of Japan has decided to conduct the study on Ciujung-Cidurian Integrated Water Resources (hereinafter referred to as "the Study") in accordance with the relevant laws and regulations in force in Japan.

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

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 work out water allocation for the purposes of municipal and industrial water supply in and around Jabotabek area,
2. to conduct a feasibility study on water conveyance system,
3. to review Karian Multipurpose Dam Scheme (F/S) to new situation.

## III. THE STUDY AREA

1. The study area shall cover the northern part of west Java Province and DKI Jakarta, mainly the area from the Ciujung-Cidurian river basins in the west to the Cisadane river basin in the east.

#### IV. SCOPE OF THE STUDY

In order to achieve the objectives mentioned above, the Study shall cover the following.

##### 1. Basic Study

###### (1) Data collection and review of previous studies

- a. National, regional and socio-economic data
- b. Topographical data and maps
- c. Meteorological and hydrological data
- d. Soil and geological data
- e. River and its water utilization
- f. Existing hydraulic structures and other relevant facilities
- g. Previous studies and relevant plans
- h. Other related data and information

###### (2) Field Investigations

- a. Aerial photographic survey and topographic mapping for water conveyance route
- b. Geological investigation
- c. Meteo-hydrological survey (supplementary)
- d. Water use
- e. Water quality
- f. Present land use and assets
- g. Social and environmental condition
- h. Others

###### (3) Study and Analysis

- a. Hydrological and hydraulic analysis
- b. Water demand forecast in concerned sectors
- c. Available water sources and their water quantity
- d. Optimum water allocation
- e. Route selection of water conveyance system
- f. Review of Karian multi-purpose dam scheme including updating of cost estimate, project benefit, environmental aspect, operation and management plan
- g. Others

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2. Supplemental Study for Water Conveyance System
  - (1) Supplemental data collection
  - (2) Supplemental field investigations
    - a. Topographical survey
    - b. Geological investigation
    - c. Construction materials
    - d. Environmental impact study
    - e. Others
  
3. Formulation of implementation plan on Integrated Water Resources Development
  - (1) Stepwise development plan
  - (2) Basic layout of major structures
  - (3) Preliminary design of major facilities
  - (4) Estimation of costs for construction, operation and maintenance
  - (5) Optimum operation of reservoirs
  - (6) Operation and maintenance plan of facilities
  - (7) Project evaluation (economic, social, financial, environmental)
  - (8) Project implementation plan

#### V. STUDY SCHEDULE

The Study will be carried out in accordance with the attached tentative study schedule (APPENDIX).

#### VI. REPORTS

JICA shall prepare and submit the following reports in English to the Government of Indonesia.

1. Inception Report

Forty (40) copies within one (1) month from the commencement of the Study.

2. Progress Report (1)

Forty (40) copies within four (4) months from the commencement of the Study.

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3. Interim Report

Forty (40) copies within seven (7) months from the commencement of the Study.

4. Progress Report (2)

Forty (40) copies within twelve (12) months from the commencement of the Study.

5. Draft Final Report

Forty (40) copies within sixteen (16) months from the commencement of the Study.

Government of Indonesia will present its comments to JICA within one (1) month after the receipt of the Draft Final Report.

6. Final Report

Fifty (50) copies within two (2) months after JICA's receipt of the said comments on the Draft Final Report.

VII. UNDERTAKING OF THE GOVERNMENT OF INDONESIA

1. To facilitate smooth conduct of the Study, the Government of Indonesia shall take necessary measures:

(1) to secure the safety of the Japanese study team,

(2) to permit the members of the Japanese study team to enter, leave and sojourn in Indonesia for the duration of their assignment therein, and exempt them from alien registration requirements and consular fees,

(3) to exempt the members of the Japanese study team from taxes, duties, fees and other charges on equipment, machinery and other materials brought into Indonesia for the conduct of the Study,

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- (4) to exempt the members of the Japanese study team from income tax and charges of any kind imposed on or in connection with any emoluments or allowances paid to the members of the Japanese study team for their services in connection with the implementation of the Study,
  - (5) to provide necessary facilities to the Japanese study team for remittance as well as utilization of the funds introduced into Indonesia from Japan in connection with the implementation of the Study,
  - (6) to secure permission for entry into private properties or restricted areas for the implementation of the Study,
  - (7) to secure permission for the Japanese study team to take all copies of data and documents related and necessary to the study out of Indonesia to Japan,
  - (8) to provide medical services as needed. Its expenses will be chargeable on members of the Japanese study team.
2. The Government of Indonesia shall bear claims, if any arises, against the members of the Japanese 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 arise from gross negligence or willful misconduct on the part of the members of the Japanese study team.
  3. Directorate General of Water Resources Development (hereinafter referred to as "DGWRD") shall act as counterpart agency to the Japanese study team and also as coordinating body in relation with other governmental and non-governmental organizations concerned for the smooth implementation of the Study.
  4. DGWRD shall, at its own expense, provide the Japanese study team with the following, in cooperation with other organizations concerned:
    - (1) to provide available data and information belong to DGWRD and related to the Study,

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- (2) to assign counterpart personnel and support staff necessary for the study,
- (3) to prepare a sufficient office space with basic furniture and facilities in Jakarta,
- (4) to prepare credentials or identification cards.

#### VIII. UNDERTAKING OF JICA

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

1. to dispatch, at its own expense, the Japanese study team to Indonesia,
2. to pursue technology transfer to the Indonesian counterpart personnel in the course of the Study.

#### IX. OTHERS

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

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APPENDIX

TENTATIVE SCHEDULE

MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
	WORK IN INDONESIA																		
WORK IN JAPAN																			
REPORT	△				△			△				△		△		△		△	
	IC/R				P/R(1)			IT/R				P/R(2)		DE/R		F/R			

REMARKS: 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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### 3 . Minutes of Meeting (M/M)



MINUTES OF MEETING  
ON  
SCOPE OF WORK  
FOR  
THE STUDY ON CIUJUNG-CIDURIAN INTEGRATED WATER RESOURCES  
IN  
THE REPUBLIC OF INDONESIA

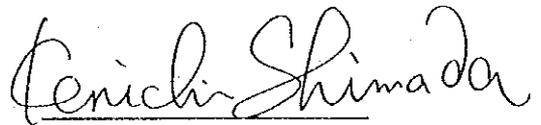
AGREED UPON BETWEEN

DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT  
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Jakarta, December 14, 1992



DJOKO S. SARDJONO  
DIRECTOR OF PLANNING AND PROGRAMMING,  
DIRECTORATE GENERAL OF WATER  
RESOURCES DEVELOPMENT,  
MINISTRY OF PUBLIC WORKS



KENICHI SHIMADA  
LEADER  
PREPARATORY STUDY TEAM  
JAPAN INTERNATIONAL  
COOPERATION AGENCY



In response to the request of the Government of the Republic of Indonesia, the Preparatory Study Team (the Team) of Japan International Cooperation Agency (JICA), visited Indonesia from December 7th to December 23rd, 1992 to discuss the Scope of Work for the study on Ciujung-Cidurian Integrated Water Resources (the Study).

The Team carried out field surveys of the study area and held series of discussions with officials of Directorate General of Water Resources Development (DGWRD).

This document sets forth the main points discussed during the above period.

The draft Scope of Work (S/W) proposed by the Team was discussed in details between the Team and DGWRD and both sides agreed to adopt the Scope of Work with following understandings:

1. In reference to II.2. of the S/W (OBJECTIVES OF THE STUDY), DGWRD stated that a use of the term "conduit" is not proper at present because the type of facility should be determined in the progress of the Study. Therefore, both sides agreed to adopt "water conveyance system" instead of "conduit".
2. In reference to II.3 of the S/W (OBJECTIVES OF THE STUDY), both sides agreed that the items subject to a review do not include the scale, type and location of both Karian and Cilawang dam which were initially designed in the frame of Karian Multipurpose Dam Scheme (F/S). The diversion tunnel, however, should be reviewed on its design capacity based on the new water allocation plan.
3. In reference to III. of the S/W (THE STUDY AREA), both sides confirmed that the study area is limited as follows.
  - (1) the Study on the potential resources of surface water covers the area from Ciujung river basin to Cidurian river basin.
  - (2) the Study on water demand covers both Jabotabek area and Northern Banten area (areas covered by Karian Multipurpose Dam Scheme).
  - (3) the Study on the extension of water conveyance route is from Karian dam site to Serpong (water treatment station).

4. Regarding Tanjung dam which were studied by IBRD on its feasibility, both sides agreed to include it in the subject to review with exception of its scale, type and location, because that Tanjung dam should be considered as one of potential water resources.
5. Regarding the allocation of available water, to concerned sectors in Northern Banten area and in Jabotabek area, DGWRD stressed on that the highest priority should be given to the needs of municipal and industrial water in Jabotabek area.
6. Regarding a decision making of new allocation of water, Government of Indonesia is responsible for the final decision.
7. Regarding the Study on underground water availability, both sides agreed that since enough data is expectedly available in "The Study on West Java Provincial Water Sources Master Plan for Water Supply" (study has been already completed) and "Jabotabek Water Resources Management Study" (to be conducted from February to September, 1993), no additional survey (boring works) should be necessary.
8. In reference to IV.2. (2) of the S/W (SCOPE OF THE STUDY), environmental impact study, both sides agreed that JICA study team will prepare the Terms of Reference (TOR) on Environmental Impact Analysis (ANDAL) and conduct ANDAL. While, DGWRD is responsible for the preparation of Preliminary Environmental Information Report (PIL) by the time of arrival of the JICA study team to Indonesia and for taking necessary procedure to the approval by the Environmental Assessment Commission on TOR and a report of ANDAL. DGWRD will undertake a preparation of Environmental Management Plan (RKL) and Environmental Monitoring Plan (RPL) during the Detail Design stage.
9. Regarding the environmental study on social aspect, both sides recognized that it is important to be conscious of the opinions from the local people to whom project's impact might reach, in terms of ANDAL process.
10. Regarding the preparation of TOR for Detail Design, both sides agreed that it should be directly undertaken by DGWRD in consultation with JICA study team.

11. In reference to VII.1. (7) of the S/W (UNDERTAKING OF THE GOVERNMENT OF INDONESIA), permission of taking data and document out of Indonesia should follow Indonesian Government's regulation.
12. Both sides confirmed that DGWRD will organize a steering committee composed of all concerned organizations and JICA will organize an advisory committee.
13. DGWRD strongly requested the following survey works be financed by JICA.
  - (1) aerial photographic survey, topographical mapping and topographical survey along the water conveyance route.
  - (2) geological investigation
  - (3) water quality test
  - (4) environmental impact study (ANDAL)
14. DGWRD requested an acceptance of counterpart personnel to Japan for the training.
15. The Team requested DGWRD to provide vehicles necessary for the conduct of the Study.

DGWRD answered that it is impossible to provide them for financial reasons and strongly requested a provision of four-wheel drive vehicles and photocopy machine by JICA.
16. Regarding the requests from DGWRD mentioned above items 13,14,15, the Team answered to convey the requests to JICA Headquarters in Japan.
17. A summary of description on major subjects of the Study is shown in the attached paper 1.
18. A list of attendants to the meeting is shown in the attached paper 2.

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A SUMMARY OF DESCRIPTION ON MAJOR SUBJECTS OF THE STUDY

1. Review of the previous studies

There are more than ten studies accomplished since 1973 by several agencies and consultant firms. They contain various useful information and data on the relevant sectors in the respective basins, especially on water demand estimates and available water sources.

2. New allocation of available water for various purposes

Scenarios of the development will have to be carefully reviewed and ascertained and an inventory of renewed water demands will be provided in respect of sectors and their spatial distribution in time series up to target year 2025.

3. Review of JWRMS and supplemental in-depth study on conveyance system

Conveyance system will be divided into 3 sections: Karian reservoir to Cibereum, Gadeg intake weir to Cidurian, Cidurian to Serpong on Cisadane River. Water quantity to be conveyed will increase in accordance with a growth of the demand with time and consequently, the required capacity of the ssystem will be to argument to the water demand. Approach to the feasibility study will be as follows:

- a. Selection of the route and type of each segment and review its design capacities. Aerial photo mapping will be required, while, topographical mapping surveys and geo-technical investigation will be undertaken along the proposed route.
- b. A comparative study on the types of ssystem such as open canal, open with cover, pressurized flow on the materials such as concrete, steel, cast iron or may be unlined, etc. will be made to meet the design capacity and based on economical and environmental justification.
- c. All possible lay-outs of the ssystem will be evaluated at unit cost of the water supplied in a balance with the demand in time series throughout the target period up to 2025.

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d. The implementation plan will be integrated with that of the Karian, Cilawang and Tanjung schemes.

4. Review of Karian, Cilawang and Tanjung multi-purpose dam schemes

Due to transfer of some parts of the available water of the Karian reservoir to Jabotabek area, the original sharing of the available water will be forced to be adjusted. The benefits of the project will be reviewed consequently. The adjustment will be made not only to the new allocation of available water but also to a judgement on the socio-economic development of the regions concerned. There will come out a possibility of a new dam like Pasir Kopo on the main Ciujung, for compensating the transferred water in order to keep the envision that the original Karian multipurpose dam can improve the socio-economic conditions in the Northern Banten area.

5. Integrated implementation

Implementation plan of the original Karian, Cilawang and Tanjung multi-purpose schemes will be reviewed and updated to the new conditions of the project.

6. Environmental impact

Investigation on natural and socio-economic environment and estimate of impacts on the environment in the cases without and with the project. Special consideration will be given on the resettlement arrangement for inhabitants in the proposed reservoir area to avoid conflicts with resettled people in future implementation stage.

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## LIST OF ATTENDANTS

I. DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT (DGWRD)

- |                        |  |
|------------------------|--|
| 1. Djoko S. Sardjono   | Director of Planning and Programming   |
| 2. Soenarto Soendjaja  | Chief, Sub-Directorate of River Basin Development and Planning, Directorate of Planning and Programming    |
| 3. Soeradji, Dipl.HE   | Chief, Sub-Directorate of Planning and Design, Directorate of Rivers                                       |
| 4. Budi Santoso        | Chief, PWSII, Sub-Directorate of River Basin Development Planning, Directorate of Planning and Programming |
| 5. Djodi S. Sugondo    | Chief, Section of Banten Project, CJC  |
| 6. Djoko Sasongko, MSc | Chief of staff for planning and design, Cisadane-Ciliwung River Basin Development Project                  |
| 7. Supriyono           | Chief, Survey Section, Sub-Directorate of Planning and Design, Directorate of Rivers                       |
| 8. Agni Handoyoputro   | Chief, CJC Sub-Project, CJC Project  |
| 9. Iwan E. Putranto    | Assistant, Design Section, Cisadane-Ciliwung River Basin Development Project                               |
| 10. Mansye Nahumury    | Staff, Sub-Directorate of Design, Directorate of Rivers  |
| 11. Eddy Sudaryono     | Staff, Sub-Directorate of River Basin Development Planning, Directorate of Planning and Programming        |

II. PREPARATORY STUDY TEAM

- |                      |        |
|----------------------|--------|
| 1. Kenichi Shimada   | Leader |
| 2. Akio Miyashita    | Member |
| 3. Hitomi Godo       | Member |
| 4. Satoru Hagiwara   | Member |
| 5. Kiyonobu Kotani   | Member |
| 6. Norikazu Yamazaki | Member |

III. JICA INDONESIA OFFICE

- |                    |                                   |
|--------------------|-----------------------------------|
| 1. Hirohiko Takata | Assistant Resident Representative |
|--------------------|-----------------------------------|

IV. JICA Expert

- |                       |                              |
|-----------------------|------------------------------|
| 1. Yosuke Sasaki      | Directorate of Rivers, DGWRD |
| 2. Toshihiko Nakafuji | Directorate of Rivers, DGWRD |

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#### 4. 質 問 書



Required Data and Questionnaire  
for  
The Study on Ciujung-Cidurian Integrated Water Resources

December 1992

JICA Preliminary Survey Team

## Contents of Questionnaire

1. Organization .....	1
2. Socio-Economic Condition .....	1
3. Present Situation and Development Plan.....	1
4. Topographical Map .....	3
5. Geological Data .....	3
6. Meteo-Hydrological Data .....	3
7. Environmental Data.....	4
8. Data for Cost Estimate .....	6

REQUIRED DATA AND QUESTIONNAIRE FOR THE STUDY ON CIJUNG-CIDURIAN INTEGRATED WATER RESOURCES (1)

Item	Description	Availability	Notes
<p>1. Organizations</p>	<p>(1) Ministry of Public Works DGWRD - Directorate of Rivers - Directorate of Irrigation I &amp; II</p> <p>(2) Drinking Water Supply Enterprise of Jakarta (PAM)</p> <p>(3) CIPTA KARYA</p> <p>(4) Other Organization related to this Project</p>		
<p>2. Socio-Economic Conditions</p>	<p>(1) Population Statistic</p> <p>(2) Economic Policy</p> <p>(3) Agriculture</p> <p>(4) Industries</p> <p>(5) Energy and Mining</p> <p>(6) Infrastructures</p>		
<p>3. Present Situation &amp; Development Plan</p>	<p>(1) Existing Water Supply System in DKI-Jakarta/JABOTABEK/Cilegon Area</p> <p>(2) Existing Irrigation System &amp; Development Projects in the Project Area</p> <p>(3) Existing Condition of water use in the Projects Area (Irrigation/Industrial/Domestic and Others)</p>		

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Item	Description	Availability	Notes
	<p>(4) Existing Condition of ground water use in the Project Area</p> <p>(5) Land use map of the Project Area</p> <p>(6) Jakarta Drainage and Flood Control Master Plan (NEDECO, 1973)</p> <p>(7) Cisadane-Jakarta-Cibeet Master Plan (SOGEAH, 1979)</p> <p>(8) Cimanuk Master Plan (SMEC, 1980)</p> <p>(9) Cibeet Feasibility Study (NEDECO, 1983)</p> <p>(10) Upper Jatiluhur Master Plan (Nippon Koei, 1983)</p> <p>(11) Jatigede Feasibility Study, Review (SMEC, 1983)</p> <p>(12) Cisanggarung Master Plan (SMEC, 1983)</p> <p>(13) Cisadane Feasibility Study (INDEC-LAVALIN, 1987)</p> <p>(14) Cisadane-Cimanuk Integrated Water Resources Development (DELFT HYDRAULICS, 1989)</p> <p>(15) Jakarta Urban Development Project, Phase-II (WAACO-DELFTHYD-DHV-TNO - PT INDAH KARYA-PT WIRATMAN &amp; ASS. - PT KWARSA HBXAGON, underway)</p>		

Item	Description	Availability	Notes
4. Topographical Map	(1) Project Area S = 1/500,000 (2) " S = 1/250,000 (3) " S = 1/100,000 (4) " S = 1/50,000 (5) " S = 1/10,000 or larger (6) Aerial Photograph		
5. Geological Data	(1) Regional Geology (2) Geological Map along the Project Area (WJACON) (3) Seismic Observation Data		
6. Meteo-Hydrological Data	(1) Rainfall Data in/around the Project Area (2) Run-off Data (Daily/Monthly/Flood) - Ciujung/Cibran river system - Cidurian river system - Cisdane river system (3) Sediment Load Data of the above rivers		

Item	Description	Availability	Notes
7. Environmental Data	<p>(1) Environmental Impact Assessment Code of Indonesia</p> <p>(Environmental Acts and Regulations)</p> <ul style="list-style-type: none"> <li>- Act No. 5/1960 on Basic Provision of Lands and Agrarian Affairs</li> <li>- Act No. 3/1972 on Transmigration/Inter-insular migration</li> <li>- Act No. 11/1974 on Irrigation</li> <li>- Act No. 4/1982 on Basic Provision for the Management of the Living Environment</li> <li>- Act No. 5/1990 on Biological Resources Conservation and their Ecosystems</li> </ul> <p>Governmental Regulation</p> <ul style="list-style-type: none"> <li>- No. 28/1985 on Forest Protection</li> <li>- No. 29/1986 on Environmental Impact Assessment</li> <li>- No. 22/1988 on Water Usage</li> <li>- No. 23/1988 on Irrigation</li> <li>- No. 20/1990 on Prevention of Water Quality Degradation</li> </ul> <p>Minister of Population and Environment Decree</p> <ul style="list-style-type: none"> <li>- No. 03/MENKLH/6/1987</li> <li>- No. 49/MENKLH/6/1987</li> <li>- No. 50/MENKLH/6/1987</li> <li>- No. 51/MENKLH/6/1987</li> <li>- No. 52/MENKLH/6/1987</li> <li>- No. 53/MENKLH/6/1987</li> <li>- No. Kep-02/MENKLH/1987</li> </ul>		

Item	Description	Availability	Notes
	<p>Minister of Agriculture Decree</p> <ul style="list-style-type: none"> <li>- No. 6/9/1981</li> <li>- No. 24/11/1985</li> </ul> <p>State Statute</p> <ul style="list-style-type: none"> <li>- Jakarta, No. 484/1977</li> <li>- Jakarta, No. 1608/1988</li> </ul> <p>Minister of Timber Decree</p> <ul style="list-style-type: none"> <li>- No. 12/Kpts-II/1977</li> </ul> <p>Minister of Health Decree</p> <ul style="list-style-type: none"> <li>- No. 173/Menkes/Der VIII/1977</li> <li>- No. 01/Burhukmas/I/1975</li> </ul> <p>(2) Guideline for Environmental Impact Assessment</p> <p>(3) Existing Data/Report of BIA on Similar Projects</p> <p>(4) Data on seawater intrusion problem due to over-draw up of Groundwater in some area of DKI-JKT.</p>		

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Item	Description	Availability	Notes
8. Data for Cost Estimate	<p>(1) Water tariff in the Project area</p> <p>(2) Unit Prices of the Similar Projects - Pamarayan weir Construction - WTC/TJC Constr Construction</p> <p>(3) Standard of Labour Cost</p> <p>(4) Cost of Construction materials (Cement, Re-bars, Oil etc)</p> <p>(5) Escalation Rate</p> <p>(6) Import duties</p>		

## 5. 面談者リスト



## 6. 面談者リスト

### 公共事業省水資源総局

Djoko S. Sardjono	計画局長
Soenarto Soendjaja	計画局流域開発部長
Soeradji, Dipl.HE	河川局技術計画部長
Budi Santoso	計画局流域開発部第2地域課長
Djodi S. Sugondo	チサダネージャカルターチウジュンバンテン プロジェクト バンテン担当課長
Djoko Sasongko, MSc	チサダネーチリワン流域開発プロジェクト 技術計画課長
Supriyono	河川局技術計画部調査課長
Agni Handoyoputro	チサダネージャカルターチウジュンバンテン プロジェクト CJC サブプロジェクト担当課長
Iwan E. Putranto	チサダネーチリワン流域開発プロジェクト 設計課補佐
Mansye Nahumury	河川局技術計画部職員
Eddy Sudaryono	計画局流域開発部職員
Djoko Rismianto	住宅総局水道局水資源課長
H. Tobing	住宅総局水道局上水道課長

### JICAインドネシア事務所

金子節志	次長
高田裕彦	所員

### JICA専門家

佐々木庸介	水資源開発
高橋 透	砂防技術
中藤俊彦	災害監視情報システム



## 6. 収集資料リスト



## 1. 関連総合開発計画

1-1 Cisadane-Cimanuk Integrated Water Resources Development (BTA-155) Vol. I Executive Summary (Sep.1989) Delft Hydraulics, Neatherlands

Ministry of Public Works, Directorate General of Water Resources Development

1-2 Cisadane-Cimanuk Integrated Water Resources Development (BTA-155) Vol. II Main Report (Sep.1989) Delft Hydraulics, Neatherlands

Ministry of Public Works, Directorate General of Water Resources Development

1-3 Cisadane-Cimanuk Integrated Water Resources Development (BTA-155)

Vol. IV-A Main Report Domestic, Municipal, Industrial and Flushing Water Demand

Vol. IV-B Hydropower (Sep.1989) Delft Hydraulics, Neatherlands

Ministry of Public Works, Directorate General of Water Resources Development

## 2. 関連開発計画

2-1 Cisadane River Basin Development Feasibility Study (Vol.6) Part A:Parungbadak Dam, Part B:Tanjung Dam; Final Feasibility Report (Sep.1987) INDEC & ASSOCIATES LIMITED

Ministry of Public Works, Directorate General of Water Resources Development

2-2 Cisadane River Basin Development Feasibility Study (Vol.11) Environmental Impact (Sep.1987) INDEC & Associates Ltd

Ministry of Public Works, Directorate General of Water Resources Development

2-3 カリアン多目的ダム建設計画調査 主報告書(Jul.1985) JICA

## 3. 需要側開発計画

3-1 Jabotabek Metropolitan Development Plan (Greter Jakarta Water Supply Development Plan) Technical Report No.T/23 JMDP Team (Nov.1980)

Ministry of Public Works, Directorate General of Housing, Building Planning and Urban Development

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3-3 Botabek Urban Development Project (Supplementary Feasibility Report. Final Report) Vol. IV Water Resources (Sep.1990) Culpin Planning Ltd., England

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3-4 Cisadane-Jakarta-Cibeet Water Resources Development Complementary Report (Annex A) Urban Development in Botabek Area and Urban Water Requirements (Oct.1980) COYNE ET

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付図-1 ボタベック圏 行政区分図+地価 (1:250,000)

付図-2 ボタベック圏 詳細行政区分図+Real Estates Project i Botabek (1:100,000)

付図-3 ボタベック圏 マスタープランによる都市化計画 (1:250,000)

付図-4 ボタベック圏 人口増加率 1971~1978 (1:250,000)

付図-5 ボタベック圏 人口密度 (1:250,000)

#### 4. 北バンテン地域開発

4-1 The Feasibility Study on Cidanau-Cibanten Water Resources Development Project Final Report Vol. I Summary Report (Jun.1992) JICA

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4-2 The Feasibility Study on Cidanau-Cibanten Water Resources Development Project Final Report Vol. II Main Report (Jun.1992) JICA

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4-3 チダナオ・チバンテン水資源開発計画調査 事前調査報告書(Dec.1989) JICA

4-4 北バンテン水資源開発基本計画調査 主報告書(Jul.1983) JICA

#### 5. 地下水状況

5-1 Groundwater Resources Survey in West Java Interim Report (Mar.1987) IWACO-WASECO, Netherlands

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付図-1 西ジャワ州 地下水状況(東部) (1:250,000)

付図-2 西ジャワ州 地下水状況(西部) (1:250,000)

5-2 Lapolan Survey Dan Penelihan Geohidrologi (Tahun Anggaran 1991/1992) Proyek Perencanaan Pengembangan Sumber-Sumber Air (Apr.1992) Cisadane-Jakarta-Cibeet-Banten  
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#### 6. 類似プロジェクト

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7. 環境法制度

7-1 Decree of Minister of Public Works No.557/KPTS/1989 on Managing Guideline on Environmental Impact Assessment within the Ministry of Public Works

7-2 Petunjuk Teknis AMDAL Proyek Pengendalian Banjir Dan Pengaturan Sungai (1991)公共事業省 環境影響評価

7-3 Petunjuk Teknis Analisis Mengenai Dampak Lingkungan Proyek Irigasi Air Permukaan (1990)公共事業省 環境影響評価

7-4 Environmental Impact Analysis in Indonesia (unofficial translations)  
Ministry of Population and Development

8. サイト概要資料

8-1 開発途上国環境保全計画策定支援調査〔インドネシア国〕 (Mar.1990)株式会社エックス都市研究所 環境庁

チャート/図面

1) Organization Chart (水資源総局/都市・住宅総局)

2) 西ジャワ州地形図 (1:500,000)

3) ジャボタベック行政区域図

4) 水資源総局河川局 Serang 地域灌漑図 (1:100,000) (Cidurian川以西～北西ジャワ州)

5) 水資源総局河川局 Tangerang 地域灌漑図 (1:50,000) (Cidurian川以東～ジャカルタ特別区境)

6) 水資源総局計画局 (P3SA) C.J.C.Bantenによる北バンテン開発計画図 (1:50,000)





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