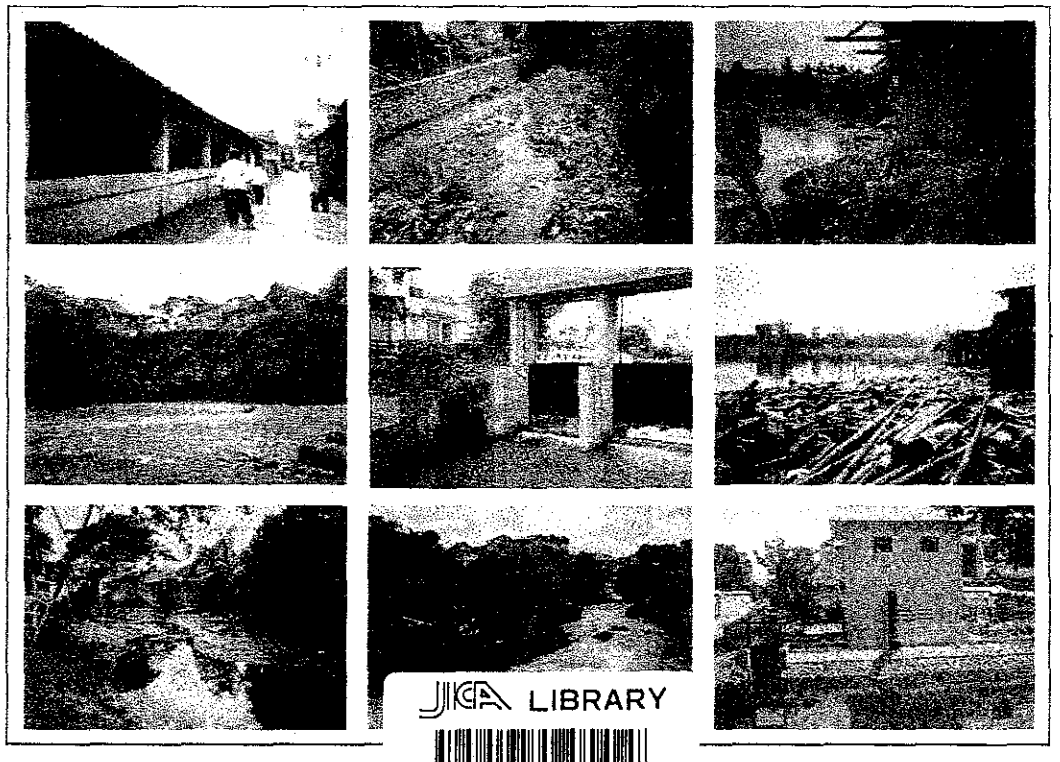
JAPAN INTERNATIONAL COOPERATION AGENCY

URGENT INVENTORY STUDY ON DAMAGE OF FLOOD 2002 IN JABODETABEK AREA IN INDONESIA



EXECUTIVE SUMMARY

MAY, 2003

PT. MITRAPACIFIC CONSULINDO INTERNATIONAL

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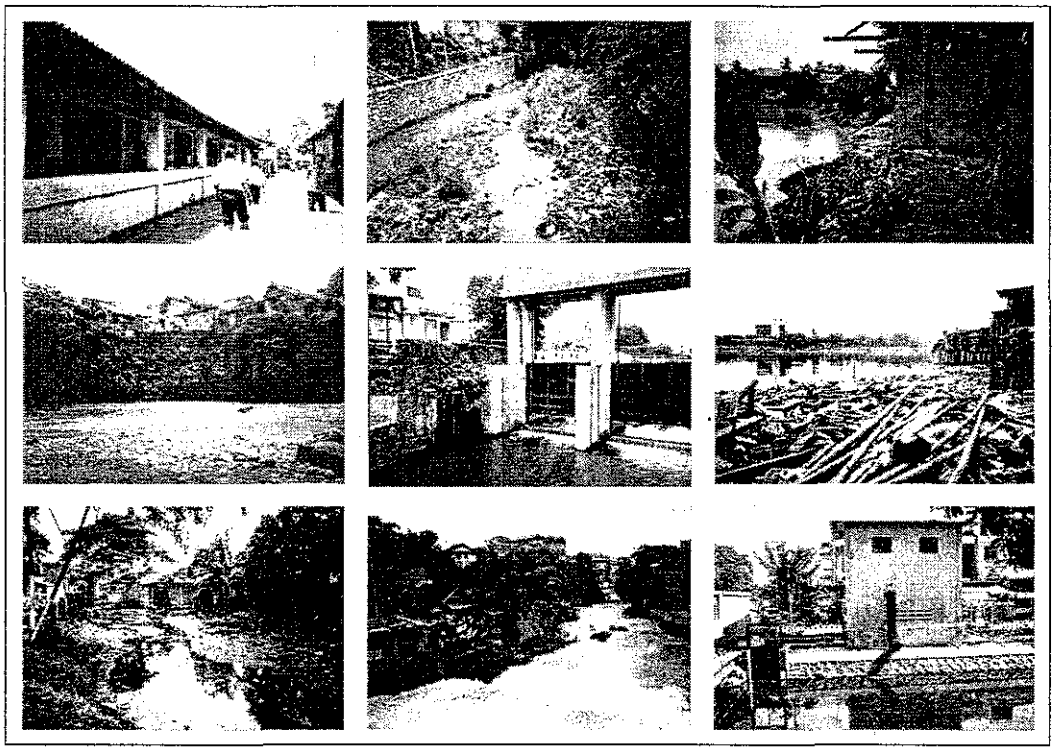

EXECUTIVE SUMMARY

MAY, 2003

PT. MITRAPACIFIC CONSULINDO INTERNATIONAL

Urgent Inventory Study
On
Damage Of Flood 2002
In
JABODETABEK Area In Indonesia

EXECUTIVE SUMMARY

URGENT INVENTORY STUDY ON DAMAGE OF FLOOD 2002 IN JABODETABEK AREA IN INDONESIA

EXECUTIVE SUMMARY

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Terms of Reference for the Institutional Revitalization Project for Management of Flood, Drainage and Integrated Sabo in Jabodetabek Area

GLOSSARY

Central Government			/	The Government of Indonesia
BAKORNAS PBP	/	Badan Koordinasi Nasional Penanggulangan Bencana dan Penanganan Pengungsi	/	Refugee Handling and Disaster Prevention National Coordination Agency
BAPPEDA	/	Badan Perencanaan Daerah	/	Regional Development Agency
BAPPEKAB	/	Badan Perencanaan Kabupaten	/	Regency Development Agency
BAPPEKOD	/	Badan Perencanaan Kota	/	Municipality Development Agency
DKI Jakarta	/	Daerah Khusus Ibu Kota Jakarta	/	Special Capital Province of Jakarta
DJSD Air	/	Direktorat Jenderal Sumber Daya Air	/	Directorate General of Water Resources, MSRI
Drainage			/	Storm water drain facilities other than river system
Flood			/	Water disaster due to overflow or spill from water courses
Integrated Sabo			/	General term of management of erosion, sedimentation and slope collapse.
Inundation			/	Phenomenon of sinking in the flood water.
JABODETABEK	/	Jakarta, Bogor, Depok, Bekasi, Tangerang, Bekasi	/	Jakarta Metropolitan Area
Kabupaten			/	Regency
Kecamatan			/	Sub-district
Kelurahan			/	Ward, Town, Village
Kota			/	Municipality
Local Governments			/	Term of "Local governments" in this report means the governments of Kabupaten and Kota.
Kota			/	Provincial Capital, Municipality
MSRI	/	Kimpraswil	/	Ministry of Settlements and Regional Infrastructure
Permitted structure			/	Structure located across or inside the river area constructed by other than the river administrator
River area			/	Area of river course and ancillary land managed by the river administration institution
SAKORLAK	/	Satuan Koordinasi Pelaksana	/	Implementation Coordination Unit
Sediment related disaster			/	Disaster due to sediment in the water courses
Storm water drain system			/	General term of discharge system of storm water including river, drainage etc.
Storm water related disaster			/	General term of flood and inundation

Figure 1: River Basin Boundary in JABODETABEK

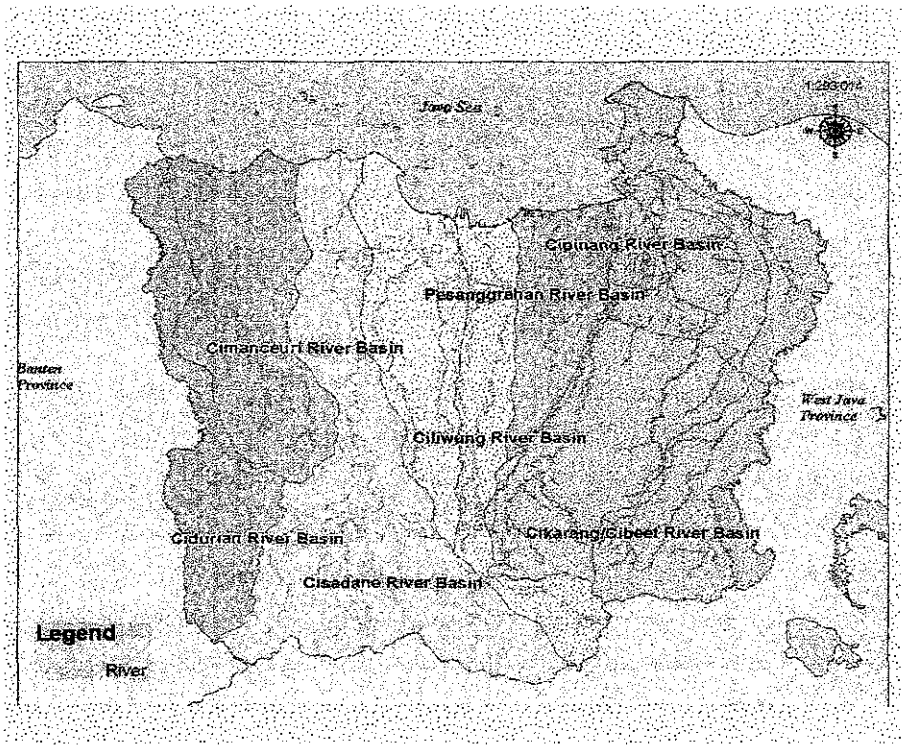
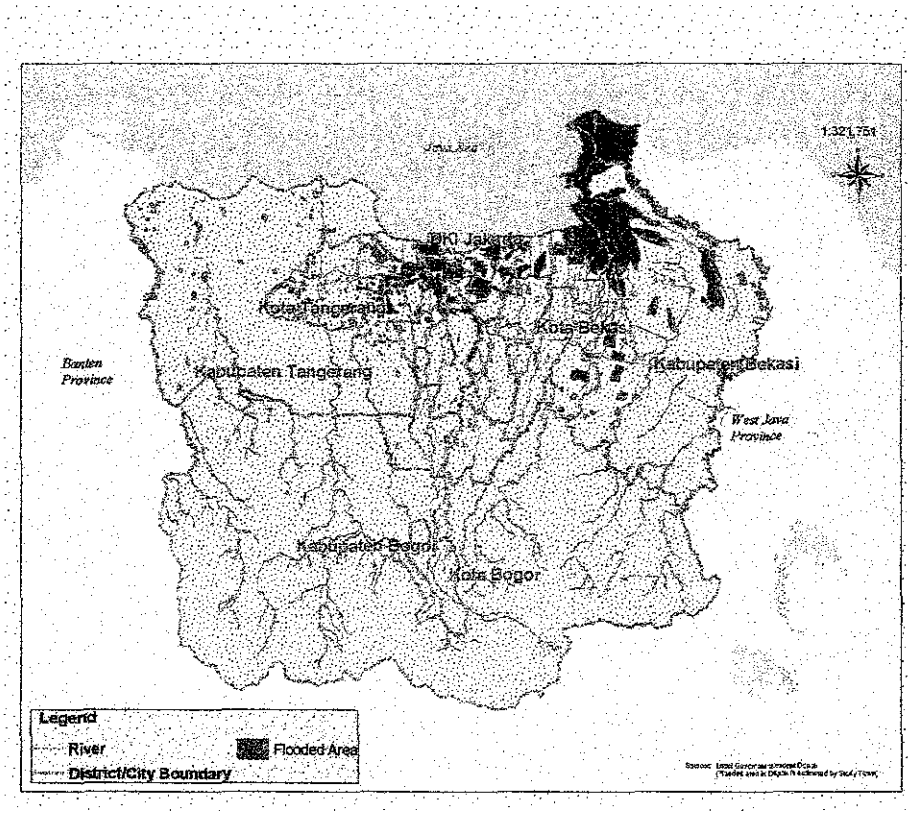


Figure 2: Administration Boundaries and Flood Area in 2002



1. General

In 2002 the JABODETABEK area experienced widespread heavy flooding over a period of more than one week. The causes of the JABODETABEK floods of 2002 were both natural and manmade. The main reason for the floods was an exceptional heavy rainfall immediately preceding the event. Poor flood control facilities and a lack of administrative control over flooding further worsen the problem.

The JABODETABEK area is composed of 3 provinces and 7 river basins, with a total combined area of 6,127 Km^2.

During the 2002 flood, in the months of January and February, total inundation in JABODETABEK was 526 Km^2: 8.6% of the total area. An estimated 2.5 million people suffered as a result of the flooding. Among the inundated areas, heavy flooding, which is flooding with a depth of 0.5 m over more than 7 days, was experienced by 6% of the JABODETABEK area, or 369 Km^2.

To assist the Local, Provincial, and Central Governments in facilitating flood prevention measures in JABODETABEK, the Japan International Cooperation Agency (JICA) conducted the JABODETABEK 2002 Flood Inventory Study, which was a 3 month study started in January 2003.

Table 1 : JABODETABEK during the 2002 Flood

	Area (Km^2)	Population (million)	Flooded area (Km^2)	Heavily flood area (Km^2)	Rough estimated losses (B Rp)
A. Upstream Area (Bogor and Depok)	1,493	5.6	14.68	0.68	37
B. Downstream Area (Tangerang, Jakarta, Bekasi)	4,634	15.7	512.22	367.90	7,273
C. Total = A+B	6,127	21.3	526.90	368.58	7,310

Note: heavily flooded area = inundation over 7 days with depth more than 0.5m

Table 2 : Rainfall Data from January 2002

Area	Total rainfall in Jan. 2002
DKI Jakarta	733 mm
Bekasi	1094 mm
Bogor	657 mm
Tangerang	NA

Reference: Average rainfall in January of DKI Jakarta is 269 mm.

2. Outline of Study

2.1 Study area

DKI Jakarta, Bogor, Depok, Bekasi and Tangerang with a total area of 6,127 Km^2, including the river basin areas of Cidurian/Cimanceuri, Cisadane, Pasanggrahan, Ciliwung, Cipinang, and Cikarang.

2.2 Study objectives

The causes of the inundation shall be analyzed using a combination of survey data on flood damage in JABODETABEK and related information from other studies.

2.3 Study Period: 3 months

2.4 Major Activities

a Field survey in selected heavily flooded areas.

b Study of previous related reports.

c Workshop to disseminate the results of the Study.

3. Study Results

3.1 Rivers

In the 2002 flood, all seven river basins in JABODETABEK flooded with a total inundated area of 527 Km^2. The major reason for the 2002 flood was exception heavy rainfall compounded by inadequate administration regarding river management and disaster management. Presently the river administrators are the Central and Provincial Governments. Current regulations and guidelines for river management have not adequately defined the responsibilities of river administrators. This insufficient definitions of river management in the day-to-day administration of rivers have resulted in broken embankments caused by local residents along the river bank, illegal dumping of garbage into rivers, and squatters along rivers, etc., as is evident in the pictures provided below. Therefore, to help strengthen the administrative capabilities of the river administrators and increase community awareness, capacity building is required. In addition, the coordination between upstream and downstream river administrators is also essential to mitigate flood damages.

So far, flood infrastructure development has not realized as per authorized plans, such as the Ciliwung Cisadane Project and the East Banjir Canal Project. Delays of such essential projects impact the river management efforts of the Central and Provincial Governments, including the Local Governments and lower levels. In order to mitigate flood damage, implementation of essential projects should be accelerated. Meanwhile other flood related projects should also be implemented immediately when the project conditions have matured.

Photo 1: Insufficient clearance between river and bridge, and inappropriate design of infrastructure, such as an inappropriate central pier and overly large abutments.
(Sekpolwan Bridge, Pesanggrahan River)

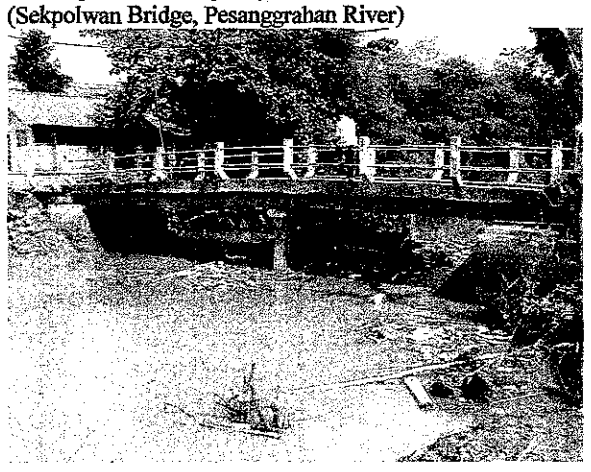


Photo 2: Uncontrolled River Area Construction
(Down stream of Srengseng Bridge, Pesanggrahan River)

Photo 3: Garbage in river
(Cakung Drain, Kelurahan Cakung Barat)

Photo 4: Broken embankments caused by local residents along the river.

3.2 Storm Drainage System

The storm drainage system consists of artificial channels such as gutters, ditches, canals, open conduits, culverts, pipes, etc. Their purpose is to keep the drainage district, especially residential areas, safe and clean by protecting the people from access to unsafe and dirty water. Although these channels are sometimes built from natural rivers and streams, they are urban facilities that the people control and utilize within the city.

Generally speaking, the most essential matter for flood control in residential areas is to improve the drainage in the district rather than simply near rivers, including areas where no flooding is seen from the river.

After decentralization, ownership and management of the drainage systems have been transferred to the Regencies and Municipalities. However, they do not seem to have the capabilities or experience to fully maintain and operate the facilities. Malfunctions and improper operation of

pumps and gates were major reasons for the 2002 flood. There is a lack of experience and budget for the authorities.

Indonesian people should urge the Regencies and Municipalities to secure experienced and skilled personnel and the necessary budget to properly operate and maintain these facilities.

Photo 5: Inundation in Pluit Area in January 2002

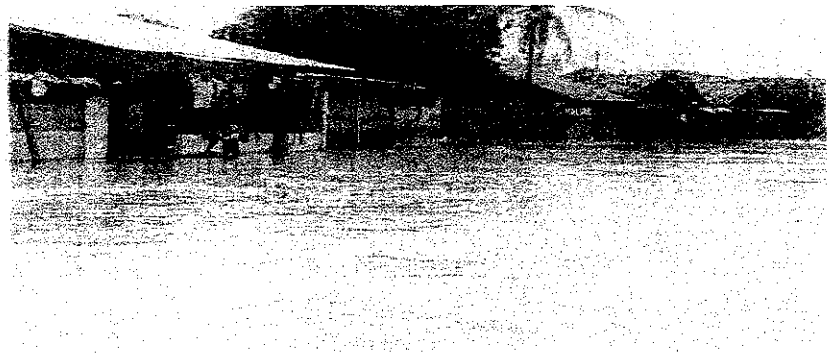
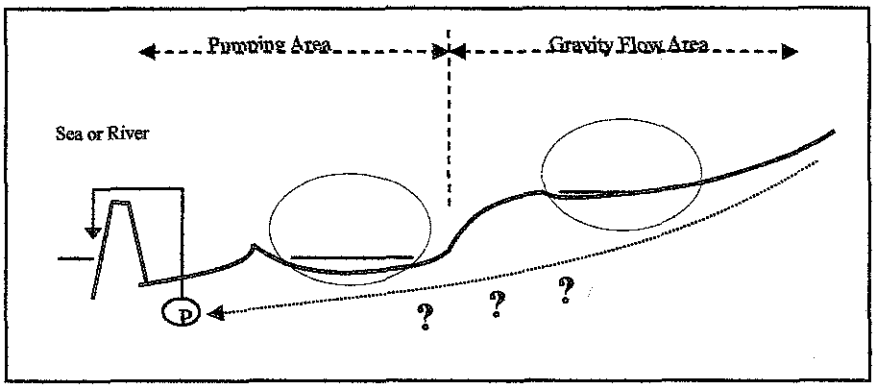


Figure 3: Without the installation of a consistent drainage system, some inner water is congested and stranded in lower spots, especially during the rainy season.



3.3 Erosion and Sediment Control (Integrated Sabo) as preventative measures to flooding

Deterioration of river flow capacity is significant for downstream areas. Reasons for the deterioration are due to congestion from garbage and sediments. Illegal dumping of garbage is widespread and is mostly a localized problem; it should be resolved in all locations where the dumping occurs. Sediment, or soil, gets into the river due to slope failure, erosion, or debris flow, and then the sediment related damage occurs downstream.

Therefore, flood disaster prevention measures should not be directed towards just victims of the flood downstream, but rather to all areas in the district that contribute to the flooding, including upstream areas where damage from the flooding does not occur.

Photo 6: Erosion Site (Upstream at Kel. Paledang, Bogor)

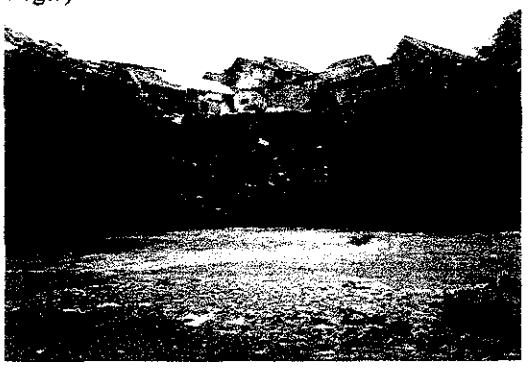
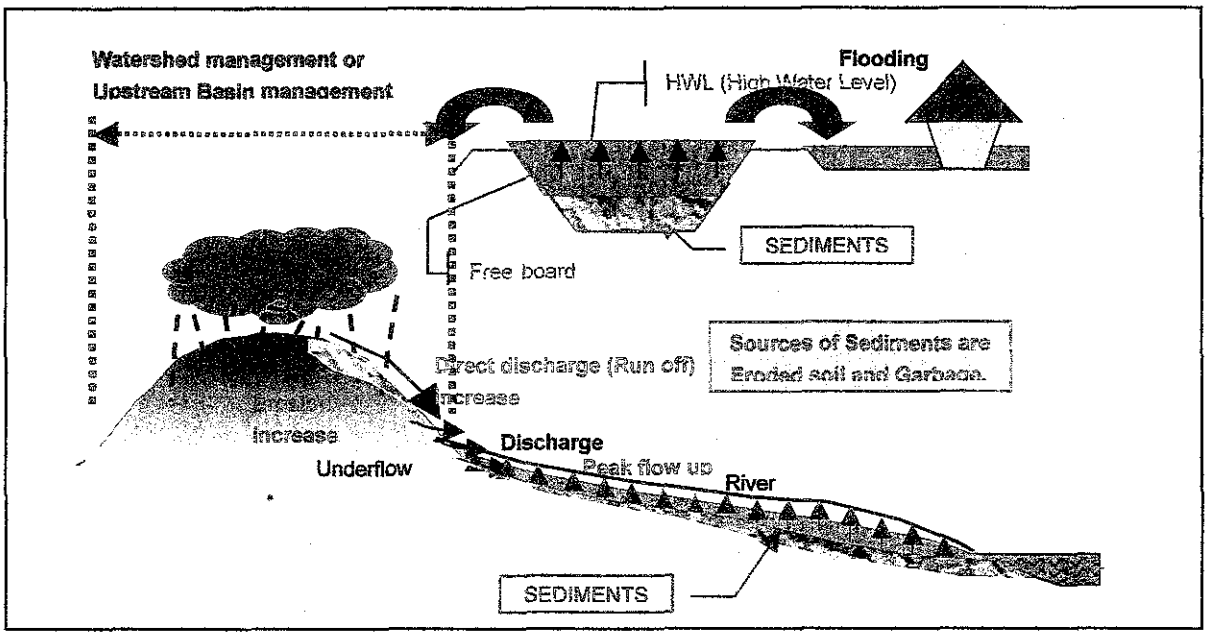


Photo 7: Sedimentation by soil and garbage (Kari Baru, Bogor)

Figure 4: Illustration of flood in JABODETABEK



3.4 Administration relating to flood

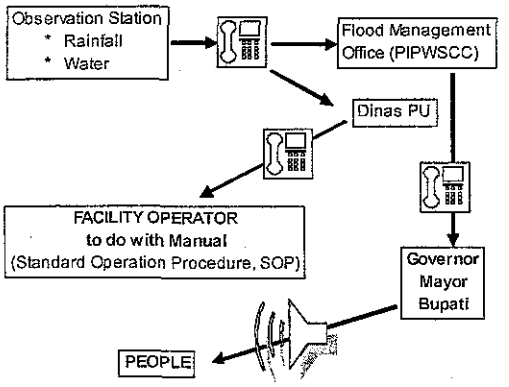
The Central and Provincial Governments have a Flood Control Master Plan. However works derived from the Master Plan are not implemented by the Local Governments (Regencies, Municipalities and their lower levels) due to their lack of experience and capability and budget constraints. As well as the capacity building of the Local Government for flood management, the tools for flood management, the Drainage Plan and Integrated Sabo Plan, including day-to-day operational and maintenance, are urgently needed. In order to familiarize the Local Governments in flood management, it is strongly recommended that the Local Governments be involved during the development phase of the tools. In addition, for preventative measures, development of a flood warning system and increase in community flood awareness are required.

In order to incorporate the Local Governments in this way, related capacity building is required for the Provincial and Central Governments, such as development of guidelines and regulations and their procedural application.

Figure 5: Present Task Allocation

River	→	D J SD Air
Drainage	→	Kabupaten, Kota
Sedimentation Control	→	Unidentified
Retention Basin	→	Kabupaten, Kota
Recharge Area Conservation	→	Unidentified
Erosion Control	→	Unidentified
Evacuation / Emergence Control	→	BAKORNAS PBP SAKORLAK

Figure 6: Flood Facility Operation System



4. Key Findings of the Study

Damages accompanied the 2002 flood were due to natural and man-made disaster. Key issues found in the Study of 2002 floods are summarized below:

a) Essential projects for flood control, such as the Ciliwung-Cisadane Project and the East Banjir Canal Project, have been delayed due to the slow-pace of land acquisition and incomplete public consensus.

b) Management tasks for the total storm water drain system including rivers and drainages and for the Integrated Sabo (erosion and sediment control) are not clearly allocated between the Central and Local Governments.

c) River administrators do not set a clear boundary of the river area.

d) Tasks of the river administrators are not sufficiently covered for necessary day-to-day works such as operation and maintenance of river facilities, regular river patrols, regulating of permitted structures, etc.

e) The Local Governments are apt to be passive for management of the storm water drain, depending upon the upper government for initiative,

f) Coordination between the Central, Provincial, and Local Governments is not enough for purposes of flood control, storm water drain, integrated Sabo.

g) The Local Governments, who are responsible for the local drainage systems and their administration, have not formulated the Integrated Sabo Plan and the Drainage Plan.

h) Most citizens are not aware of their contributions for disaster prevention/mitigation including flood, inundation and sediment-related disaster.

5. Recommendations

A Further Development of Flood Infrastructure

The Government of Indonesia should complete the delayed projects such as the Ciliwung Cisadane Project and the East Banjir Canal Project as soon as possible. Meanwhile other flood related projects should also be implemented immediately when the project conditions are matured.

B Improvement of Day-to-Day River Management System under the Central and Provincial Governments and Capacity Building for the Government Officials Concerned

The Central and Provincial Government administer a Day-to-Day River management. In order to improve the river management, both governments should set the bounding of the river area, and formulate a day-to-day management structure and administrative procedures for:

- Day–to–day patrol
- Conserving necessary river section
- Operation and maintenance of river and relating facilities and
- Providing permission for permitted structures with proper instruction and guidance for designing, construction, and operation and maintenance.

C Necessities of the Integrated Sabo Plan, Drainage Plan and Capacity Building of the Local Governments (Kabupaten, Kota)

The Regency and Municipality (Kabupaten, Kota) administer the storm water drain system and the integrated Sabo works in areas other than the river area.

Taking into account the smooth operation of the storm water drain system and the integrated Sabo works, the Local Government staff's capacities need to be developed for the requirement of these plans. The most effective way for their capacity building is for the staff to be actively involved during the formulation of the Integrated Sabo Plan and Drainage Plan.

D Coordination between the River Management and Other Storm Water Drain Management

In principal, the upstream administrations discharging storm water shall inform and discuss with downstream administrations receiving the storm water regarding the water levels. This typical example is the relationship between upstream area and downstream area of the river, and between

drainage and river. When the Integrated Sabo Plan and Drainage Plan are formulated, the upstream administrations concerned should coordinate with downstream administrations regarding water levels.

E Necessity of Public Consultation to increase Public Awareness for Community-based Disaster Prevention and Mitigation

The Central, Provincial, and Local Governments contribute structural measures for flood control and mitigation by themselves. Even though nonstructural measures such as monitoring and warning network, reciprocal help of evacuation, and volunteer ditch clearing shall be jointly operated by the Central, Provincial, and Local Governments and communities. In order to attain the nonstructural measures for flood control and mitigation, public consultation is indispensable with regards to asking citizens to be aware of the necessity for community-based contributions. The Governments, including Kecamatan and Kelurahan, shall carry out the public consultation regularly.

6. Proposal of Model Project

In order to improve the flood administration in the JABODETABEK area, a model project titled the 'Institutional Revitalization Project for Management of River, Erosion and Inner-Water Control in the JABODETABEK Watershed' is proposed. The major objective of the proposed project is capacity building of Central, Provincial, and Local Governments who are responsible for the management of flood prevention, drainage, and sediment and erosion control.

From a project efficiency point of view, it is recommended that the proposed project be carried out as the Technical Cooperation Project. The Project Design Matrix of the proposed project is shown in the Attachment 1.

Terms of Reference

for

The Institutional Revitalization Project

for

Management of Flood, Drainage and Integrated Sabo In Jabodetabek Area

Terms of Reference
for
The Institutional Revitalization Project
for
Management of Flood, Drainage and Integrated Sabo in Jabodetabek Area

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1. Project Area
2. Work Plan and Staffing Schedule
3. Reporting Schedule
4. Cost Estimates

1. Background

During the 2002 flood, in the months of January and February, total inundation in JABODETABEK was 526 Km2: 8.6% of the total area. An estimated 2.5 million people suffered as a result of the flooding. Among the inundated areas, heavy flooding, which is flooding with a depth of 0.5 m over more than 7 days, was experienced by 6% of the JABODETABEK area, or 369 Km2.

According to the "Urgent Inventory Study on Damage of Flood 2002 in Jabodetabek Area, JICA 2003", the damages suffered during the 2002 flood were due to insufficient flood infrastructure and a weak administrative framework for flood management. In order to reduce flood damages in JABODETABEK, it is proposed to strengthen the Institutional Revitalization Project for Management of Flood, Drainage and Integrated Sabo.

2. Project Justification

Key issues found in the 2002 JABODETABEK flood are as follows

a. Management tasks for the total storm water drain system, including rivers and drainages, and for the integrated Sabo are not clearly allocated between the Central, Provincial, and Local Governments.

b. As the regulations do not define requirements of the river administration, the present river administration is weak. River administrators do not set a clear boundary of the river area. Tasks of the river administrators are insufficiently covered for necessary day-to-day works such as operation and maintenance of river facilities, regular river patrol, processing of permitted structures, etc.

c. The Local Governments are passive for storm water drain management, depending upon upper government for initiative. Coordination between the Central, Provincial, and Local Governments is not enough for the purposes of flood control, storm water drain, and integrated Sabo works. In addition, the Local Governments, who are responsible for the local drainage systems and their administration, are not included in the Integrated Sabo Plan and the Drainage Plan.

d. Most citizens are not aware of their contributions for disaster prevention/mitigation including flood inundation and sediment-related disasters.

Summarizing the above a to d, improvement of the river administration regulations and capacity building of the flood administrators are highlighted. Taking into account current acceleration of decentralization, strengthening of the Central, Provincial, Local Government is demanded urgently for improvement of the flood damage in JABODETABEK.

3. Project Objectives

a. River administration regulations and guidelines are established and operated by the Central Government, Provincial, and Local Governments.

b. The Local Governments (Kota, Kabupaten, Kecamatan and Kelurahan) formulate and operate the Drainage Plan and the Integrated Sabo Plan for their storm water management.

c. The Local Government to improve the public awareness for the Community-based prevention and mitigation of storm water related and sediment related disasters.

4. Project Area

JABODETABEK area composed of DKI Jakarta, Kabpaten Bogor, Kota Bogor, Kota Depok, Kabupaten Tangerang, Kota Tangerang, Kabupaten Bakasi and Kota Bekasi. (Refer to Attachment 2).

5. Scope of Works

Scope 1) Review of the Existing Storm Water Management including institutions and regulations relating to;

- Definition of the river area and its ownership and operation right
- Definition of the storm water drain system, except for river and its ownership and operation right
- Operation and maintenance of rivers and river facilities
- Operation and maintenance of drainage and relating facilities
- Conservation, control and inspection relating to integrated Sabo works including erosion and sediment control
- Permitted structure located inside the river area
- Flood evacuation and recovery

Scope 2) Field survey to be covered to

- Community awareness of their obligation to flood control and mitigation
- Government officers' awareness of their obligation to flood control and mitigation
- Physical status and operation conditions of river facilities and drainage facilities
- Slope failure, Debris flow, Erosion and Sedimentation
- Situation of garbage dumping and management
- Physical status of administration of forest conservation

Scope 3) Formulation of the Institutional Revitalization Master Plan including;

- Task allocation plan for the storm water drain management between the Central and Provincial Government and the Local Governments including Regencies, Municipalities, Districts, Words, Villages (Kabpaten, Kota, Kecamatan, Kelurahan)
- Standard River Management Work Procedure
- Institutional Improvement Plan of Storm Water Drain System for the Local Government
- Legislative Improvement Plan of Storm Water Drain System for the Local Government
- Staff Capacity Building Plan of Storm Water Drain System for the Local Government
- Community Participation Plan of Storm Water Drain System
- Drainage Master Plan for the Local Government
- Integrated Sabo Master Plan for the Local Governments
- Project Long List and Selection of Priority Actions
- Master Plan Implementation Action Plan

Scope 4) Workshop for the Institutional Revitalization Master Plan with the Central Government, Provincial Government, Regencies, Municipalities and Communities

Scope 5) Assistance to the Local Government for authorization of the Institutional Revitalization Master Plan with the Central, Provincial, and Local Governments concerned

Scope 6) Assistance to the Local Governments for formulation of the Drainage Plan

Scope 7) Assistance to the Local Governments for formulation of the Integrated Sabo Plan

Scope 8) On-the-Job training for the Central, Provincial, and Local Governments to operate the Standard River Management Work Procedure

Scope 9) On-the-Job training for the Local Governments to operate the Drainage Plan

Scope 10) On-the-Job training for the Local Governments to operate the Integrated Sabo Plan

Scope 11) Dissemination of the Drainage and Integrated Sabo Plan of the Local Governments and the Community Participation Plan of Storm Water Drain System

6. Input

6.1 Input from the Government of Indonesia

- Establishment of a steering committee
- Establishment of a technical committee
- Establishment of a counterpart team
- Provision of access rights to information related
- Provision of topographic maps, hydraulic data and hydrologic records
- Provision of office space, training room, clerical services including secretary, drivers and official cars and so on.

6.2 Input from the Government of Japan

- Dispatching of experts for the long term including team leader, coordinator, river engineer and drainage engineer
- Dispatching of experts for the short term including administrational experts, hydro-geologists, sociologists, river experts, sabo experts and drainage experts
- Equipment for the long term and short term experts
- Material and equipment required for the project

7. Major Outputs

a. Institutional Revitalization Plan covering

- Task allocation plan for the storm water drain management between the Central, Provincial, and Local Governments
- Standard River Management Work Procedure
- Institutional Improvement Plan of Storm Water Drain System for the Local Government
- Legislative Improvement Plan of Storm Water Drain System for the Local Government

- Staff Capacity Building Plan of Storm Water Drain System for the Local Government
- Community Participation Plan of Storm Water Drain System
- Drainage Master Plan for the Local Government
- Integrated Sabo Master Plan for the Local Governments
- Project Long List and Selection of Priority Actions
- Master Plan Implementation Action Plan

b. Workshop for the Institutional Revitalization Master Plan with the Central Government, Provincial Government, Regencies, Municipalities and Communities

c. Dissemination of the Drainage and Integrated Sabo Plan of the Local Governments and the Community Participation Plan of Storm Water Drain System

8. Organization

8.1 Project Team

All Regencies and Municipalities appoint full time counterparts for following teams;

- Institution and Legislation Team
- Drainage Team
- Integrated Sabo Team
- Capacity Building Team
- Public Consultation Team

The Central Government and Provinces appoint a full time counterparts and secretarial staff for following teams;

- Secretarial Team
- River Management Team
- Institution and Legislation Team
- Capacity Building Team

8.2 Steering Committee

Ministry of Settlements and Regional Infrastructure (MSRI), Provinces, Regencies and Municipalities organize the Steering Committee for the horizontal coordination between the Local Governments, the vertical coordination between the Central, Provincial, and Local Governments and the decision making board.

8.3 Technical Committee

Directorate of MSRI, Regional Planning Agencies (BAPPEDA, BAPPEKO), Sector office (Dinas) organize the Technical Committee for supervision and coordination of the project.

8.4 Japanese Experts

Japan International Cooperation Agency appoints the assistant team mentioned in 6.2.

9. Work Plan and Staffing Schedule

Refer to Attachment 3

10. Reporting Schedule

Refer to Attachment 4

11. Cost Estimates

Refer to Attachment 5

12. Government's Undertakings

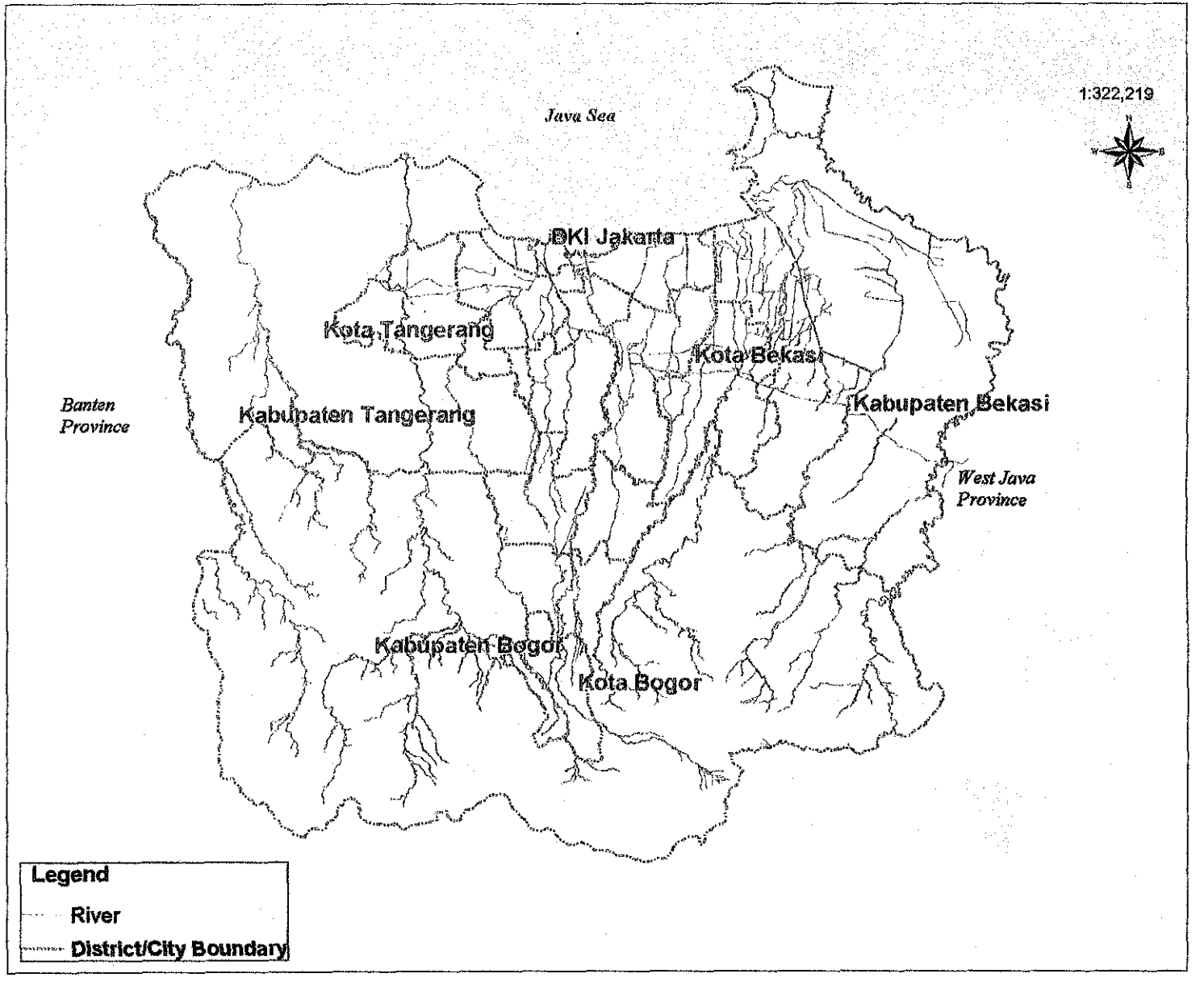
In order to facilitate the smooth and efficient conduct of the Project, the Government of Indonesia shall take the following necessary measures:

1. To secure the safety of the Project Team,
2. To permit the members of the Project Team to enter, leave and travel in the Republic of Indonesia in connection with their assignment therein, and exempt them from foreign registration requirements and consular fee,
3. To exempt the Project Team deom taxes, duties and any other charges on equipment, machinery or other materials brought into and out of the Republic of Indonesia for the conduct of the Project,
4. To exempt the Project Team from income tax and charges of any kind imposed on or in connection with the implementation of the Project,
5. To provide necessary facilities for the Project Team for remittance as well as utilization of the funds introduced into the Republic of Indonesia from Japan in connection with the implementation of the Project,
6. To secure permission for entry into private properties or restricted areas for the conduct of the Project, and
7. To provide medical services as needed expenses of those medical services will be chargeable to the members of the Project Team.

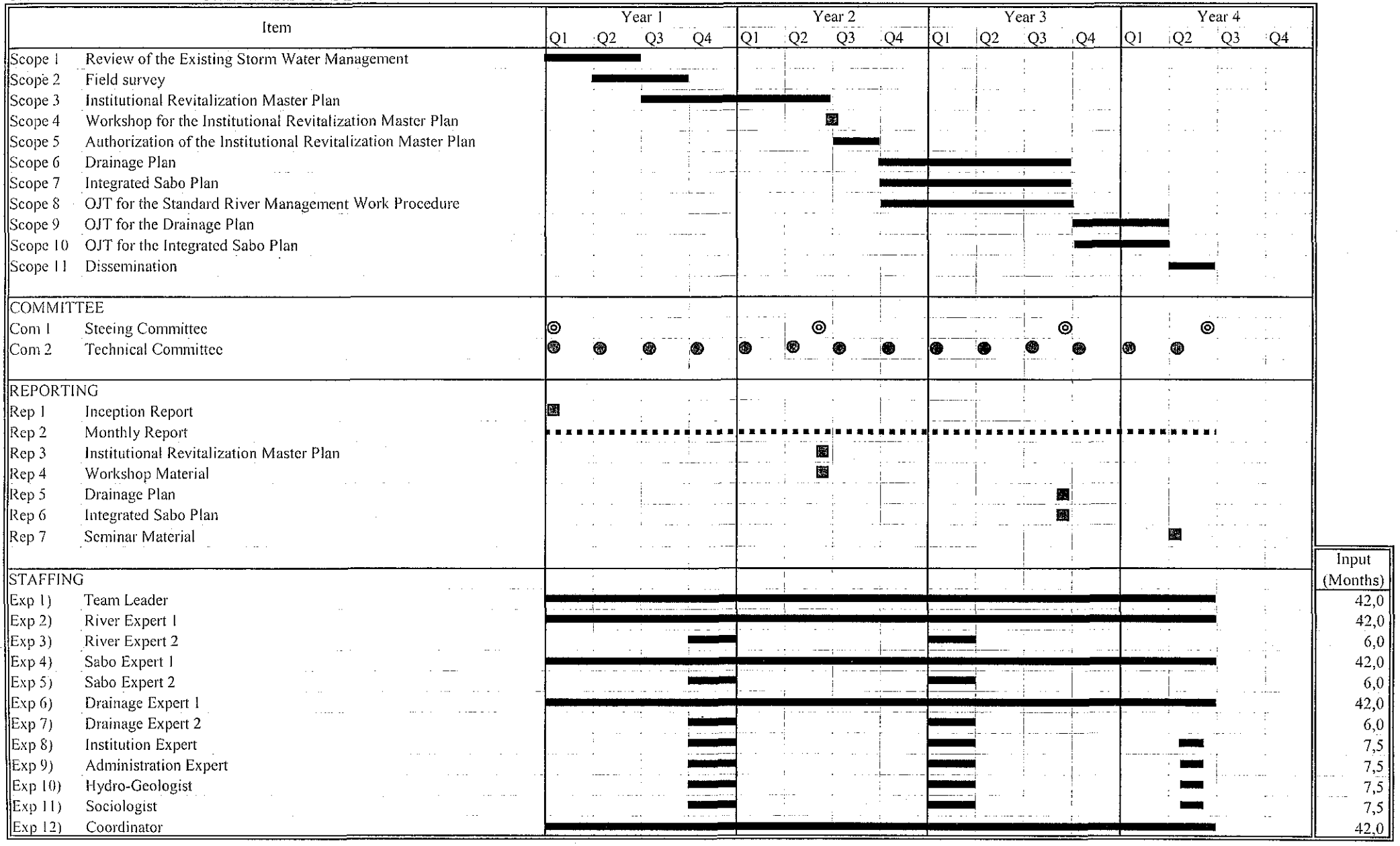
Attachment 1: Project Design Matrix (PDM) for Institutional Revitalization Project for Management of Flood, Drainage and Integrated Sabo in Jabodetabek Area

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
Overall Goal: Improvement of Flood Management in Jabodetabek Area	A After 5 years from starting the project, annual flood damage in overall Jabodetabek will be reduced more than 20% comparing with 2002. B More than 20% of population in Jabodetabek appreciates the government's effort of storm water disaster prevention.	MSRI to monitor	
Project Purpose: 1. Improvement of Operation and Maintenance of River and related facilities 2. Improvement of accountability of the Central, Provincial, and Local Governments for storm water works and integrated Sabo works	A After 5 years from starting the project, annual flood damage in the heavily flooded area of 2002 flood will be reduced more than 50% comparing with 2002. B More than 50% of population in the flooded areas in 2002 appreciates the government's effort of storm water disaster prevention.	Central, Provincial, and Local Governments to monitor	– Coordination between Central, Provincial, and Local Governments
Outputs: 1. River administration regulations and guidelines are established and operated by the Central Government and Provincial Governments. 2. The Local Governments formulate and operate the Drainage Plan and the Integrated Sabo Plan for their storm water management, referring to the Central Government's guidelines. 3. The Central, Provincial, and Local Governments to improve the public awareness for the Community-based prevention of flood damages.	A Standard river management procedure is issued. B River area is legally defined. C Drainage Plan is equipped in each Regency and Municipality D Integrated Sabo Plan is equipped in each Regency and Municipality E Public consultation is regularly held in each Regency and Municipality.	(Common in A to F) – Project Progress Report – Project Monitoring Report – Spot check by the experts	– Over 80% of trained staff of the Central, Provincial, and Local Government works continuously. – Coordination of the Central, Provincial, and Local Governments for formulation of Drainage and Integrated Sabo Plan – No public protest is occurred.
Activities: 1. Review of the Existing Storm Water Management 2. Field survey 3. Formulation of the Institutional Revitalization Master Plan of Flood, Drainage and Integrated Sabo 4. Assistance to the Local Governments for formulation of the Drainage Plan and Integrated Sabo Plan. 5. On-the-Job training for the Central, Provincial, and Local Governments to operate the Standard River Management Work Procedure, the Drainage Plan and Integrated Sabo Plan. 6. Preparation of manuals and training for related capacity building.	[Indonesia side] • Steering committee, Technical committee and Counterpart team [Japan side] • Long term experts including Team leader, River engineer, Sabo engineer and Drainage engineer • Short term expert including Institutional expert, Administrational expert, Hydro-geologist, Sociologist, River expert, Sabo expert and Drainage expert • Materials and equipment to be required for the project • Project Costs 1 Remuneration (258 m-m) = ¥ 237,000,000 2 Overhead = ¥ 284,400,000 3 Direct Costs = ¥ 145,105,000 ***Total*** = **¥ 666,505,000**		Counterpart arrangement in line with the autonomous system **Preconditions:** The both Central and Local Governments agree to implement the project.

ATTACHMENT 2: PROJECT AREA



ATTACHMENT 3: WORK PLAN & STAFFING SCHEDULE



ATTACHMENT 4: REPORTING SCHEDULE

Title	Content	Period	Distribution
Inception Report	Approach & Methodology Work Schedule Staffing Schedule Counterpart Team Necessary Data Necessary Permissions Office Establishement	One month after commencement of the Study	Steering Committee Technical Committee Counterpart Team JICA
Monthly Progress Report	Job Progress in Previous Month Job Schedule in Next Month Staffing Subjects for Progress Correspondent List Financial Status	Every month	Technical Committee Counterpart Team JICA
Institutional Revitalization Plan	Task allocation plan for the storm water drain management between the Governments Standard River Management Work Procedure Institutional Improvement Plan of Storm Water Drain System for the Local Government Legislative Improvement Plan of Storm Water Drain System for the Local Government Staff Capacity Building Plan of Storm Water Drain System for the Local Government Community Participation Plan of Storm Water Drain System Drainage Master Plan for the Local Government Integrated Sabo Master Plan for the Local Governments Project Long List and Selection of Priority Actions Master Plan Implementation Action Plan	Eighteen months after commencement of the Study	Steering Committee Technical Committee Counterpart Team JICA Communities
Workshop Material	Standard River Management Work Procedure Institutional Improvement Plan Legislative Improvement Plan Staff Capacity Building Plan Community Participation Plan Drainage Master Plan Integrated Sabo Master Plan	Eighteen months after commencement of the Study	Steering Committee Technical Committee Counterpart Team JICA Communities
Drainage Plan & Integrated Sabo Plan		Thirty three months after commencement of the Study	Steering Committee Technical Committee Counterpart Team JICA Communities
Seminar Material	Drainage Plan Integrated Sabo Plan	Fourty months after commencement of the Study	Steering Committee Technical Committee Counterpart Team JICA Communities

ATTACHMENT 5: COST ESTIMATES
(SUMMARY)

1	Remuneration (258 m-m)	=	¥	237.000.000
2	Overhead	=	¥	284.400.000
3	Mobilization Costs	=	¥	119.385.000
4	Other Specified Costs	=	¥	25.720.000
	Total	=	**¥**	**666.505.000**

COST ESTIMATES
(BREAKDOWN)

1 Remuneration

E-1	Team Leader	:	42 months	x	¥	1.200.000	=	¥	50.400.000
E-2	River Expert 1	:	42 months	x	¥	900.000	=	¥	37.800.000
E-3	River Expert 2	:	6 months	x	¥	1.000.000	=	¥	6.000.000
E-4	Sabo Expert 1	:	42 months	x	¥	900.000	=	¥	37.800.000
E-5	Sabo Expert 2	:	6 months	x	¥	1.000.000	=	¥	6.000.000
E-6	Drainage Expert 1	:	42 months	x	¥	900.000	=	¥	37.800.000
E-7	Drainage Expert 2	:	6 months	x	¥	1.000.000	=	¥	6.000.000
E-8	Institutional Expert	:	7,5 months	x	¥	1.000.000	=	¥	7.500.000
E-9	Administration Expert	:	7,5 months	x	¥	1.000.000	=	¥	7.500.000
E-10	Hydro-Geologist	:	7,5 months	x	¥	1.000.000	=	¥	7.500.000
E-11	Sociologist	:	7,5 months	x	¥	1.000.000	=	¥	7.500.000
E-12	Coordinator	:	42 months	x	¥	600.000	=	¥	25.200.000
						Total of 1: (258 m-m)	=	**¥**	**237.000.000**

2 Overhead (120%)

¥	237.000.000	x	120%	=	¥	284.400.000
			Total of 2:	=	**¥**	**284.400.000**

3 Mobilization Costs

1) International Airfare (Tokyo - Jakarta RT)

(long-term Expert)	(5 + 10) x 4 RT	x	¥	300.000	=	¥	18.000.000
(short-term Expert)	18 x 1 RT	x	¥	300.000	=	¥	5.400.000
				Sub-total	=	¥	23.400.000

2) Overseas Allowance

(5 + 18) x 30 x ¥ 15,000 + (5 + 18) x 30 x ¥ 13,500 + (258 - 23 - 23) x 30 x ¥ 12,000 = ¥ 95.985.000

Total of 3: = **¥** **119.385.000**

4 Other Specified Costs

1) Workshop

- Material Preparation					=	¥	2.000.000
- Workshop	300	x	¥	4.000	=	¥	1.200.000
				Sub-total	=	¥	3.200.000

2) On-the Job-Training Costs

	3	x	¥	1.000.000	=	¥	3.000.000
				Sub-total	=	¥	3.000.000

3) Dissemination Costs	2	x	¥	500.000	=	¥	1.000.000
				Sub-total	=	¥	1.000.000
4) Small Studies/ Surveys Costs	4	x	¥	1.500.000	=	¥	6.000.000
				Sub-total	=	¥	6.000.000
5) Office Operation Costs							
- Office Equipment					=	¥	10.000.000
- Office Operation	42 months	x	¥	60.000	=	¥	2.520.000
				Sub-total	=	¥	12.520.000
				Total of 4:	=	**¥**	**25.720.000**
				GRAND TOTAL	=	**¥**	**666.505.000**