



CITARUM ROADMAP & INVESTMENT PROGRAM



About Citarum Roadmap

Citarum Roadmap is a set of strategies that define the path between the present situation with respect to water resources in the basin and the desired outcomes (or vision) for the future. The Roadmap planning is through consultations and participations with multi-stakeholders. The Citarum Roadmap takes a comprehensive, multi-sector and integrated approach to understanding and solving the complex problems of water and land resources in the river basin.

Strategic Framework and Key Area Program Components in the Citarum Roadmap & Investment Program



The Roadmap covers 80 activities to be carried out over the next 15 years at a cost of USD 3.5 billion, with funds coming from periodic disbursements from the Asian Development Bank (ADB,) the Indonesian State and Regional Budget (APBN & APBD), and other funding sources or donors.

These loans will be disbursed in stages in line with developments in order to ensure continuous funding for the following phases.



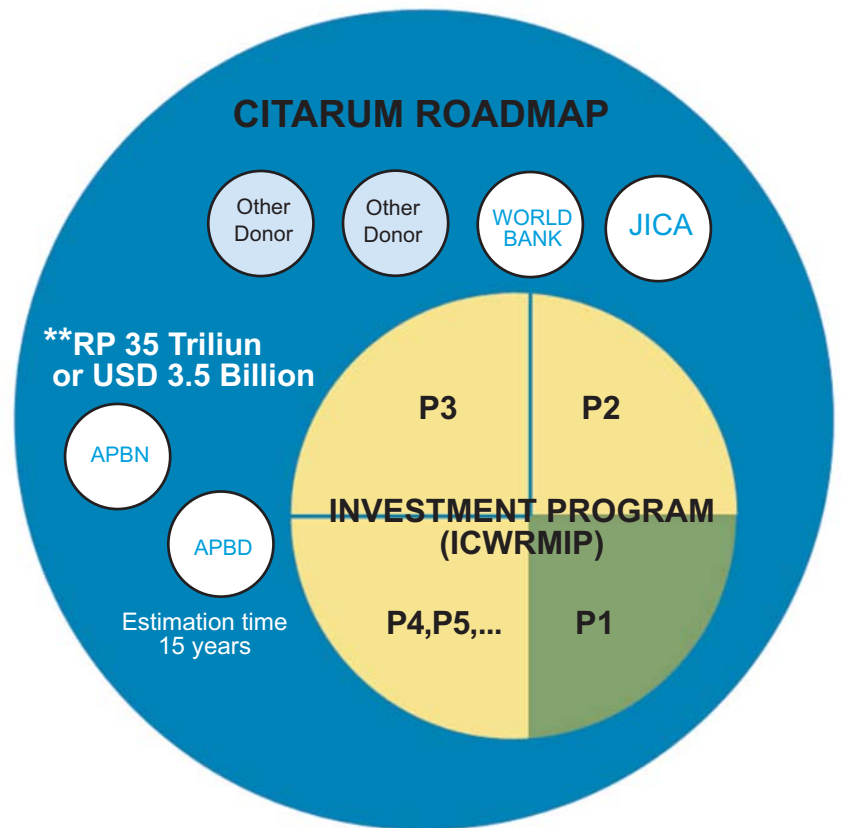
CITARUM ROADMAP & INVESTMENT PROGRAM

Development and planning of the Roadmap planning is coordinated by the National Development Planning Agency, Bappenas, together with central and provincial government, private sectors and civil society organizations.

****Funding requirements identified to fund Roadmap activities and interventions**

Funding contribution is still required

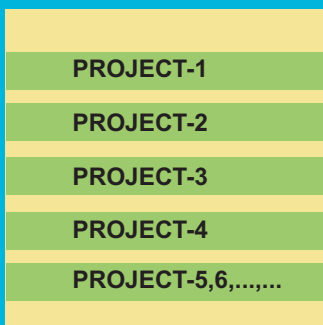
Other funding resources, such as other donor organizations, private sectors, the government budget (APBN & APBD) and community contributions.



CITARUM ROADMAP

80 ACTIVITIES

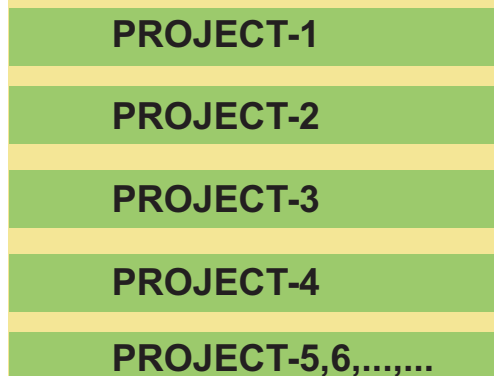
INVESTMENT PROGRAM (ICWRMIP)



**Estimation cost
Rp 35 Triliun
(US\$ 3.5 Billion)**

INVESTMENT PROGRAM (ICWRMIP)

35 ACTIVITIES



**Estimation cost
Rp 9.1 Triliun
(US\$ 921 Million)**

“Citarum Roadmap provides an opportunity for everyone to be involved, contribute and to make positive changes together for a better future Citarum”

PROJECT-1

9 ACTIVITIES

**Estimation cost
Rp 1.03 Triliun
(US\$ 103.4 Million)**

INVESTMENT PROGRAM

INTEGRATED CITARUM WATER RESOURCES MANAGEMENT INVESTMENT PROGRAM (ICWRMIP)



Over the past several years, Government agencies and the Asian Development Bank (ADB) and other stakeholders (academics, non-government organizations (NGOs), private sectors and communities) participated in a dialogue leading to preparation of the Citarum Roadmap and Integrated Citarum Water Resources Management Program (ICWRMP), a strategic plan of priority projects and activities to improve water resources management and restore the environment in the river basin, with vision:

“The government and community working together for clean, healthy, and productive catchments and rivers, bringing sustainable benefits to all people of the Citarum River Basin”

The Investment Program is a 15-year program (2009-2023), with implementation of the Project-1 will be more than five years from year budget 2009. Cost estimation for the Investment program is Rp 9.1 Triliun or \$103.4 million.

The proposed investment program is very comprehensive and will result in a range of outcomes for the people of the basin. These will include:

- (i) improved condition of water catchments in the upper basin;
- (ii) adequate quantity and good water quality in streams and reservoirs;

(iii) more reliable water supply and improved sanitation to urban centers (including the Jakarta conurbation that receives about 80% of its water from the Citarum River Basin via West Tarum Canal) and rural communities;

(iv) reduced damage and loss of life from flooding and other water-related disasters;

(v) improved agricultural outputs resulting from more effective delivery of water for irrigation and more efficient irrigation practices; and

(vi) more equitable and economically efficient allocation and sharing of limited water resources.

The desired impact of the Investment Program is that, by the year 2023, poverty, health and living standards in the Citarum River Basin will be significantly improved.

INVESTMENT PROGRAM

INTEGRATED CITARUM WATER RESOURCES MANAGEMENT INVESTMENT PROGRAM (ICWRMIP)

Program components are

- 1 Institutions and Planning for IWRM;
- 2 Water Resources Development and Management;
- 3 Water Sharing;
- 4 Environmental Protection;
- 5 Disaster Management;
- 6 Community Empowerment;
- 7 Data, information, and decision support system; and
- 8 Program Management



Indicative Investment Program Outputs

KEY AREAS	COMPONENT SUB-PROJECTS
1 Institutions and Planning for IWRM	1.1 Road map Management 1.2 Road map Institutional Strengthening (TA A1) 1.3 Institutional Strengthening for IWRM in the 6 Cis River Basin Territory (TA B1) 1.4 Spatial Planning for 6 Ci's River Basin Territory (TA B2)
2 Water Resources Development and Management	2.1 Rehabilitation of West Tarum Canal 2.2 Improved Land and Water Management 2.3 Support for Community and CSO Driven Initiatives for Improved Water Supply and Sanitation 2.4 Water Supply Options for Upgrading Bandung Water Sources 2.5 Feasibility Study for Upgrading Bandung Water Sources 2.6 Detailed Engineering Design for Upgrading Bandung Water Sources
3 Water Sharing	3.1 Development of Key Policies and Strategies for WRM in CRB (TA B3)

INVESTMENT PROGRAM

INTEGRATED CITARUM WATER RESOURCES MANAGEMENT INVESTMENT PROGRAM (ICWRMIP)

KEY AREAS	COMPONENT SUB-PROJECTS
4 Environmental Protection	4.1 Development and Implementation of a Basin River Quality Improvement Strategy and Action Plans 4.2 Watershed Management and Biodiversity Conservation
5 Disaster Management	5.1 Upper Citarum Basin Flood Management (TA C1) 5.2 Climate Change Adaptation and Mitigation (TA E1)
6 Community Empowerment	(addressed in parallel support Technical Assistance) Information, Education and Awareness Strategy for community empowerment in the river basin to improve participation in policy development, planning and management water resources
7 Data, information, and decision support system	7.1 Decision Support System for IWRM in for Citarum River Basin (TA D1)
8 Program Management	8.1 Program Management 8.2 Independent Monitoring and Evaluation

SPECIAL FEATURES

Multitranches Financial Facility/MFF

The Investment Program is funded through an MFF. The rationale for this derives from the broad agenda of the road map, which involves the provision over 15 years of water-related infrastructure and services across a number of IWRM key areas throughout the Citarum River Basin. The MFF will enable flexibility in investment decisions and timing based on the needs and constraints from downstream to upstream within a framework, instead of a precise definition of investments up front as required in a conventional modality.



INVESTMENT PROGRAM

INTEGRATED CITARUM WATER RESOURCES MANAGEMENT INVESTMENT PROGRAM (ICWRMIP)

SPECIAL FEATURES

Community-Driven Development and Participatory Approaches

The Investment Program supports community and non-government organization (NGO)-driven participatory approaches for many of the outputs. Communities will decide priority areas and the type of technology to be used on a number of subcomponents, with community participation in the development of water and sanitation systems, environmental improvements, and on-farm water management.



Corporate Social Responsibility/CSR

Many large and medium-sized companies in Indonesia practice corporate social responsibility. The Investment Program has significant potential to initiate and sustain cooperation with some big textile companies and other firms that rely on basin water and show interest in providing support to community initiatives to improve Citarum river water quality and community water and sanitation supply.

Environmental Improvement Compensation

A special feature of the Investment Program will be the development of compensation mechanisms for communities that actively contribute to protecting the land and water of the CRB, or paying for environmental services. An ADB-assisted pilot demonstration activity of paying for environmental services commenced in the CRB with the objectives of (i) introducing and increasing understanding of this mechanism in accordance with the water law, (ii) strengthening the commitment of users of land and water to support compensating farmers who contribute by taking care of the river basin, and (iii) preparing government institutions for facilitating the implementation and promotion of payments.

River Basin Performance Benchmarking

The National Steering Committee Water Resources (NSCWR) will develop in close coordination with the Network of Asian River Basin Organizations, IWRM river basin performance benchmarking systems for use by the river basin organizations and the Citarum River Basin Water Council.

Climate Change Adaptation

The Citarum River Basin (CRB) will be the first basin in Indonesia with a comprehensive strategy for adapting to climate change.



INVESTMENT PROGRAM

INTEGRATED CITARUM WATER RESOURCES MANAGEMENT INVESTMENT PROGRAM (ICWRMIP)

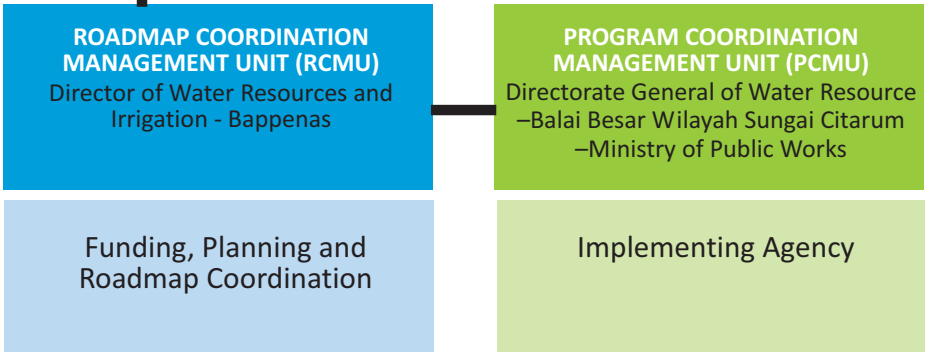
COORDINATION

The coordination of planning, management and implementation for this Citarum River program will be done on three levels:

1. The Roadmap will be coordinated by the Roadmap Coordination and Management Unit (RCMU) under coordination National Development Planning Agency Directorate of Water Resources and Irrigation- –BAPPENAS.
2. The Executing Agency for the Investment Program is the Directorate General Water Resources (DGWR), Ministry of Public Works (MPW) which has established a Project Coordination and Management Unit (PCMU) under the Balai Besar Wilayah Sungai Citarum (BBWSC).
3. Daily implementation and management will be carried out by Project Implementation Units (PIUs), which will be formed in every implementing institution under the coordination of the related departments.



NATIONAL STEERING COMMITTEE
Chairman : Deputy of Infrastructure Affairs - Bappenas



- Project Implementation Units (PIU): Dep PU, DepKes, DepHut, DepTan, KLH
- Provincial and districts government
- Civil Society Organizations (CSOs), Communities
- Private Sectors
- University /Academics / Media

INVESTMENT PROGRAM

INTEGRATED CITARUM WATER RESOURCES MANAGEMENT INVESTMENT PROGRAM (ICWRMIP)

ROLES OF RCMU & PCMU

The Roadmap Coordination and Management Unit (RCMU) established within the National Development Planning Agency (Badan Perencanaan Pembangunan Nasional-BAPPENAS) will ensure effective planning and financial management at national and local government levels.

The RCMU roles are, among others :

- i** Ensure effective coordination among component Roadmap projects,
- ii** Review prioritization of activities under the MFF and other funding,
- iii** Facilitate effective, regular consultations with stakeholders (government and non-government) on plans, decisions and activities that affect them, using both formal and non-formal channels of communication to enhance stakeholder participation.
- iv** Liaise with bilateral and multilateral donors, and the private sector,
- v** Monitor and evaluate the Roadmap implementation performance. RCMU and PCMU will working closely with National Steering Committee Water Resources/NSCWR.



The Directorate General of Water Resources (DGWR) within the Ministry of Public Works (MPW) will be the Executing Agency (EA) for Project 1. DGWR has established a Project Coordination and Management Unit (PCMU) within the Balai Besar Wilayah Sungai Citarum (the Citarum river basin organization)





The PCMU roles are, among others:

- i** Ensure that Annual Work Plans are submitted by the PIUs in a timely manner and in a standard format,
- ii** Review and consolidate, for all PIUs, the Annual Work Plans (AWPs) and corresponding budget estimates will be submitted to the NSCWR for review, approval and forwarding to ADB,
- iii** Prepare and submit progress reports on Investment Program and Project Implementation to ADB and NSCWR,
- iv** Compile the results of project monitoring and evaluation, and convey the consolidated results to the implementing agencies and the ADB,
- v** Liaise and coordinate with other donor agencies on complementary activities,
- vi** Organize coordination meetings and workshops, with implementing agencies at the national, provincial, and district levels as appropriate, and
- vii** Arrange for representatives of the implementing agencies to assist the ADB's review missions, review and consolidate SOEs for expenditures incurred by all PIUs and submit to MoF. Routine communications from ADB on Project 1 implementation will be addressed to the PCMU/RCMU and the EA. On roadmap implementation, ADB, the RCMU and the EA shall coordinate closely.

INVESTMENT PROGRAM

INTEGRATED CITARUM WATER RESOURCES MANAGEMENT INVESTMENT PROGRAM (ICWRMIP)

Executing and Implementing Agencies

	State Ministry of National Development Planning - BAPPENAS
Implementing Agencies/ Project Implementation Unit (PIU) Deputy of Infrastructure Affairs RCMU/PIU: Water Resources and Irrigation Directorate Address: Jl.Taman Suropati No. 2, Jakarta 10310, Indonesia. Telephone: +62 (021) 336207, 390 5650	Component Sub-Projects 1.1 Roadmap Management <i>Pengelolaan Roadmap</i> 1.2 Roadmap Institutional Strengthening <i>Perkuatan Kelembagaan Roadmap</i> 8.2 Independent Monitoring and Evaluation <i>Monitoring dan evaluasi independen</i>
	
	Ministry of Public Works
Implementing Agencies/ Project Implementation Unit (PIU) Directorate General of Water Resource  PCMU/PIU: Balai Besar Wilayah Sungai Citarum Address: Balai Besar Wilayah Sungai Citarum, Jl. Inspeksi Cidurian STA 5600- Bandung, Jawa Barat, Indonesia Telephone: +62 (022) 756 4073-4, 7513563 Fax: +62 (022) 750 5760	Component Sub-Projects 8.1 Program Management <i>Pengelolaan Program</i> 2.1 Rehabilitation of West Tarum Canal <i>Rehabilitasi Jaringan Utama Tarum Barat</i> 2.4 Water supply option for upgrading Bandung water sources <i>Opsi Penyediaan Air Minum Untuk Peningkatan Sumber Air Baku Bandung</i> 2.5 Feasibility study for upgrading Bandung water sources <i>Feasibility Study untuk peningkatan sumber air baku Bandung</i> 2.6 Detailed Engineering Design for Upgrading Bandung water Sources <i>Perencanaan Teknis Detail untuk Peningkatan Sumber Air Baku Bandung</i> 3.1 Development of Key Policies and Strategies for WRM in CRB (TA B3) <i>Pengembangan Kebijakan Pokok dan Strategi untuk Pengelolaan SDA di WS Citarum (TA B3)</i>

INVESTMENT PROGRAM

INTEGRATED CITARUM WATER RESOURCES MANAGEMENT INVESTMENT PROGRAM (ICWRMIP)



Ministry of Public Works

Implementing Agencies/ Project Implementation Unit (PIU)

Directorate General of Water Resource

PIU: Directorate General of Water Resource

Address: Jl. Pattimura No. 20 Kebayoran Baru, Jakarta Selatan 12110, Indonesia

Telephone: +62 (021) 739 7936

Fax: +62 (021) 722 1907



Component Sub-Projects

1.3 Institutional strengthening for Integrated Water Resources Management in 6 Cis River Basin Territory *Perkuatan Kelembagaan Pengelolaan SDA Terpadu di Wilayah Sungai 6 Ci*

7.1 Decision Support System for IWRM in the Citarum River basin (TA D1)
Sistim untuk dukungan pengambilan keputusan untuk pengelolaan sumber daya air terpadu di wilayah sungai Citarum (TA D1)



Ministry of Public Works

Implementing Agencies/ Project Implementation Unit (PIU)

Directorate General of Spatial Planning

PIU: Directorate of Spatial Planning Region II

Address: Jl. Pattimura No. 20 Kebayoran Baru, Jakarta Selatan 12110, Indonesia

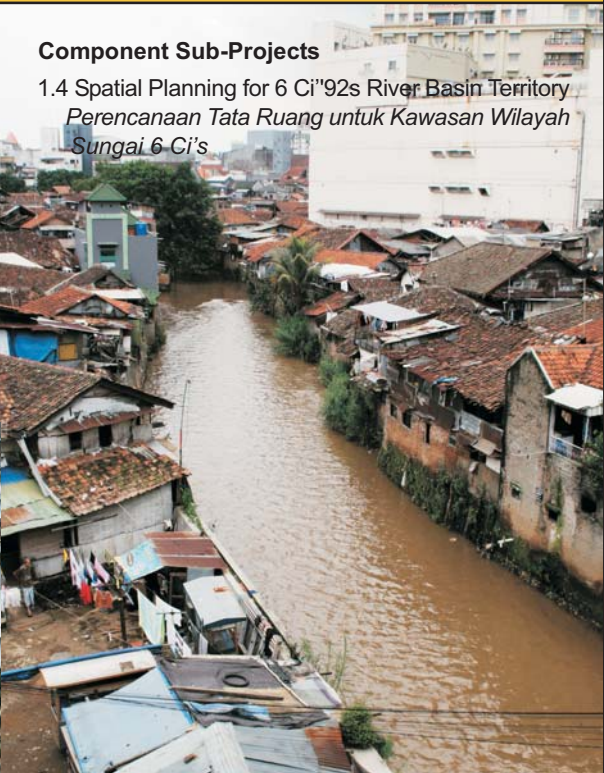
Telephone: +62 (021) 725 7277

Fax: +62 (021) 725 7277



Component Sub-Projects

1.4 Spatial Planning for 6 Ci'92s River Basin Territory
Perencanaan Tata Ruang untuk Kawasan Wilayah Sungai 6 Ci's



INVESTMENT PROGRAM

INTEGRATED CITARUM WATER RESOURCES MANAGEMENT INVESTMENT PROGRAM (ICWRMIP)



Ministry of Public Works

Implementing Agencies/ Project Implementation Unit (PIU)

Research and Development Agency

PIU: Research Center for Water Resources

Address: Jl. Ir. H. Juanda 193 Bandung
40135, Indonesia

Telephone: +62 (022) 2501083

Fax: +62 (022) 2500163

Component Sub-Projects

5.1 Upper Citarum Basin Flood Management
Pengelolaan Banjir di Citarum Hulu



Ministry of Agriculture

Implementing Agencies/ Project Implementation Unit (PIU)

Directorate General of Land and Water
Management

PIU: Directorate of Land Management

Address: Jl. Harsono RM No. 3
Ragunan Jaksel Gedung D,
Lantai IX, Jakarta 12550, Indonesia

Telephone: +62 (021) 789 0043

Fax: +62 (021) 789 0043

Component Sub-Projects

2.2 Improved Land and Water Management
Peningkatan Pengelolaan Lahan dan Air



INVESTMENT PROGRAM

INTEGRATED CITARUM WATER RESOURCES MANAGEMENT INVESTMENT PROGRAM (ICWRMIP)



Ministry of Health

Implementing Agencies/ Project Implementation Unit (PIU)

Directorate General of Disease Control
and Environment Health

PIU: Directorate of Environmental Health

Address: Jl. Percetakan Negara
No. 29,
Kotak Pos 223, Jakarta 10560,
Indonesia.

Telephone: +62 (021) 424 5778

Fax: +62 (021) 424 5778

Sub-Proyek Komponen

2.3 Support for Community and CSO
Driven Initiatives for Improved Water Supply and
Sanitation

*Dukungan Prakarsa Masyarakat dan
LSM untuk Perbaikan Penyediaan Air
Minum dan Sanitasi*



State Ministry of Environment

Implementing Agency/ Project Implementation Unit (PIU)

Deputy for Nature Conservation Enhancement
and Environmental Degradation Control

PIU: Deputy Assistant of Lake and River Damage
Control

Address: Jl. D.I. Panjaitan Kav-24, Gedung B Lt. 4,
Kebon Nanas - Jakarta 13410, Indonesia

Telephone: +62 (021) 851 7163

Fax: +62 (021) 8590 5770

Component Sub-Projects

4.1 Development and Implementation of a Basin
River Quality Improvement Strategy and Action Plans
*Pengembangan dan Pelaksanaan Awal Strategi
Peningkatan Kualitas Sungai dalam Wilayah Sungai
dan Rencana Kegiatan*

5.2 Climate Change Adaptation and Mitigation
(TA E1) *Adaptasi dan Mitigasi Terhadap Perubahan
Cuaca (TA E1)*



INVESTMENT PROGRAM

INTEGRATED CITARUM WATER RESOURCES MANAGEMENT INVESTMENT PROGRAM (ICWRMIP)



Ministry of Forestry

Implementing Agencies / Project Implementation Unit (PIU)

Directorate General of Forest Protection
and Nature Conservation.

PIU: Directorate of Area Conservation

Gedung Manggala Wanabakti, Jl. Gatot Subroto,
Senayan, Jakarta 10270, Indonesia

Telephone: +62 (021) 572 0229

Fax: +62 (021) 572 0229

Component Sub-Projects

4.2 Watershed Management and Biodiversity
Conservation

*Konservasi Keanekaragaman Hayati dan
Pengelolaan Daerah Penyangga Air*



Implementation Phases

Establishment of the PCMU, RCMU and PIUs has taken place and advance procurement and preparatory activities (including safeguard compliance related activities, and initial biodiversity and land degradation field preparation) is well advanced.

Implementation will commence with (i) full operational effectiveness of PIUs, RCMU and PMCU; (ii) engagement of consultants; (iii) detailed engineering design WTC; (iv) institutional assessments and diagnostics; (v) CSO stakeholder analysis and media campaigns, (vi) identification of target villages for ICWRMIP, (vii) assistance in establishing and strengthening the 6 Cis Water Council, (viii) capacity building, and (ix) data gathering, establishment of information systems and setting up project support management systems and procedures.



INVESTMENT PROGRAM

INTEGRATED CITARUM WATER RESOURCES MANAGEMENT INVESTMENT PROGRAM (ICWRMIP)

PROJECT - 1

At this stage, the Government of Indonesia is preparing the implementation of Investment Program Phase 1 or also known as Project – 1. Project – 1 is the first phase of Integrated Citarum Water Resources Management Investment Program (ICWRMIP).

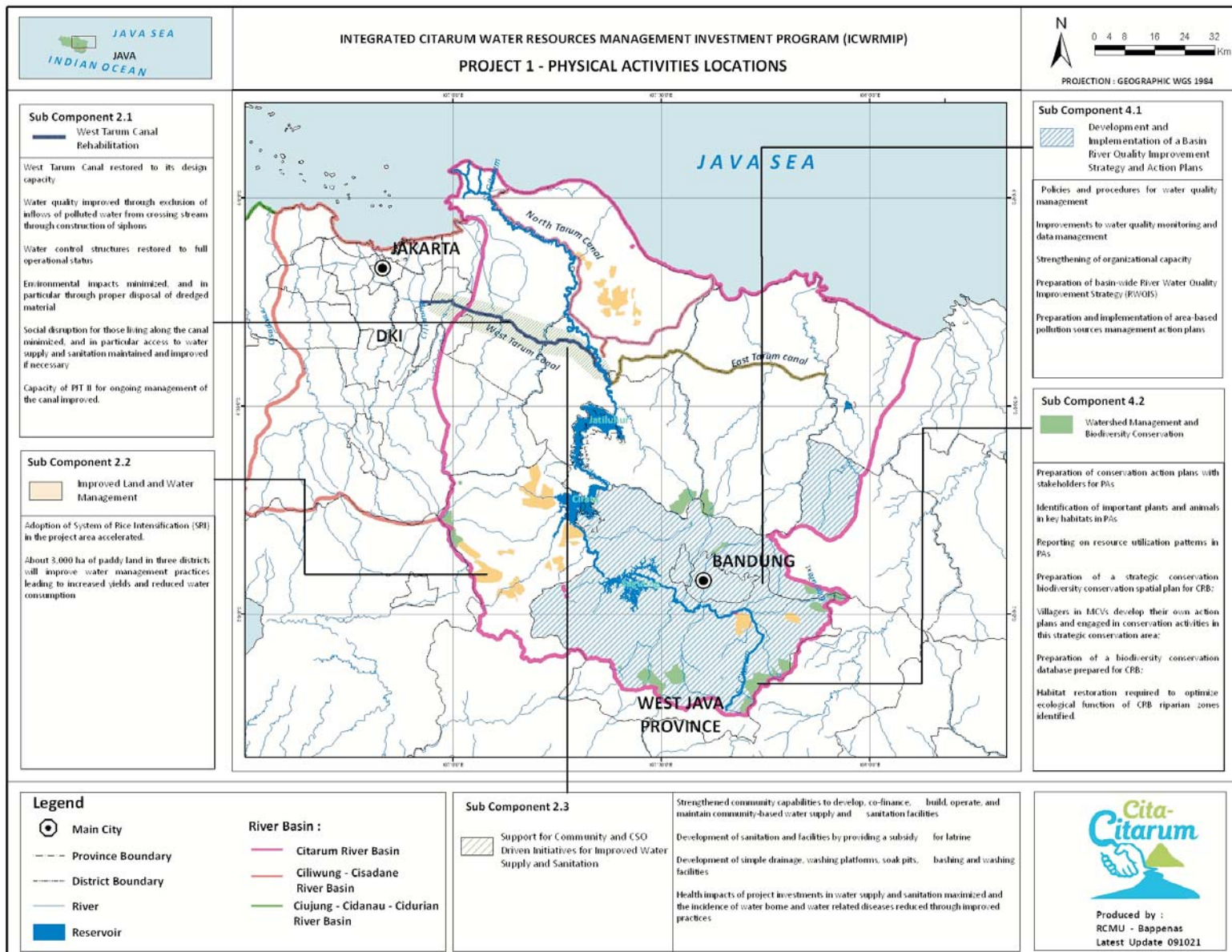
The program is financed by loan and grant from the Asian Development Bank (ADB).

The component projects selected for inclusion in the Investment Program all come from the road map

PROJECT-1

- 1 Rehabilitation of West Tarum Canal
- 2 Improved Land and Water Management (SRI)
- 3 Community water and sanitation
- 4 Water quality improvement action plan
- 5 Protection of the environment and biodiversity in the upper watershed
- 6 Spatial planning
- 7 Upper basin flood management measures
- 8 Design for upgrading Bandung water supply
- 9 Climate change adaptation strategy

Estimation Required Cost
Rp 1.03 Triliun



INVESTMENT PROGRAM

INTEGRATED CITARUM WATER RESOURCES MANAGEMENT INVESTMENT PROGRAM (ICWRMIP)

EXPECTED OUTPUT PROJECT - 1

1 Institutions and Planning for IWRM

Component	Expected Output
1.1 Roadmap Management	<ul style="list-style-type: none">Coordination among component projects (planning, policy coordination, integrated AWP approval, mid term development plans) Studies, dialogue and preparation for future tranches Implementation Support the RCMU and its secretariat operation to National Water Resources Steering Committee.Funding allocations management.Identification of the need for and coordination of implementation of minor studies to improve knowledge of water issues in CRB (3 to 6 studies).Monitoring and reporting of Road map implementation performanceAssist with capacity building for Road map management.Coordination and synergetic planning between National and Regional Governments, CSOs, communities and private sector on IWRM initiatives.Road map Data and Information System development and management.Identification and development of private sector investment opportunitiesRoad map Media communication plan, information dissemination and implementation.
1.2 Roadmap Institutional Strengthening (ADB-TA)	<ul style="list-style-type: none">Activities aimed at improved coordination and communication among IWRM stakeholders in Citarum River Basin.Strengthening of RCMU and regional Bappeda in IWRM planning and programming.Capacity building for improved National and Regional IWRM planning and programming.Development of mechanisms for improved funding and more effective fiscal planning for IWRM in river basins in Indonesia.Capacity building to improve RCMU staff skills.
1.3 Institutional Strengthening for IWRM in 6 Ci's River Basin Territory (ADB-TA)	<ul style="list-style-type: none">Activities to improve technical capacity: (i) flood warning systems and real-time communication, (ii) management and data information systems, (iii) quantity and quality monitoring of flow and regulation for efficient water allocation.Ongoing support for Water Resources Council (WRC) and supporting office(s), and capacity building for water resource management (WRM) agencies.Ongoing activities where little or no capacity building is required: (i) strategic planning, (ii) performance monitoring and evaluation, (iii) development of the basin pola and rencana (iv) O&M of water infrastructure.Internal Balai Besar organizational management: (i) leadership and teamwork, (ii) human resources management, (iii) financial planning and management.Development of an Internet-based metadatabase (data directory) for water, land and related data in the Citarum River Basin.Design and implementation of a decision support tool for use by relevant agencies for planning.Development of annual "state of the basin" reporting system.

INVESTMENT PROGRAM

INTEGRATED CITARUM WATER RESOURCES MANAGEMENT INVESTMENT PROGRAM (ICWRMIP)

EXPECTED OUTPUT PROJECT - 1

1 Institutions and Planning for IWRM

Component

Expected Output

1.4 Spatial Planning for The Citarum River Basin Territory (ADB-TA)

- Preparation of a consistent regional plan reflecting the existing local plans.
- Preparation of an up-to-date land-use map (remote sensing) for the project area.
- Preparation of Java Spatial Model (JSM) for projection of population and land-use: (further) calibration and validation with specific attention to employment, accessibility, and specific regional sectors with different growth characteristics.
- Estimation of spatial requirements for the water sector and other related sectors (housing, industry, agriculture, environment).
- Development of spatial strategies and scenario's; interpretation of projections, resolution of conflicts on the use of space.
- Quantification of water related zoning on land-use in the basin (low-flow and peak-flow conservation zoning, flood zoning, erosion zoning, groundwater protection zoning, and so on), based on the water resources analysis for the river basin.
- Strategic assessment of the impacts of water related zoning on other sectors.
- Coordination and integration, covering in particular the interactions with the many involved agencies and the component subprojects of ICWRMIP.

2 Water Resource Development and Management

Component

Expected Output

2.1 Rehabilitation of West Tarum Canal

- West Tarum Canal restored to its design capacity.
- Water quality improved through exclusion of inflows of polluted water from crossing stream through construction of siphons.
- Water control structures restored to full operational status.
- Environmental impacts minimized, and in particular through proper disposal of dredged material.
- Social disruption for those living along the canal minimized, and in particular access to water supply and sanitation maintained and improved if necessary.
- Capacity of PJT II for ongoing management of the canal improved.

2.2 Improved Land and Water Management

- Adoption of System of Rice Intensification (SRI) in the project area accelerated.
- About 3,000 ha of paddy land in three districts will improve water management practices leading to increased yields and reduced water consumption.

INVESTMENT PROGRAM

INTEGRATED CITARUM WATER RESOURCES MANAGEMENT INVESTMENT PROGRAM (ICWRMIP)

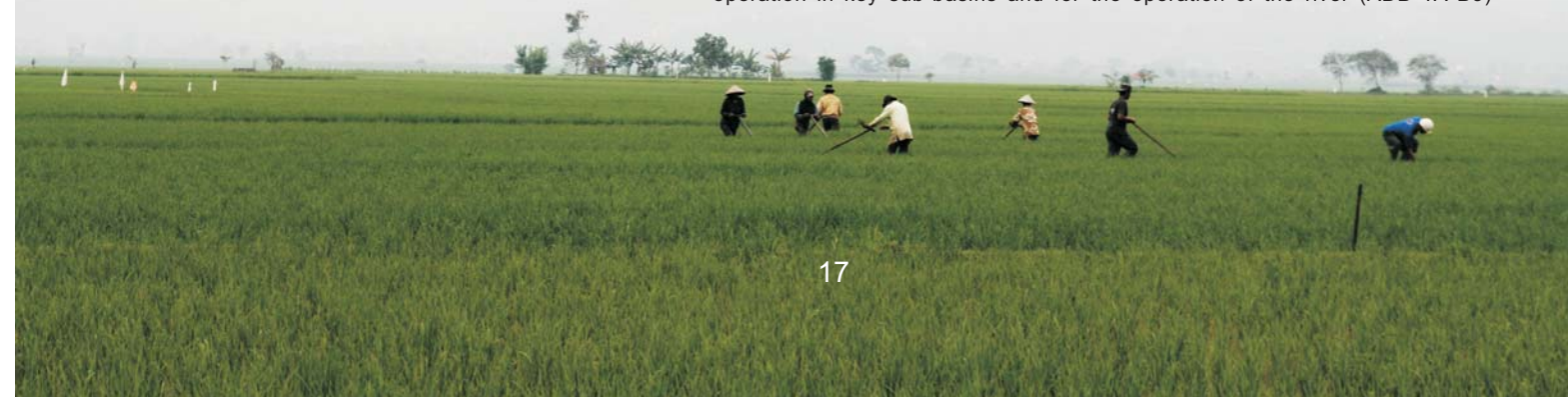
EXPECTED OUTPUT PROJECT - 1

2 Water Resource Development and Management

Component	Expected Output
2.3 Support for Community- and NGO-Driven Initiatives for Improved Water Supply and Sanitation	<ul style="list-style-type: none"> ■ Strengthened community capabilities to develop, co-finance, build, operate, and maintain community-based water supply and sanitation facilities. ■ Development of sanitation and facilities by providing a subsidy for latrine. ■ Development of simple drainage, washing platforms, soak pits, bashing and washing facilities. ■ Health impacts of project investments in water supply and sanitation maximized and the incidence of water borne and water related diseases reduced through improved practices.
2.4 Water Supply Options for Upgrading Bandung Water Sources	<ul style="list-style-type: none"> ■ Identification of previously considered options for upgrading Bandung's water supplies in the face of increasing demand and declining groundwater levels. ■ Identification of new options that may be feasible to reduce dependence on groundwater. ■ Develop criteria for ranking of options. ■ Evaluate options based on agreed criteria and selected highest ranked option(s) to go to feasibility stage.
2.5 Feasibility Study for Upgrading Bandung Water Sources	<ul style="list-style-type: none"> ■ Feasibility study for preferred (highest ranked) option(s) for upgrading of Bandung water supply.
2.6 Detailed Engineering Design for Upgrading Bandung Water Sources	<ul style="list-style-type: none"> ■ Detailed engineering design for surface water supply option(s) identified in a parallel project preparatory technical assistance. ■ Complete documentation for procurement of construction and construction supervision contractors/consultants.

3 Water Sharing

Component	Expected Output
3.1 Development of Key Policies and Strategies for Water Resources Management in CRB (ADB-TA)	<ul style="list-style-type: none"> ■ Policy development for appropriate water pricing, water sharing and balanced stakeholder participation (focusing on agricultural water use). ■ Development of strategies and options for demand management and water conservation with respect to industrial and domestic water use. ■ Development of a water entitlements and licensing system for surface water users. ■ Review of water allocation policies and optimization of water control infrastructure operation in key sub-basins and for the operation of the river (ADB TA B3)



INVESTMENT PROGRAM

INTEGRATED CITARUM WATER RESOURCES MANAGEMENT INVESTMENT PROGRAM (ICWRMIP)

EXPECTED OUTPUT PROJECT - 1

4 Environmental Protection

Component

Expected Output

4.1 Development and Implementation of a Basin River Quality Improvement Strategy and Action Plans

- Policies and procedures for water quality management.
- Improvements to water quality monitoring and data management
- Strengthening of organizational capacity.
- Preparation of basin-wide River Water Quality Improvement Strategy (RWQIS)
- Preparation and implementation of area-based pollution sources management action plans.

4.2 Watershed Management and Biodiversity Conservation

- Preparation of conservation action plans with stakeholders for PAs.
- Identification of important plants and animals in key habitats in PAs.
- Reporting on resource utilization patterns in PAs.
- Preparation of a strategic conservation biodiversity conservation spatial plan for CRB.
- Villagers in MCVs develop their own action plans and engaged in conservation activities in this strategic conservation area.
- Preparation of a biodiversity conservation database prepared for CRB.
- Habitat restoration required to optimize ecological function of CRB riparian zones identified.

5 Disaster Management

Component

Expected Output

5.1 Upper Citarum Basin Flood Management (ADB-TA)

- Completion of current river model studies (1-dimensional).
- Development of 2-dimensional floodplain model.
- Design studies with modeling.
- Updating of existing Flood Management Strategy.
- Determination of impacts on regional and spatial planning.
- Formulation of O&M operational plan.
- Preparation of terms of reference for detailed design by others and implementation under Project 2 (Tranche 2).

5.2 Climate Change Adaptation and Mitigation

- Formulation of climate change adaptation and mitigation policies to be adopted within the river basin.
- Mainstreaming of climate change concerns in at local development planning, sector, and program level.
- Preparation of adaptation and mitigation action plans (AMAP).
- Initial implementation of mitigation and adaptation measures.
- Recommendations and inputs for the other components of the ICWRMIP.

6 Community Empowerment

Community empowerment (addressed in parallel support TA)



INVESTMENT PROGRAM

INTEGRATED CITARUM WATER RESOURCES MANAGEMENT INVESTMENT PROGRAM (ICWRMIP)

EXPECTED OUTPUT PROJECT - 1

7 Data, Information and Decision Support

Component

Expected Output

7.1 Decision Support System for Integrated Water Resources Management in Citarum River Basin (ADB-TA)

- Development of a water quality model and management system for key streams and reservoirs of the Citarum River Basin.
- Development of a water balance model and water allocation system for the Citarum River Basin.
- Development of a rainfall run-off analysis model for the catchments of the basin.
- Development of a spatial (GIS-based) database for water and land-related data of the basin, to be coordinated with other GIS systems developed under the ICWRMIP and this TA.
- Capacity building for sustainable operation and maintenance of the systems developed.

8 Program Management

Component

Expected Output

8.1 Program Management

- Coordination and planning among Project 1 subcomponents.
- Liaison with executing agencies and other relevant stakeholders
- Coordination among projects.
- Monitoring, evaluation and reporting.
- Data and information systems.
- Social and environmental safeguards oversight.
- Media communication plan and information dissemination.
- Coordination of preparation for Project 2.

8.2 Independent Monitoring and Evaluation

- Monitoring of the Road map physical and financial process as well as the effectiveness and efficiency in achieving major outputs, outcomes and impact.
- Review and report to NSCWR Road map progress and inter-agency program planning and coordination.
- Establishing a RPMS for the overall Road map investments.
- Monitor the level and adequacy of participation of various stakeholders in the planning, implementing and monitoring of project activities.
- Monitoring the Road map's social, environmental, and economic impacts including the establishment of benchmark using existing Government information and data systems.
- Assessing the impact and utilization of water resources data management information systems.
- Developing a mechanism for making necessary adjustments in the Road map design and implementation arrangements.

INVESTMENT PROGRAM

INTEGRATED CITARUM WATER RESOURCES MANAGEMENT INVESTMENT PROGRAM (ICWRMIP)

REFERENCE

Program Administration Memorandum (PAM)
Republic of Indonesia: Integrated Citarum Water Resources
Management Investment Program

Program Investasi Sumber Daya Air Terpadu di
Wilayah Sungai Citarum- Fasilitas Pembiayaan Multi-Tranche (MFF)
untuk Pengelolaan Sumber Daya Air Terpadu di
Wilayah Sungai Citarum

Roadmap untuk Pengelolaan Sumber Daya Air Terpadu
Wilayah Sungai Citarum

www.citarum.org



For further information, please visit:

WWW.CITARUM.ORG