ADB ASIAN DEVELOPMENT BANK

Indonesia: Integrated Citarum Water Resources Management Investment Program - Project 1

Project Name	Integrated Citarum Water Resources Management Investment Program - Project 1
Project Number	37049-023
Country	Indonesia
Project Status	Approved
Project Type / Modality of Assistance	Grant Loan Technical Assistance
Source of Funding / Amount	**TA 7189-INO: Institutional Strengthening for Integrated Water Resources Management in the 6 Cis River Basin Territory (Supplementary)** Netherlands Fund (with LoA) — US$ 1.00 million **TA 7189-INO: Institutional Strengthening for Integrated Water Resources Management in the 6 Cis River Basin Territory** Technical Assistance Special Fund — US$ 1.00 million Netherlands Fund (with LoA) — US$ 5.00 million **Loan 2500-INO: Integrated Citarum Water Resources Management Investment Program - Project 1** Ordinary capital resources — US$ 20.00 million **Loan 2501-INO: Integrated Citarum Water Resources Management Investment Program - Project 1** Asian Development Fund — US$ 30.00 million **TA 7189-INO: Institutional Strengthening for Integrated Water Resources Management in the 6 Cis River Basin Territory (Supplementary)** Climate Change Fund — US$ 2.55 million **Grant 0216-INO: Citarum Watershed Management and Biodiversity Conservation Project** Global Environment Facility — US$ 3.75 million
Strategic Agendas	Environmentally sustainable growth
Drivers of Change	Governance and capacity development
Sector / Subsector	**Agriculture, natural resources and rural development** - Water-based natural resources management
Gender Equity and Mainstreaming	Some gender elements
Description	The Project's objective is to improve water availability and improve integrated water resources managment. The Project's scope are project and program management; IWRM; capacity building; support to water resources insfrastructure development and managment; water rights stregthening; disaster managment; environmental protection; development of information and decision support systems; stakeholder participation.
Project Rationale and Linkage to Country/Regional Strategy	
Impact	1.Improved and more integrated water resource management in place, with government and the community working in partnership towards a shared vision (to be fully achieved if all the roadmap interventions are completed successfully) 2. The sustainable management of water resources for economic and social development in 6 Ci's River Basin Territory

Project Outcome	
Description of Outcome	1. Improved reliability of water supply to Jakarta and irrigation areas supplied by West Tarum Canal 2. Improved water use efficiency and increased yields for rice irrigation in three districts in the Citarum River Basin 3. Significant increase in the number of community- and NGO-driven initiatives for improved water and catchment management in the Citarum River Basin 4. Improved water quality in the waterways and reservoirs of the Citarum River Basin 5. Improved capacity for IWRM in the 6 Ci's Basin in accordance with the 2004 Water Law with implementation directed through a common strategic planning framework and associated water resources management plans
Progress Toward Outcome	1. Implementation of the WTC rehabilitation civil works 2. The System Rice Intensification in 3 districts has increased the yields for rice irrigation and improved water use efficiency. 3. Water and catchment management in CRB has been supported by the community and NGO driven initiatives 4. MOEFr sub component for the river basin water quality action plan development is on going 5. Capacity for IWRM has been improved
Implementation Progress	

Description of Project Outputs	Sub-Project 2.1: Rehabilitation of West Tarum Canal 1. Detailed engineering design 2. Construction contractors selected by tendering 3. Construction of improvement works 4. Associated activities 5. Project Management Sub-Project 2.6: Detailed Engineering Design for Upgrading of Bandung Water Source and Other Uses by Inter-Basin Transfer 1. Detailed engineering design 2.Construction contractors selected by tendering 3. Associated activities 4. Project Management Sub-Project 2.2: Improved Soil and Water Management 1. Identification and appraisal of target areas and 2. Capacity building 3. Progressive implementation of SRI 4. Management, monitoring and reporting Sub-Project 2.3: Support for Community- and NGO-Driven Initiatives for Improved Water Supply and Sanitation 1.Capacity building and planning 2.Implementation and ongoing support 3.Management, monitoring and reporting Sub-Project 4.1: Development and Implementation of a Basin River Quality Improvement Strategy (RWQIS) and Action Plans 1. Capacity building and planning 2. River Water Quality Improvement Strategy and action plans 3. Policy development 4. Data management Sub-Project 1.1: Roadmap Management (by the Roadmap Coordination Management Unit) 1.Liaison with agencies and other relevant stakeholders 2.Coordination among component projects 3. Identification of the need for and coordination of implementation of minor studies (up to $400,000 total) to improve knowledge of water issues in CRB 4.Information system and communication Sub-Project 8.1: Program Management (by the Program Coordination Management Unit) 1.Coordination and planning 2.Monitoring and reporting of project performance, including financial management 3.Coordination of preparation for Project 2 4.Social and environment safeguards oversight Sub Project 8.2: Independent Monitoring and Evaluation 1. A Roadmap Performance Management System for the overall Roadmap investments 2. Quarterly Progress Reports giving physical and financial progress, summary of field visits, consultant's staffing and administration details, issues of TA and project implementation requiring immediate resolution. 3. Semi-annual Consolidated Project Report. This report will summarize: (i). the RPMS progress; field and program issues requiring resolution; (iii). Detailed team work program for the next half year . 4. A mid-term review report that would summarize achievements, unresolved issues and, possibly a revised work program. 5. Completion report Sub component Citarum River Basin Catchment Management and Biodiversity Conservation 1. Preparation and implementation of 30 village conservation action plans 2. Identification of important plants and animals, and resource utilization patterns in key habitats 3. Development of biodiversity and land degradation information systems and databases Subcomponent A1 (TA 7189-INO): Roadmap Institutional Strengthening 1. Effective RCMU and regional Bappeda in IWRM planning and programming. 2. Appropriate data and information systems to support IWRM planning and programming 3. Improved system for national and regional IWRM planning and programming 4. Improved funding and more effective fiscal planning for IWRM in river basins in Indonesia Subcomponent B1: Institutional Strengthening for IWRM for 6 Ci's River Basin Territory 1. Ongoing support for Water Resources Council (WRC) and supporting office(s), and improved capacity of water resource management agencies. 2.Pola and rencana for 6 Ci's River Basin Territory. 3. Recommendations for further work 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. 4. Recommendations on improved institutional framework for O&M of water infrastructure. 5. Strengthened Balai Besar for three sub-basins. 6. Internet-based meta database for water, land and related data in the Citarum River Basin. 7. Effective decision support tool for use by relevant agencies for water planning 8. Annual "state of the basin" reporting system. Subcomponent B2: Spatial Planning for 6 Ci's River Basin Territory Regional spatial plan reflecting the existing local plans. Up-to-date land-use map (remote sensing) for the project area. Java Spatial Model (JSM) for projection of population and land-use Estimates of spatial requirements for the water sector and other related sectors (housing, industry, agriculture, environment). Spatial strategies and scenarios; interpretation of projections, resolution of conflicts on the use of space. Quantification of impact 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. Subcomponent B3 (TA 7189-INO): Development of Key Policies and Strategies for WRM Policy for appropriate water pricing, water sharing and balanced stakeholder participation (focusing on agricultural water use). Strategies and options for demand management and water conservation with respect to industrial and domestic water use. A water entitlements and licensing system for surface water users. Subcomponent C1: Upper Citarum Basin Flood Management Completion of current river model studies (1-D). Development of 2-D floodplain model. Design studies with modeling. Updating of existing Flood Management Strategy. Determination of impacts of flood risk and Flood Management Strategy on regional and spatial planning. Formulation of O&M operational plan. For agreed Project 2 component subproject(s) on flood management, preparation of terms of reference for detailed design and implementation by others. Subcomponent D1: Decision Support System for IWRM in Citarum River Basin -Water quality model and management system for key streams and reservoirs of the Citarum River Basin. - 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. -Water balance model and water allocation system for the Citarum River Basin. - Rainfall run-off analysis model for the catchments of the basin.

Status of Implementation Progress (Outputs, Activities, and Issues)	Sub Project 2.1 : Rehabilitation of West Tarum Canal - Civil works is on-going and expected to be completed in February- March 2016 Sub-Project 2.6: Detailed Engineering Design for Upgrading of Bandung Water Source and Other Uses by Inter-Basin Transfer - Contract addendum is being prepared Sub-Project 2.2: Improved Soil and Water Management - Completed Sub-Project 2.3: Support for Community- and NGO-Driven Initiatives for Improved Water Supply and Sanitation - Completed Sub-Project 4.1: Development and Implementation of a Basin River Quality Improvement Strategy (RWQIS) and Action Plans - On going Sub-Project 1.1: Roadmap Management (by the Roadmap Coordination Management Unit) - Completed Sub-Project 8.1: Program Management (by the Program Coordination Management Unit) - Coordination is on-going Sub Project 8.2: Independent Monitoring and Evaluation - Completed Sub component 4.2 : Citarum River Basin Catchment Management and Biodiversity Conservation (GEF Grant) - The grant has been extended till May 2016 to strengthen the village conservation model Subcomponent A1 (TA 7189-INO): Roadmap Institutional Strengthening - Completed Subcomponent B1: Institutional Strengthening for IWRM for 6 Cis River Basin Territory - Completed Subcomponent B2: Spatial Planning for 6 Cis River Basin Territory - Completed Subcomponent B3 (TA 7189-INO): Development of Key Policies and Strategies for WRM Policy for appropriate water pricing, water sharing and balanced stakeholder participation (focusing on agricultural water use). - Completed Subcomponent C1: Upper Citarum Basin Flood Management - Completed Sub component D1: Decision Support System for IWRM in Citarum River Basin - Completed Sub component E: Climate Change Adaptation and Mitigation in CRB - Will be completed in Sept 2015
Geographical Location	Citarum River Basin West Java Indonesia

Safeguard Categories

Environment	B
Involuntary Resettlement	A
Indigenous Peoples	C

Summary of Environmental and Social Aspects

Environmental Aspects	The program area, located on Java Island and covering a total of about 13,000 km2, is a cluster of river basins consisting of: (i) the 6,600 km2 Citarum river basin which straddles the central part of the program area and flows from south to north into the Java Sea; (ii) the 4,400 km2 cluster of small basins whose drainage areas are connected to the Citarum river system through the East Tarum Canal; and (iii) the Cikarang and Bekasi rivers, with a combined drainage area of 2,000 km2 which are also connected with the Citarum river through the West Tarum Canal. Together, these inter-connected river basins make up the Citarum river basin territory (program area). The area is a key rice producer for the country. There are a total of 390,000 ha of irrigated rice paddies, with 240,000 ha served by the Juanda reservoir and canal system in the lower basin. Also within the program area are three large dams that generate a total of 1,400 megawatts, and major industries centered at Bandung and the rapidly urbanizing corridor east of Jakarta (Bekasi-Cikarang). Forest areas in the upper Citarum have declined from 35,000 ha in 1992 to 19,000 ha in 2001. Remaining forests cover only about 10.2% of the program area. The numerous environmental issues in the CRB result predominantly but not exclusively from the same urbanization and industrialization that is the cause of water supply shortages. Deforestation of the upper catchments cause increased sediment loads, flash floods, landslides, and other water-related disasters. The potential effects of climate change have yet to be quantified. The combination of untreated domestic sewage, solid waste disposal, and industrial effluents has significantly increased pollution loads in the Citarum River system. In the upper basin, river water polluted with domestic and industrial waste from Bandung flows into the Saguling Reservoir. Biological oxygen demand10 at the Saguling Reservoir inlet reaches as high as 130 milligrams per liter (mg/l) during the dry season. In recent years, biological oxygen demand in the Cikapunding River a major tributary of the Saguling River, which flows through Bandung was reported to reach as high as 100 mg/l. Inadequate sanitation and solid waste management are problems in urban, peri-urban, and rural communities. These problems degrade not only the environment but also community health and living standards. Runoff from hillside farms contributes significant amounts of the nutrients nitrogen and phosphorus, which induce eutrophication in the reservoirs. At Saguling, where the problem is most significant, nitrogen loading is estimated at over 33,000 tons per year, and phosphorus loading at 4,370 tons per year. Algal blooms and their subsequent decay regularly cause fish kills, inflicting considerable financial losses to fish farmers. Hydrologic flow regimes have been adversely changed by land degradation, notably the loss of adequate forest cover and the prevalence of hillside farming in upper catchments. The degraded catchments have reduced capacity to capture rainwater, causing high peak flows during the rainy months that carry large amounts of eroded soil. At the entrance to the Saguling Reservoir, the ratio of the volume of wet season high flows to dry season low flows has increased from 3.4 in 1992 to 7.4 in 2003. As a result, landslides and mud flows are frequent during the rainy season. An estimated 25% of the basin now suffers erosion in excess of 60 tons per ha per year, or 3 4 millimeters of soil loss annually. The CRB is experiencing the shrinkage of natural ecosystem areas, notably forested areas. Recent West Java reports on the environmental state of the basin show ecological diversity in the CRB, which has 160 plant species, 24 mammals (20 protected, 3 endemic, and 1 scarce), 72 birds (60 protected, 10 endemic, and 2 scarce), 11 protected reptiles, and 2 protected fish. Land-use changes have left only scattered remnants of natural forest habitat. Much of it is in the 240,402 ha of 11 protected forest areas, which are significant for the conservation of biodiversity because they are among the most intact areas of forest remaining on Java. Most of the protected areas were relatively undisturbed when designated. However, in recent times many have suffered serious degradation as a result of encroachment, the illegal removal of non-timber forest products, fires, and illegal logging. All remaining patches of natural vegetation in the CRB, even if secondary, are of the highest conservation significance.
Involuntary Resettlement	A resettlement plan has been prepared in 2008 for the rehabilitation of the West Tarum Canal. Other project components, such as land and water management needs in 3 Districts and Support for Community and NGO-drive Initiatives for Water Supply and Sanitation don't have land acquisition and resettlement impact. The Watershed Management and Biodiversity Conservation subproject may result in restrictive use of communities' natural resources. The resettlement plan for the WTC has been updated, and planned to be implemented in Q4 2013.
Indigenous Peoples	Citarum River Basin is not located in, or passes through, areas of significant indigenous peoples settlement and/or use. The Investment Program is not anticipated to have significant negative or positive effects on indigenous peoples. A small group of migrants are part of population in the West Tarum Canal area who will be affected by the permanent land acquisition under Project 1 subproject. However, they are not considered identifiable as indigenous peoples.
Stakeholder Communication, Participation, and Consultation	
During Project Design	Stakeholders were consulted and participated at various stages of Investment Program preparation (i) formal public consultation workshops to present/discuss assessment of development issues, project identification/prioritization criteria, feasibility study recommendations, and subsequent basin Roadmap development; (ii) focus group discussion with stakeholders in key parts of the basin impacted by the program; and (iii) meetings/interviews with government officials (at national, provincial and district levels), as well as key informants (water utility executives, NGOs, personnel working on related projects in the basin).
During Project Implementation	4 component subprojects have significant participation of beneficiaries, communities will plan, implement and take charge of O&M of water and sanitation facilities, improved water management facilities and environmental improvements works. Villagers in selected Model Conservation Villages adjacent to protected areas will develop and implement village management plans for better management of protected areas during implementation of the Water Management and Biodiversity Conservation project. In addition the Roadmap Coordination Management Unit (RCMU) under the Bappenas is conducting intensive communication campaign to raise awareness in the basin and to engage stakeholders in roadmap activities implementation. This is complemented by workshop to update and refine the roadmap.

Business Opportunities	
Consulting Services	Consulting services for about 138 person-months (138 pm) including 12 pm internation consulting services inputs will be required for sub component 4.1 under Ministry of Environment. The scope of works are : (i) Improvements to Water Quality Monitoring and Data Management, (ii) Preparation of Area-Based Pollution Sources Management District Action Plans, (iii) Strengthening of Institutional Capacity, (iv) Knowledge Dissemination, and (v) Initial Implementation of Citarum River WQ Improvement Civil Works Consulting services for about 326 person-months (326 pm) including 10 pm international consulting services inputs will be required for Grant 0216-INO under Ministry of Forestry. This work culminated in the conceptualization of this sub project that comprises elements for (i) management planning for PAs; (ii) habitat mapping and biodiversity inventory; and (iii) community-based activities for natural resource utilization and conservation. However, it was felt that additional work was required to gather critical baseline data, and to broaden the scope of activities that would be included, in order to create a more robust program for biodiversity conservation that would better complement the baseline activities to be carried out under the ICWRMIP loan. This additional work, carried out under the GEF project preparation grant (PPG), has comprised the following: (i) field surveys of priority conservation areas and adjacent lands; (ii) review of legal, policy, regulatory, and institutional frameworks for biodiversity conservation in the CRB, and identification of potential markets for environmental goods and services; (iii) stakeholder analysis and consultations; (iv) assessment of the potential for development of mechanisms for payment for environmental services (PES); and (v) identification of possible mechanisms that could be used to mainstream biodiversity conservation within the larger framework of IWRM in the CRB The consultant will be selected using QCBS method, in accordance with the procedures set out in ADB's Guidelines: Guidelines on the Use of Consultants by the Asian Development Bank and its Borrowers, April 2010.
Procurement	The procurement of two main construction activity namely Rehabilitation of West Tarum Canal packages is being prepared using ICB post qualification - single stage 2 envelopes methods. Registration of bidders would be applied using semi e-procurement system of Ministry of Public Works.

Responsible ADB Officer	Renadi Budiman
Responsible ADB Department	Southeast Asia Department
Responsible ADB Division	Indonesia Resident Mission
Executing Agencies	*Directorate General of Water Resources, MPWH* *Jl Pattimura No.20,Kebayoran Baru* *Jakarta Selatan, Indonesia* *Directorate General of Water Resources* *Mr.Mochammad Amron* *m_amron@pu.go.id* *Min.of Public Works, Jl.Pattimura 20, Kebayoran Baru, Jakarta Selatan, Indonesia*

Timetable	
Concept Clearance	30 Sep 2006
Fact Finding	20 Feb 2007 to 22 Feb 2007
MRM	02 Oct 2007
Approval	22 Dec 2008
Last Review Mission	-
PDS Creation Date	28 Mar 2007
Last PDS Update	24 Sep 2015

Grant 0216-INO

Milestones					
Approval	Signing Date	Effectivity Date	Closing		
			Original	Revised	Actual
04 Aug 2010	04 Oct 2010	12 Nov 2010	30 Jun 2014	31 May 2016	-

Financing Plan		Grant Utilization			
	Total (Amount in US$ million)	Date	ADB	Others	Net Percentage
Project Cost	3.75	Cumulative Contract Awards			
ADB	0.00	04 Aug 2010	0.00	3.25	87%
Counterpart	0.00	Cumulative Disbursements			

Cofinancing	3.75	04 Aug 2010	0.00	3.20	85%

Status of Covenants						
Category	Sector	Safeguards	Social	Financial	Economic	Others
Rating	-	-	-	-	-	Satisfactory

Loan 2500-INO

Milestones					
Approval	Signing Date	Effectivity Date	Closing		
			Original	Revised	Actual
22 Dec 2008	22 Apr 2009	03 Jun 2009	30 Jun 2014	31 May 2016	-

Financing Plan		Loan Utilization			
	Total (Amount in US$ million)	Date	ADB	Others	Net Percentage
Project Cost	57.80	Cumulative Contract Awards			
ADB	20.00	22 Dec 2008	16.13	0.00	81%
Counterpart	37.80	Cumulative Disbursements			
Cofinancing	0.00	22 Dec 2008	7.49	0.00	37%

Loan 2501-INO

Milestones					
Approval	Signing Date	Effectivity Date	Closing		
			Original	Revised	Actual
22 Dec 2008	22 Apr 2009	03 Jun 2009	30 Jun 2014	31 May 2016	-

Financing Plan		Loan Utilization			
	Total (Amount in US$ million)	Date	ADB	Others	Net Percentage
Project Cost	30.00	Cumulative Contract Awards			
ADB	30.00	22 Dec 2008	24.37	0.00	82%
Counterpart	0.00	Cumulative Disbursements			
Cofinancing	0.00	22 Dec 2008	18.53	0.00	62%

TA 7189-INO

Milestones					
Approval	Signing Date	Effectivity Date	Closing		
			Original	Revised	Actual
04 Dec 2008	28 Jan 2009	28 Jan 2009	31 Dec 2012	30 Sep 2015	-

Financing Plan/TA Utilization							Cumulative Disbursements	
ADB	Cofinancing	Counterpart				Total	Date	Amount
		Gov	Beneficiaries	Project Sponsor	Others			
3,550,000.00	6,000,000.00	0.00	0.00	0.00	0.00	9,550,000.00	04 Dec 2008	10,155,336.03

Status of Covenants						
Category	Sector	Safeguards	Social	Financial	Economic	Others
Rating	-	-	-	-	-	Unsatisfactory

Project Page	http://www.adb.org/projects/37049-023/main
Request for Information	http://www.adb.org/forms/request-information-form?subject=37049-023
Date Generated	02 December 2015

ADB provides the information contained in this project data sheet (PDS) solely as a resource for its users without any form of assurance. Whilst ADB tries to provide high quality content, the information are provided "as is" without warranty of any kind, either express or implied, including without limitation warranties of merchantability, fitness for a particular purpose, and non-infringement. ADB specifically does not make any warranties or representations as to the accuracy or completeness of any such information.