<table>
<thead>
<tr>
<th>Items of the Project</th>
<th>Details</th>
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<tbody>
<tr>
<td><strong>Project Name</strong></td>
<td>Krueng Aceh Urgent Flood Control Project</td>
</tr>
<tr>
<td><strong>Project Type</strong></td>
<td>TC &amp; ODA Loans</td>
</tr>
<tr>
<td><strong>Project Site</strong></td>
<td>The Krueng Aceh Basin, Aceh Province</td>
</tr>
<tr>
<td><strong>Name of JICA Experts / Consultants</strong></td>
<td>Oriental Consultants Co., Ltd. &amp; Associates</td>
</tr>
<tr>
<td><strong>Project Highlight:</strong></td>
<td>Frequent floods occurred prior to the project appraisal (before 1983), but no considerable flooding has occurred since the project completion date</td>
</tr>
<tr>
<td><strong>Background</strong></td>
<td>Krueng Aceh is a major river in the northern part of Sumatra Island with a length of 145 km and river basin area of 1,775 km², that flows from Suekke Mount through Banda Aceh City toward the Malacca Straits. This river had flooded almost every year, causing significant damage in the Aceh Besar Regency Region (with population of 1.65 million in 1980), including Banda Aceh Municipal. Typically, the flooding covered an area of 25,000 ha, comprising 2,700 ha of residential area, 7,500 ha of paddy field and 4,100 ha of coconut plantations and shepherding meadows. This situation was caused by a limited river capacity of 250 m³/s, compared to the 5-year flood discharge of 1,300 m³/s. Floods in 1953, 1971, 1978, 1983 and 1986 resulted in severe damage to local communities, and sometimes in loss of life</td>
</tr>
<tr>
<td><strong>Overall Goal</strong></td>
<td>The project outputs are consistent with national policy on water resources development i.e., &quot;Conservation of River Channel and Improvement of River Function&quot;</td>
</tr>
<tr>
<td><strong>Project Purpose</strong></td>
<td>To protect the city of Banda Aceh, located in the downstream reach of the Krueng Aceh River, from damage caused by recurrent five-year floods, by improving existing river channels in the section from the estuary to Indrapuri and constructing of a new floodway</td>
</tr>
<tr>
<td><strong>Outputs</strong></td>
<td>Stage 1: River improvement and embankment construction between the river mouth and Bakoi Embankment construction along the left side of the river between Bakoi and Sibreh, small river improvements within the city Stage 2 (Phase 1): Construction of flood control channels (River channel of 12km, 900m³/s)</td>
</tr>
</tbody>
</table>

**Footnotes:****

TC : Technical Cooperation  
GA : Grant Aid  
ODA Loans : Official Development Assistance Loans
# Project Details

<table>
<thead>
<tr>
<th>Items of the Project</th>
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<tbody>
<tr>
<td><strong>Project Name</strong></td>
<td>Medan Flood Control Project</td>
</tr>
<tr>
<td><strong>Project Type</strong></td>
<td>TC &amp; ODA Loans</td>
</tr>
<tr>
<td><strong>Project Site</strong></td>
<td>Medan City, North Sumatra Province.</td>
</tr>
<tr>
<td><strong>Name of JICA Experts / Consultants</strong></td>
<td>CTI Engineering International Co.Ltd. &amp; Associates</td>
</tr>
<tr>
<td><strong>Project Highlight:</strong></td>
<td>The Project was formulated with the flood control scale of 25-year return period, consisting of river improvement and floodway construction in Medan city of North Sumatra Province</td>
</tr>
<tr>
<td><strong>Background</strong></td>
<td>GOI initiated the 1st study with cooperation of ADB on 1978, as the master plan for &quot;Medan Urban Development Project&quot;. After that, &quot;Blawan-Padang Integrated River Basin Study&quot; has been granted by JICA in 1995, then GOI and Japanese Government have made loan agreement for &quot;Medan Flood Control Project&quot; in 1998. Project has been implemented since 1999</td>
</tr>
<tr>
<td><strong>Overall Goal</strong></td>
<td>Contribution to the stabilization and enhancement of the people’s livelihood, and the economic development of the project area</td>
</tr>
<tr>
<td><strong>Project Purpose</strong></td>
<td>To protect Medan city from flooding by constructing a floodway in Medan and river improvement on the Percut river and the upper Deli river</td>
</tr>
<tr>
<td><strong>Outputs</strong></td>
<td>Percut river improvement works 28km, Medan Floodway construction 3.8km, New Road Bridge 13 units, and diversion and improvement works of upper Deli river 1.0km</td>
</tr>
</tbody>
</table>

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GA : Grant Aid  
ODA Loans : Official Development Assistance Loans
<table>
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<tr>
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<tbody>
<tr>
<td><strong>Project Name</strong></td>
<td>Ular River Flood Control and Improvement of Irrigation Project</td>
</tr>
<tr>
<td><strong>Project Type</strong></td>
<td>TC &amp; ODA Loans</td>
</tr>
<tr>
<td><strong>Project Site</strong></td>
<td>Deli Serdang Regency, North Sumatra Province</td>
</tr>
<tr>
<td><strong>Name of JICA Experts / Consultants</strong></td>
<td>IDEA Consultants, Inc. &amp; Associates</td>
</tr>
<tr>
<td><strong>Project Highlight:</strong></td>
<td>Sustainable yield of paddy and plantation products</td>
</tr>
<tr>
<td><strong>Background</strong></td>
<td>The project area is located at about 30 km southeast of Medan, the capital city of North Sumatra Province. The alluvial plain located downstream of the Ular river has suffered from floods which took place several times every year due to breaches of levee of the Ular river</td>
</tr>
<tr>
<td><strong>Overall Goal</strong></td>
<td>To promote sustainable economic development</td>
</tr>
</tbody>
</table>
| **Project Purpose**          | 1. Prevention of flood damage for 24,500 ha  
2. Improvement of irrigation facilities for 18,600 ha                                                                                   |
| **Outputs**                  | 1. River improvement works for about 34 km stretches with design scale of 30-year return period, including dredging and construction of levee  
2. Improvement and construction of intake weirs, main/secondary/tertiary canals  
3. Construction of 6 span 192 m prestress PC bridge                                                                                        |

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ODA Loans : Official Development Assistance Loans
**Project Name**
Lower Asahan River Flood Control

**Project Type**
TC & ODA Loans

**Project Site**
Kisaran and Tanjung Balai City, Asahan Regency, North Sumatra, Lower Asahan River Basin

**Project Period**
Master Plan: 1984 - 1985,
Detail Design: February 1988 – February 1990

**Name of JICA Experts / Consultants**
Nippon Koei Co., Ltd. & Associates

**Project Highlight:**
The detailed design of the Lower Asahan River Flood Control consisting of river improvements works and flood forecasting and warning system, including additional design for tributary treatment and improvement of inland drainage

**Background**
To cope with frequent flood damages in the river dikes, the lower basins of the Asahan and Silau rivers had been constructed for protecting the developed land from flooding of the rivers. However, the capacity of the existing flood control facilities in the area was still low. In order to prevent the area from repeated floods of the Asahan and Silau rivers, implementation of a flood control project was considered to be urgently needed

**Overall Goal**
To prevent flood damage in the lower Asahan area by means of river channel improvement

**Project Purpose**
1) To update the flood control plan in the study in 1985
2) To conduct detailed design of flood control plan after its definite plan
3) To facilitate implementation of the project

**Outputs**
1) Master Plan Study on Lower Asahan River Basin Development
2) Detail design for 43 km long section of the Asahan River and 19 km long section of the Silau River, and Detail Design for flood forecasting and warning system

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<table>
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<tbody>
<tr>
<td><strong>Project Name</strong></td>
<td>Lower Asahan River Flood Control</td>
</tr>
<tr>
<td><strong>Project Type</strong></td>
<td>TC &amp; ODA Loans</td>
</tr>
<tr>
<td><strong>Project Site</strong></td>
<td>Kisaran and Tanjung Balai City, Asahan Regency, North Sumatra, Lower Asahan River Basin</td>
</tr>
<tr>
<td><strong>Name of JICA Experts / Consultants</strong></td>
<td>Nippon Koei Co., Ltd. &amp; Associates</td>
</tr>
</tbody>
</table>

**Project Highlight:**
The detailed design of the Lower Asahan River Flood Control consisting of river improvements works and flood forecasting and warning system, including additional design for tributary treatment and improvement of inland drainage

**Background**
To cope with frequent flood damages in the river dikes, the lower basins of the Asahan and Silau rivers had been constructed for protecting the developed land from flooding of the rivers. However, the capacity of the existing flood control facilities in the area was still low. In order to prevent the area from repeated floods of the Asahan and Silau rivers, implementation of a flood control project was considered to be urgently needed

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1) To update the flood control plan in the study in 1985
2) To conduct detailed design of flood control plan after its definite plan
3) To facilitate implementation of the project

**Outputs**
1) Master Plan Study on Lower Asahan River Basin Development
2) Detail design for 43 km long section of the Asahan River and 19 km long section of the Silau River, and Detail Design for flood forecasting and warning system

TC : Technical Cooperation
GA : Grant Aid
ODA Loans : Official Development Assistance Loans
### Items of the Project

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Padang Area Flood Control Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Type</td>
<td>TC, ODA Loans &amp; GA</td>
</tr>
<tr>
<td>Project Site</td>
<td>Padang City &amp; Padang Pariaman Regency, West Sumatra Province</td>
</tr>
<tr>
<td>Name of JICA Experts / Consultants</td>
<td>IDEA Consultants, Inc. &amp; Associates</td>
</tr>
<tr>
<td>Project Highlight</td>
<td>No flooding after completion of Project</td>
</tr>
<tr>
<td>Background</td>
<td>Padang city is located on the alluvial lands formed by the Arau, Kuranji and Air Dingin rivers. These rivers originate in the steep slope of the Barisan Mountains runs in parallel with the coast, with 20 to 25 km distance. Therefore, the city had been suffered from frequent flood damages for many years</td>
</tr>
<tr>
<td>Overall Goal</td>
<td>To promote sustainable economic development</td>
</tr>
<tr>
<td>Project Purpose</td>
<td>Reduction/prevention of flood damages in Padang</td>
</tr>
<tr>
<td>Outputs</td>
<td>1. River channel improvement of Arau, Kuranj, Air Dingin Rivers and their tributaries (30 km in total, 25-year design scale) 2. Improvement of drainage conditions in Padang (10-year design scale) 3. Protection works for Padang coast</td>
</tr>
</tbody>
</table>

**TC** : Technical Cooperation  
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**ODA Loans** : Official Development Assistance Loans
### Background

During the 5th. National Development Plan(1989-1994), the GOI placed the highest priority on programs to rehabilitate and maintain the existing irrigation/drainage systems in the agricultural sector. These development schemes constructed an open drainage system, but there were virtually no structures to control the water and only a minimum of required social infrastructure. Until 1992, these projects were still in the initial stage of development; consequently, there were many constraints on the efforts of farmers to develop their agriculture. Crop productivity remained low, and cropping intensity on the land had not reached the expected level. Possible causes included:

1. Deterioration of the drainage facilities and related structures of the existing schemes,
2. Inadequate water control structures, and
3. Lack of supporting services on credit, research work and farmers’ institutions.

Given these circumstances, there was an urgent need to upgrade the existing swamp schemes and intensify agricultural activities in order to raise the living standard of the inhabitants to a subsistence level.

### Overall Goal

To raise the living standards of farmers in the existing swamp scheme areas by increasing farm income and contributing to self-sufficiency in food production through the rehabilitation and improvement of the existing infrastructures, including the drainage.

### Project Purpose

1. Improve the existing drainage facilities
2. Practice efficient on-farm water management and train farmers for the purpose of improving their farming practices
3. Improve basic social infrastructure such as farm roads and domestic water supply facilities

### Outputs

1. New/Rehabilitation of Primary canal : 143.9 km
2. New/Rehabilitation of Secondary canal : 583.5 km
3. New/Rehabilitation of Tertiary drains : 1,726.1 km
4. Flood protection dike : 31.2 km
5. New water control structures : 64 units
6. Tertiary structures : 1,984 units
7. Road construction : 38.8 km
8. Construction of new bridge : 1,012 units

---

**TC** : Technical Cooperation  
**GA** : Grant Aid  
**ODA Loans** : Official Development Assistance Loans
### Project Name
Batutegi Dam Project (Way Sekampung Irrigation Project)

### Project Type
ODA Loans

### Project Site
Way Sekampung River, Bandar Lampung, Lampung Province, Way Sekampung River Basin

### Project Period

### Name of JICA Experts / Consultants
Nippon Koei Co., Ltd. & Associates

### Project Highlight:
Construction of Batutegi Dam and Expansion of irrigation system to Bekri area.

### Background
The Batutegi Dam was planned to be constructed as a part of the Way Sekampung Irrigation Development Project. To increase irrigated area in dry season by utilizing the excessive river flow in the rainy season, construction of the Batutegi dam had been eagerly longed. In addition to this primary function, the Batutegi dam was expected to contribute for power generation and flood control also.

### Overall Goal
To enhance regional and national development in Lampung region

### Project Purpose
1) To increase in the harvest area of rice and other main food crops in the project area largely by increasing of irrigation water supply especially during the dry season by constructing the Batutegi dam and expansion of irrigation areas.
2) To maximize the effect of the past investment through rehabilitation of irrigation systems and also to generate benefits with an economical investment for creating new irrigated crop areas

### Outputs
1) Batutegi Multipurpose Dam (rockfill, center core type)  
   H : 122 m, V : 9,640,000 m³, L : 701 m,  
2) Flood Control  
   Design Discharge : 1,930m³/s  
3) Irrigation (76,790 ha in total)  
   Waterway type : circular concrete lined, L : 414.4 m D : 1.95 m  
4) Hydroelectric Power: 28 MW (2 x 14 MW)  
5) Transmission line 150 Kv

TC : Technical Cooperation  
GA : Grant Aid  
ODA Loans : Official Development Assistance Loans
### Japanese ODA to Indonesia

<table>
<thead>
<tr>
<th>Items of the Project</th>
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<tbody>
<tr>
<td><strong>Project Name</strong></td>
<td>The Project for Urgent Reconstruction of East Pump Station of Pluit in Jakarta</td>
</tr>
<tr>
<td><strong>Project Type</strong></td>
<td>GA</td>
</tr>
<tr>
<td><strong>Project Site</strong></td>
<td>Pluit Pump Station in the North Jakarta</td>
</tr>
<tr>
<td><strong>Project Period</strong></td>
<td>January 2011 - March 2014 (Tentative)</td>
</tr>
<tr>
<td><strong>Name of JICA Experts / Consultants</strong></td>
<td>Yachiyo Engineering Co., Ltd.</td>
</tr>
<tr>
<td><strong>Project Highlight:</strong></td>
<td>Urban Flood Management, Pump Station, Rehabilitation of existing Facility, Reconstruction of Pump Station and Sea Tide Dike, Urgent Measures for Flood Control</td>
</tr>
<tr>
<td><strong>Background</strong></td>
<td>On February 17th 2009, piping phenomenon underneath the bottom slab of East Pump House happened suddenly in the East Pump Station of Pluit Pump Station. All functions of East Pump Station are stopped. It was found that the reconstruction was difficult for DKI financially and technically because the site is on the very soft foundation facing the sea, and land subsidence in a large area due to dewatering have occurred constantly. Therefore, GOI made a request for Grant Aid for the Project for Urgent Reconstruction of East Pump Station of Pluit in Jakarta to the Government of Japan</td>
</tr>
<tr>
<td><strong>Overall Goal</strong></td>
<td>To minimize the impact by the flood in Jakarta urban area</td>
</tr>
<tr>
<td><strong>Project Purpose</strong></td>
<td>To recover the function of water discharge of Pluit Pump Station</td>
</tr>
</tbody>
</table>
| **Outputs**          | 1) Reconstruction of East Pump Station (RC structure, 3-story building, floor area: 400m²)  
2) Installation of Pump Facility in East Pump Station (Discharge pump facility 5.0m³/sec/unit: 3 sets, Emergency generator facility: 1 set, Screen and auxiliaries: 3 units, Horizontal conveyer: 1 unit)  
3) Reconstruction of Sea Tide Dike (Length: approximately 145m) |

**TC** : Technical Cooperation  
**GA** : Grant Aid  
**ODA Loans** : Official Development Assistance Loans
### Project Name
Jakarta/Jabodetabek Flood Control Project

### Project Type
TC, ODA Loans & GA

### Project Site
JABODETABEK Area

### Project Period
- Mobile Pumps (Grand Aid): 2003 - 2004

### Name of JICA Experts / Consultants
IDEA Consultants, Inc. & Associates

### Project Highlight:
- Cideng P/S (40 m³/s) is the biggest pump capacity in Indonesia

### Background
Jakarta, the capital city of Indonesia, and surrounding area (JABODETABEK area) are located in the flat area through which the Ciliwung and many other rivers drain catchments extended southward covering the hilly and rainy area. Reflecting its natural set-up, these areas had suffered from recurrent floods since olden days.

### Overall Goal
1. To promote sustainable economic development
2. Poverty alleviation

### Project Purpose
Reduction/prevention of flood/inundation damages in Jabodetabek

### Outputs
1. Construction of Cideng P/S (40 m³/s)
2. Construction of Grogol-Sekretaris Interceptor (25-year design scale)
3. D/D of East Banjir Canal
4. Improvement of major river/drainage channels (25-year design scale)
5. Construction of Ancol and Sunter P/S
6. Grant of mobile pumps (10 units)

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**TC**: Technical Cooperation  
**GA**: Grant Aid  
**ODA Loans**: Official Development Assistance Loans
**Japanese ODA to Indonesia**

<table>
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<tr>
<th>Items of the Project</th>
<th>Details</th>
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</thead>
<tbody>
<tr>
<td><strong>Project Name</strong></td>
<td>Capacity Development of Jakarta Comprehensive Flood Management</td>
</tr>
<tr>
<td><strong>Project Type</strong></td>
<td>TC</td>
</tr>
<tr>
<td><strong>Project Site</strong></td>
<td>Ciliwung River Basin</td>
</tr>
<tr>
<td><strong>Project Period</strong></td>
<td>October 2010 to September 2013</td>
</tr>
<tr>
<td><strong>Name of JICA Experts / Consultants</strong></td>
<td>Takaya TANAKA, Yachiyo Engineering Co.,Ltd</td>
</tr>
<tr>
<td><strong>Project Highlight:</strong></td>
<td>Comprehensive Flood Management Plan, Urban Flood Management, Capacity Development</td>
</tr>
<tr>
<td><strong>Background</strong></td>
<td>JABODETABEK is an area of vital political and economic center in Indonesia. However the frequency of the flood disaster has been currently increasing due to the increase of run-off water in accordance with unregulated development. Moreover, there are concerns that flood damage will be serious in the future due to the intensification of localized heavy rain arising from climate change. And, as extensive land subsidence has been continued in JABODETABEK, resulting in having been increasing area under high tide water level at the coastal area. Meanwhile, as can be seen in the discussion on the utilization of Situ (pond) as run-off control facilities, interest in run-off control is growing up in JABODETABEK</td>
</tr>
<tr>
<td><strong>Overall Goal</strong></td>
<td>The comprehensive flood management (CFM) measures are implemented in Jakarta based on the legalized Comprehensive Flood Management Plan (CFMP)</td>
</tr>
<tr>
<td><strong>Project Purpose</strong></td>
<td>CFM measures are implemented in the Project area based on CFMP</td>
</tr>
<tr>
<td><strong>Outputs</strong></td>
<td>1. Clarification of respective roles of related organizations</td>
</tr>
<tr>
<td></td>
<td>2. Formulation of Comprehensive Flood Management Plan (CFMP) and Comprehensive Flood Management Action Plan (CFMAP). Starting legalization process</td>
</tr>
<tr>
<td></td>
<td>3. Establishment of the Mechanism for monitoring, evaluation and feedback for CFMP</td>
</tr>
<tr>
<td></td>
<td>4. Establishment of sustainable coordination and collaboration mechanism among river basin stakeholders (Public, Private and Resident)</td>
</tr>
</tbody>
</table>

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## Items of the Project

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Details</th>
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</thead>
<tbody>
<tr>
<td>Upper Citarum River Basin Flood Control and Farm/Forest Land Conservation Projects</td>
<td></td>
</tr>
</tbody>
</table>

### Project Type
- TC & ODA Loans

### Project Site
- The Upper Citarum River Basin, West Java Province

### Project Period
- From 1987 to 2010,
  1) Study on the Flood Control Plan of the Upper Citarum Basin (Master Plan & Feasibility Study) : 1987-1988,
  2) Upper Citarum Basin Urgent Flood Control Project Detail Design (ODA Loan, IP-347) : 1992-1993,
  3) Upper Citarum Basin Urgent Flood Control Project (Stage I) Construction (ODA Loan, IP-405) : 1994-1999,
  4) Upland Plantation and Land Development Project at Citarik Sub-Watershed (ODA Loan, IP-455) : 1995-2006,
  5) Upper Citarum Basin Urgent Flood Control Project (Stage II) Construction (ODA Loan, IP-497) : 2000-2007,
  6) Preparatory Survey for Upper Citarum River Basin Tributaries Flood Management Project (Preparatory Survey) : 2010

### Name of JICA Experts / Consultants
- Oriental Consultants Co., Ltd. & Associates

### Project Highlight:
- River improvement works by the Upper Citarum Basin Urgent Flood Control Project of Stage (I) and Stage (II), Upland Plantation and Land Development Project in order to alleviate sediment runoff and enhance farm productivity

### Background
- The Upper Citarum River Basin has incurred frequent floods for many years due to its topographical and geological characteristics. These floods have caused enormous damage, especially to economic sectors such as the agricultural and textile industries. The basin has also been struck with a series of vast sediment runoff. At the same time, the farm productivity lessened by sediment runoff has come to a serious issue. Thus, GOI (Government of Indonesia) considered the countermeasures had urgently needed to be implemented for sustainable development of economy and industries in the Upper Citarum River Basin

### Overall Goal
- Contribution to the development of the Indonesian economy and industries by the project implementation for "Urgent Flood Control" and "Upland Plantation and Land Development" in the Upper Citarum River Basin

### Project Purpose
- The "Urgent Flood Control Project" mainly aimed at river improvement works for Citarum Main River and its tributaries to accommodate the flood discharge of a 5 year return period in terms of single 5 days rainfall, while the "Upland Plantation and Land Development" purposed conservation of farm/forest land and stabilization of torrents and their banks in the targeted sub-watersheds of the Citarik River

### Outputs
- The total length of 77.57km for river improvement works has been implemented by the "Urgent Flood Control Project" of Stage (I) and (II). Terrace development (7,735ha), Check dam construction (229 units), Revetment works (12.2km), Training of village people (63 villages), etc. were carried out through the "Upland Plantation and Land Development Project". JICA Preparatory Survey for Upper Citarum River Basin Tributaries Flood Management Project was carried out in 2010

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<tr>
<td><strong>Project Name</strong></td>
<td>Capacity Development Project for River Basin Organizations in Practical Water Resources Management and Technology</td>
</tr>
<tr>
<td><strong>Project Type</strong></td>
<td>TC</td>
</tr>
<tr>
<td><strong>Project Site</strong></td>
<td>Bandung and Solo</td>
</tr>
<tr>
<td><strong>Project Period</strong></td>
<td>From July 2008 to July 2011</td>
</tr>
<tr>
<td><strong>Name of JICA Experts / Consultants</strong></td>
<td>SUGI Masakazu, OJIMA Satoshi, OHARA Katsuhiko</td>
</tr>
<tr>
<td><strong>Project Highlight:</strong></td>
<td>Establishing the scheme of capacity development of RBO staff on practical water resources management</td>
</tr>
<tr>
<td><strong>Background</strong></td>
<td>The Water Resources Law No.7/2004 was enacted to improve water resources management in its river basins. In 2006, 30 River Basin Organizations (RBOs, currently existing 31 RBOs) were established across the country under the jurisdiction of the Ministry of Public Works. (Currently 31 RBOs) While the law states that authorities and responsibilities of the Government, they were not fully prepared at the time of the RBO’s formation and many needed to be revised to better suit the actual conditions of river basins in Indonesia. In addition, while RBOs are responsible for the management of water resources, RBOs did not have a sufficient capacity to carry out the said responsibilities, partly due to the fact that they were founded on government project units, responsible for constructing facilities for river basins. Under such circumstances, the project, supported by JICA, to strengthen RBOs’ organizational capacity and to strengthen their human resources started in July 2008</td>
</tr>
<tr>
<td><strong>Overall Goal</strong></td>
<td>The capacity of RBOs related to implementation of practical water resources management is enhanced at the basin level</td>
</tr>
<tr>
<td><strong>Project Purpose</strong></td>
<td>The capacity development system for RBOs by DUWRMT in practical water resources management is established</td>
</tr>
</tbody>
</table>
| **Outputs**          | 1. Enhance the capacity of "Dissemination Unit for Water Resources Management and Technology (DUWRMT)" to conduct the training of River Basin Organization (RBO) staffs  
2. Develop guidelines and manuals for practical water resources management and flood management  
3. Establishment of counseling mechanism to RBOs on water resources management and flood management |

TC : Technical Cooperation  
GA : Grant Aid  
ODA Loans : Official Development Assistance Loans
### Project Name
- Capacity Development Project for Sabo
  - Volcanic Sabo Technical Centre (VSTC) Project
  - Sabo Technical Centre (STC) Project
  - Integrated Sediment-related Disaster Management (ISDM) Project

### Project Type
TC & GA

### Project Site
Yogyakarta

### Project Period
- VSTC: From August 1982 Until March 1990,
- STC: From April 1992 Until March 1997,
- ISDM: From April 2001 Until March 2006

### Name of JICA Experts / Consultants
All JICA Experts for Sabo

### Project Highlight:
Damage by sediment-related disasters to human lives, assets and environment in Indonesia is reduced

### Background
In Indonesia, as local development takes place, risks of loss of life and assets by debris flow and other sediment are increasing in various regions. As one of the major issues in Indonesia is development of social infrastructure in hilly and mountainous areas, it is urgently needed to foster staff who are not only competent in civil engineering but also capable for preparing integrated regional plans for disaster management based on socio-economic characteristics of the regions, formulating project implementation schemes, and establishing and implementing disaster prevention projects with community participation.

### Overall Goal
Integrated sediment-related disaster mitigation measures are implemented in hazardous areas

### Project Purpose
Engineers involved in disaster mitigation and local residents become able to plan and implement disaster mitigation measures to reduce the impacts of sediment-related disasters

### Outputs
1. Establishing Integrated Sediment-related Disaster Mitigation Guidance
2. Human Resources Development
3. Establishing Disaster Information System
4. Establishing Local organization
5. Facilities of Sabo Technical Centre (Grant Aid)

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TC : Technical Cooperation
GA : Grant Aid
ODA Loans : Official Development Assistance Loans
# Japanese ODA to Indonesia

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<th>Items of the Project</th>
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<tr>
<td><strong>Project Name</strong></td>
<td>Volcanic Disaster Countermeasure Projects for Mt. Merapi</td>
</tr>
<tr>
<td><strong>Project Type</strong></td>
<td>TC &amp; ODA Loans</td>
</tr>
<tr>
<td><strong>Project Site</strong></td>
<td>Yogyakarta and Central Java Area</td>
</tr>
<tr>
<td><strong>Project Period</strong></td>
<td>1. Mt. Merapi Urgent Volcanic Debris Control Project (Phase I) Design &amp; Construction: January 1987 - June 1992,</td>
</tr>
<tr>
<td><strong>Name of JICA Experts / Consultants</strong></td>
<td>Yachiyo Engineering Co., Ltd. &amp; Associates</td>
</tr>
<tr>
<td><strong>Project Highlight</strong>:</td>
<td>Urgent Countermeasure for Volcanic Disasters, Non-structural Measures for Disaster Mitigation</td>
</tr>
<tr>
<td><strong>Background</strong></td>
<td>In June 1984, Mt. Merapi made a huge eruption and volcanic materials of estimated 6.5 million m³ deposited on the south-western slope of the mountain for 6.7 km to the downstream. Mt. Merapi erupted in February 1992, spewing volcanic material of 4 million m³ to the western slope. Then, 2 years later, Mt. Merapi erupted again on November 22, 1994 and the pyroclastic material flowed down to the southern slope, leaving 63 deaths caused by pyroclastic flow. Due to those eruptions, pyroclastic material remained unstably on the western and southern slopes, threatening the area with the debris flow disasters.</td>
</tr>
<tr>
<td><strong>Overall Goal</strong></td>
<td>To contribute to uplift the welfare of Yogyakarta and Central Java Area</td>
</tr>
<tr>
<td><strong>Project Purpose</strong></td>
<td>To mitigate damage caused by lahar flow to public and private property and to agricultural land in the area close to Mt. Merapi</td>
</tr>
<tr>
<td><strong>Outputs</strong></td>
<td>Sabo/Check Dam: 24 units, Consolidation Dam/Groundsill: 72 units, Training Dike: 16.4km, Diversion Channel: 4.1km, Evacuation Road: 22.5km, Monitoring &amp; Warning System, Review Master Plan</td>
</tr>
</tbody>
</table>

TC : Technical Cooperation  
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### Items of the Project

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<td><strong>Project Period</strong></td>
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<tr>
<td><strong>Name of JICA Experts / Consultants</strong></td>
</tr>
</tbody>
</table>

#### Project Highlight:
Regional Development, Institution & Community Development, Volcanic Disaster Mitigation (Structural & Non-structural), Riverbed Stabilization, Urgent Measures for Volcanic Disaster

#### Background
Mt. Merapi is one of the most active volcanoes in the world. Recent eruptions since 1992 have deviated from the past conditions, endangering residents and assets with pyroclastic flows and debris flows. On the other hand, uncontrolled sand mining has caused serious problems. In the lower reaches of K. Progo, two bridges important for regional/national transportation system are in danger of collapse.

#### Overall Goal
To contribute to uplift the welfare of Yogyakarta and Central Java Area

#### Project Purpose
To protect Yogyakarta and Central Java area against natural calamities caused and to be caused by Mt. Merapi’s volcanic eruption and succeeding sand sedimentation

#### Outputs
- Construction of Sabo Dam: 31 units
- Rehabilitation of Existing Sabo Dam: 7 units
- Rehabilitation of River Facilities: 22 locations
- Rehabilitation of Irrigation Facilities: 60 locations
- Construction of Groundsill: 2 units
- Monitoring, Forecasting & Warning System
- Evacuation Facilities (Road, Shelter, Signboard)
- Heavy Equipment & Workshop for Disaster Management
- Establishment of Community Base Sand Mining Management Organization
- Evacuation Drills in 4 sub villages x 3 times
- Establishment of Disaster Education Program for Child Sand Mining Management Plan, Manuals
- Disaster Management Event

---

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### Project Name
Integrated Water Resources and Flood Management Project for Semarang

### Project Type
TC & ODA Loans

### Project Site
Semarang City, Central Jawa Province

### Project Period
- Master Plan & Feasibility Study (by JICA): 1992-1993,
- Detail Design (by JICA): 1997-2000,
- Construction: 2007-2014

### Name of JICA Experts / Consultants
CTI Engineering International Co.Ltd. & Associates

### Project Highlight:
Special Issues of the Project are:
1. Provision of river amenity facilities as river in urban center
2. Conservation of hysterical structure namely Simongan Weir constructed in 1870
3. Dam reservoir development for tourism

### Background
Semarang City has fallen into the critical level in shortage of municipal water supply and the habitual flood inundation associated with the current progressive land subsidence. The risk of overflow of West Floodway/Garang River also continues to be the mortal menace to the City. From these viewpoints, the JBIC SAPROF Study has been carried out in 2005 to re-clarify the necessity and viability of the Project

### Overall Goal
To mitigate the prolonged economic problems and to enhance the economic development and stabilization of people's livelihood

### Project Purpose
To mitigate flood and inundation damages along West Floodway/Garang River, to develop water resources for municipal use in Semarang City and to reduce inundation damages in the northern central area of Semarang City. To improve the environmental conditions along the river and the urban area. To upgrade the living conditions of inhabitants in the project area

### Outputs
1. River Improvement Works along the West Floodway and Garang River (Improvement Length: 9.2km)
2. Construction of Jatibarang Multipurpose Dam (Reservoir Capacity: 20.4million m^3, Purpose: Flood Control, Water Supply (Industry, Municipal Water))
3. Simongan Weir Rehabilitation
4. City Drainage Improvement
5. Design of water supply system in Semarang City

---

TC : Technical Cooperation
GA : Grant Aid
ODA Loans : Official Development Assistance Loans
### Project Name
Wonogiri Multipurpose Dam Project

### Project Type
TC, ODA Loans & GA

### Project Site
Wonogiri Regency, Central Java, Bengawan Solo River Basin

### Project Period
- Master Plan of Bengawan Solo River Basin: June 1972 - March 1974,
- Detail Design & Construction: 1976 – 1983,
- Grant Aid: 2001 - 2004

### Name of JICA Experts / Consultants
Nippon Koei Co., Ltd

### Background
Wonogiri multipurpose Dam Project was one of the most important schemes contemplated in the development plan of the Bengawan Solo Basin, which had been identified through a master plan study on the Solo River Basin Development.

### Overall Goal
To enhance regional and national development through irrigation, flood control, and power generation.

### Project Purpose
1. Flood control
2. Irrigation water supply for Year round irrigation in the existing crop land of 23,600 ha
3. Power Generation (12.4 MW)

### Outputs
- **Technical Cooperation**
  1) Master Plan for Wonogiri
- **ODA Loans**
  2) Wonogiri Dam (Flood Control and Hydro Power)
  3) Power Plant
- **Grant Aid**
  4) Dam: Rock-fill, H=38 m, L=832 m, V=1,800,000 m³
     Power: 11,200 kW,
     Transmission Line: 150 kV/Length: 40 km
- **Removal works of garbage on intake trashrack**
- **Repairing of gates and hoists**
- **Dredging (about 239,930 m³) and removal of garbage**
- **Installation of floating log boom**
- **Procurement of echo sounding survey system**

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TC : Technical Cooperation
GA : Grant Aid
ODA Loans : Official Development Assistance Loans
# Japanese ODA to Indonesia

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<tr>
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<tbody>
<tr>
<td><strong>Project Name</strong></td>
<td>Madiun River Urgent Flood Control Project</td>
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<tr>
<td><strong>Project Type</strong></td>
<td>TC &amp; ODA Loans</td>
</tr>
<tr>
<td><strong>Project Site</strong></td>
<td>Madiun, East Java, Bengawan Solo River Basin</td>
</tr>
<tr>
<td><strong>Name of JICA Experts / Consultants</strong></td>
<td>Nippon Koei Co., Ltd</td>
</tr>
<tr>
<td><strong>Project Highlight:</strong></td>
<td>The improvement of the main stem and the tributaries including construction of short cut channels as new river courses</td>
</tr>
<tr>
<td><strong>Background</strong></td>
<td>The Madiun river was one of three primary sub-basins and the largest tributary of the Solo River. Unprecedented floods took place in the Madiun river basin in 1975, 1978 and 1979. Those floods caused serious damages in the Madiun river basin, especially at the Madiun city. In order to substantiate flood control measures to protect urgently the Madiun city, the development of the Madiun River was contemplated</td>
</tr>
<tr>
<td><strong>Overall Goal</strong></td>
<td>To enhance regional and national development</td>
</tr>
</tbody>
</table>
| **Project Purpose**  | 1) To relieving the Madiun urban area and its suburbs from menace of the flood inundation  
2) To minimize back swamp areas due to insufficient drainage system |
| **Outputs**          | 1) Master Plan on Development of the whole Solo River Basin including Madiun River  
2) Shortcut channel, new levee, heightening of existing levee, revetment, groyne and ground sill, sluiceway and drainage channel, new bridges, compensatory works for road relocation and irrigation facilities.  
3) Improvement of 22 km long section of the Madiun River, improvement of river sections at the confluence of 4 tributaries, and construction of 3.8 km long short cut channel.  
4) Excavation: 3,793,000 m³, Embankment: 1,882,000 m³, Revetment: 5.9 km, Drainage Ditch: 59.5 km  
5) Bridge: 5 nos |

TC : Technical Cooperation  
GA : Grant Aid  
ODA Loans : Official Development Assistance Loans
### Project Highlight:

- Construction of floodway and pumping station

### Background

The Regional Government had been making great efforts to provide flood protection measures in the Lower Solo River Basin. Despite these efforts, the Solo river basin has been suffered from habitual flooding every year. This project was identified through a master plan study on the Solo River Basin Development to improve drainage condition in the Lower Solo River Basin.

### Overall Goal

To enhance regional development through improvement drainage and irrigation conditions of the area.

### Project Purpose

1. To mitigate huge flood damages in social and economic life of the people in the Lower Solo River basin. The beneficial area covers about 200 km along the lower Solo River.
2. To develop water resources in the Lower Solo River Basin in accordance with the Government’s strategy for regional development.

### Outputs

1. Master Plan Study on Development of the Solo River Basin
2. Pumping Station (Grant Aid)
3. Floodway: channel excavation of 12.5 km, Jetty of 2.2 km, Intake gate of 1 no. Rubber dam of 1 no, Road bridge of 4 nos., Drop structure of 1 no, Sluiceway of 13 nos.
4. River Improvement including related structure
   - Dyking = 89.7 km, Short cut channel L = 2.2 km/Width = 120 km,
   - Sluiceway of 29 nos., Channel revetment LW = 3,075 m/ HW = 1,284 m
5. Babat barrage
   - Gate weir width = 137.5 m, Barrage check gate with hoist = 6 nos
6. Comprehensive Development and Management Plan Study

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**Notes:**
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- GA : Grant Aid
- ODA Loans : Official Development Assistance Loans
**Japanese ODA to Indonesia**

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<td><strong>Project Name</strong></td>
<td>Lower Solo River Improvement Project, Phase-II</td>
</tr>
<tr>
<td><strong>Project Type</strong></td>
<td>ODA Loans</td>
</tr>
<tr>
<td><strong>Project Site</strong></td>
<td>Solo River, East Java, Bengawan Solo River Basin</td>
</tr>
<tr>
<td><strong>Project Period</strong></td>
<td>Construction: September 2007 – November 2013</td>
</tr>
<tr>
<td><strong>Name of JICA Experts / Consultants</strong></td>
<td>Nippon Koei Co., Ltd. &amp; Associates</td>
</tr>
<tr>
<td><strong>Project Highlight:</strong></td>
<td>Construction of Bojonegoro barrage, Jabung ring dike, and installation of flood forecasting and warning system on the Solo River area</td>
</tr>
</tbody>
</table>

**Background**

The Lower Solo River basin covering around 12% of Java Island has a concentrated population, contains many of the country’s most important industries, and lies in a geographically important region adjacent to the nation’s second largest city of Surabaya. The Lower Solo River has been one of the most important water sources for the region, and has supported the region’s economic development. Meanwhile, the Lower Solo River has frequently brought floods to the basin.

**Overall Goal**

To enhance regional development through the prevention of flooding around the Solo River

**Project Purpose**

1) To construct Bojonegoro Barrage  
2) To realize more efficient operation of flood control facilities and safer evacuation of local inhabitants from the floods

**Outputs**

1) Construction of the Bojonegoro barrage  
   Storage capacity: 13 million m³, Weir length: 145 m, 7 radial gates: 15.0 x 7.3 m, 2 radial gates: 7.5 x 7.3 m  
2) Jabung Ring Dike:  
   Storage capacity: 30.5 million m³, Water Surface Area: 1,181 ha, Dike: 21 Km (L) x 2~5 m (H), Intake Gates: 16 nos  
3) Installation Flood Forecasting and Warning System  
   Control/monitoring office: 4 location, Rail fall station: 14 location, Water level station: 11 station, Combined station: 8 units  
4) Detailed design of counter measure for sedimentation in the Wonogiri Dam reservoir  
5) Capacity Building

TC : Technical Cooperation  
GA : Grant Aid  
ODA Loans : Official Development Assistance Loans
## Project Name
Wonorejo Multipurpose Dam Project

## Project Type
TC & ODA Loans

## Project Site
Tulungagung Area, East Java, Brantas River Basin

## Project Period
Detail Design & Construction : September 1982 – October 2000

## Name of JICA Experts / Consultants
Nippon Koei Co., Ltd. & Associates

### Background
The Wonorejo Multipurpose Dam is one of the components of the overall river basin development of Brantas River (Brantas River Basin)

### Overall Goal
To enhance regional development in the Brantas River Basin

### Project Purpose
1) To supply raw water for Surabaya and its surroundings especially for municipal and industrial uses
2) To control flood in the downstream areas of the Song and Gondang River
3) To generate hydroelectric power by harnessing a water head to be created by Wonorejo dam as well as river water in the Gondang and Song rivers

### Outputs
1) Wonorejo multipurpose dam (zoned rockfill, with center core, Dam height: 100 m, Crest length: 545 m) and power station (6.3 MW)
2) Segawe weir and connection tunnel
3) Tiudan Water Conveyance System
4) Tulungagung Pumping Station (3 nos., Capacity: 225 m3/min/unit)
5) Improvement of Mlirip gate and telecommunication system

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<td>Wonorejo Multipurpose Dam Project</td>
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<tr>
<td><strong>Project Type</strong></td>
<td>TC &amp; ODA Loans</td>
</tr>
<tr>
<td><strong>Project Site</strong></td>
<td>Tulungagung Area, East Java, Brantas River Basin</td>
</tr>
<tr>
<td><strong>Project Period</strong></td>
<td>Detail Design &amp; Construction : September 1982 – October 2000</td>
</tr>
<tr>
<td><strong>Name of JICA Experts / Consultants</strong></td>
<td>Nippon Koei Co., Ltd. &amp; Associates</td>
</tr>
<tr>
<td><strong>Project Highlight:</strong></td>
<td>Construction of the Wonorejo Multipurpose Dam Project as one of the component of the overall river basin development of Brantas River</td>
</tr>
<tr>
<td><strong>Background</strong></td>
<td>The Wonorejo Multipurpose Dam is one of the components of the overall river basin development of Brantas River (Brantas River Basin)</td>
</tr>
<tr>
<td><strong>Overall Goal</strong></td>
<td>To enhance regional development in the Brantas River Basin</td>
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</table>
| **Project Purpose**  | 1) To supply raw water for Surabaya and its surroundings especially for municipal and industrial uses  
2) To control flood in the downstream areas of the Song and Gondang River  
3) To generate hydroelectric power by harnessing a water head to be created by Wonorejo dam as well as river water in the Gondang and Song rivers |
| **Outputs**          | 1) Wonorejo multipurpose dam (zoned rockfill, with center core, Dam height: 100 m, Crest length: 545 m) and power station (6.3 MW)  
2) Segawe weir and connection tunnel  
3) Tiudan Water Conveyance System  
4) Tulungagung Pumping Station (3 nos., Capacity: 225 m3/min/unit)  
5) Improvement of Mlirip gate and telecommunication system |

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<tr>
<td><strong>Project Name</strong></td>
<td>Mt. Kelud Urgent Volcanic Disaster Mitigation Project</td>
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<tr>
<td><strong>Project Type</strong></td>
<td>ODA Loans</td>
</tr>
<tr>
<td><strong>Project Site</strong></td>
<td>Kediri, Blitar, Tulungagung Regencies in East Java Province</td>
</tr>
<tr>
<td><strong>Project Period</strong></td>
<td>Detail Design &amp; Construction : October 1992 - May 1996</td>
</tr>
<tr>
<td><strong>Name of JICA Experts / Consultants</strong></td>
<td>Yachiyo Engineering Co., Ltd. &amp; Associates</td>
</tr>
<tr>
<td><strong>Project Highlight:</strong></td>
<td>Sabo Facilities, Improvement Crater Lake Drainage Tunnel</td>
</tr>
<tr>
<td><strong>Background</strong></td>
<td>Mt. Kelud erupted periodically with interval of 15 to 20 years. On February 1990, Mt. Kelud released a large volume of volcanic debris, causing 31 death. Mt. Kelud is inclued in Brantas River basin, and tremendous volume has flow into Brantas River and Wlingi Reservoir resulting flood disaster along Brantas River and suspension of hydraulic power generation in Wlingi Dam</td>
</tr>
<tr>
<td><strong>Overall Goal</strong></td>
<td>To improve regional stability against 1990 Eruption damages</td>
</tr>
<tr>
<td><strong>Project Purpose</strong></td>
<td>To mitigate damage of property and agricultural lands, to reduce reservoir and river sedimentation in upper/middle reaches of Brantas River</td>
</tr>
<tr>
<td><strong>Outputs</strong></td>
<td>Check/Consolidation Dam: 8 units</td>
</tr>
<tr>
<td></td>
<td>Gridle: 5 units</td>
</tr>
<tr>
<td></td>
<td>Sand Pocket: 2 unit</td>
</tr>
<tr>
<td></td>
<td>Strengthening of Existing Dike</td>
</tr>
<tr>
<td></td>
<td>Improvement of Crater Lake Drainage Tunnel</td>
</tr>
<tr>
<td></td>
<td>Improvement of Existing Diversion Channel</td>
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<td></td>
<td>Rehabilitation of Existing Irrigation Weir</td>
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**Japanese ODA to Indonesia**

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<td>Wlingi Multipurpose Dam Project</td>
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<tr>
<td><strong>Project Type</strong></td>
<td>TC &amp; ODA Loans</td>
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<tr>
<td><strong>Project Site</strong></td>
<td>Tulungagung Area, East Java, Brantas River Basin</td>
</tr>
<tr>
<td><strong>Name of JICA Experts / Consultants</strong></td>
<td>Nippon Koei Co., Ltd</td>
</tr>
<tr>
<td><strong>Project Highlight:</strong></td>
<td>Construction of the Wlingi Dam Project as one of the component of the overall river basin development of the Brantas River Basin</td>
</tr>
<tr>
<td><strong>Background</strong></td>
<td>The Wlingi Multipurpose was a multipurpose project aiming at irrigation, power generation, afterbay function of existing Karangkates Power Station, flood debris control, which had been formulated in close relation with the operation of Karangkates Dam and power plant</td>
</tr>
<tr>
<td><strong>Overall Goal</strong></td>
<td>To enhance regional development in the Brantas River Basin</td>
</tr>
<tr>
<td><strong>Project Purpose</strong></td>
<td>1) To secure irrigation water for Tulungagung Areas 2) To provide an afterbay for the Karangkates Power Station 3) To generate hydro electric power to meet demand 4) To mitigate flood of the Brantas River</td>
</tr>
<tr>
<td><strong>Outputs</strong></td>
<td>1) Brantas River Basin Development Plan 2) Wlingi multipurpose dam (irrigation, flood control, power generation) 1st stage: Dam: Rock-fill and earth-fill combined type, H=28 m, L=675 m, V=630,000 m³, Power= 27 MW T/L: 154 kV/25 km Irrigation: 13,600 ha 2nd stage: No.2 power unit installation: 27 MW Afterbay weir: Net storage capacity 5,000,000 m³ 3) Lodoyo dam (Flow regulation, power generation)</td>
</tr>
</tbody>
</table>

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GA : Grant Aid  
ODA Loans : Official Development Assistance Loans
### Project Name
Water Resources Existing Facilities Rehabilitation and Capacity Improvement Project

### Project Type
ODA Loans

### Project Site
Brantas River, East Java, Brantas River Basin

### Project Period
Construction/Rehabilitation: December 2003 – December 2011

### Name of JICA Experts / Consultants
Nippon Koei Co., Ltd. & Associates

### Background
Natural disasters have caused much deterioration, requiring rehabilitation works. Such rehabilitation works have not necessarily been performed to a sufficient level due to budgetary and technical constraints of the Indonesia Government. In such circumstances, GOI has formulated the national policy to undertake adequate operation and maintenance works and has requested financial support from GOJ. Maintaining the original function of the infrastructure is necessary for the development of Indonesia. Implementation of the rehabilitation project is requested for the priority projects that would have the sufficient benefit.

### Overall Goal
To enhance restore the capacity and function of existing infrastructures, and it is an effective and efficient method of infrastructure investment under the current fiscal and economic conditions of Indonesia.

### Project Purpose
1) To strengthen the operation and maintenance capacity of the responsible O&M organizations, particularly in the light of the decentralization policy
2) To rehabilitate the function and capacity of damaged or worn-out facilities that were built with the financial assistance of OECF/JBIC

### Outputs
1) Civil Works for Upper Solo and Madiun River: improvement of river structure, rehabilitation of intake's rubber gate
2) Civil Works for Brantas River: improvement of the river structure, Sabo dam, dredging system, revetment
3) Civil Works for Mt. Kelud Urgent Sabo: improvement of Sabo Dam and bypass channel
4) Civil Works for Ural River irrigation: improvement irrigation structure [concrete fixed type floating weir, Earth canals with a part of earthen lining and concrete lining (43 km)]

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<td>Water Resources Existing Facilities Rehabilitation and Capacity Improvement Project</td>
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<tr>
<td><strong>Project Type</strong></td>
<td>ODA Loans</td>
</tr>
<tr>
<td><strong>Project Site</strong></td>
<td>Brantas River, East Java, Brantas River Basin</td>
</tr>
<tr>
<td><strong>Project Period</strong></td>
<td>Construction/Rehabilitation: December 2003 – December 2011</td>
</tr>
<tr>
<td><strong>Name of JICA Experts / Consultants</strong></td>
<td>Nippon Koei Co., Ltd. &amp; Associates</td>
</tr>
<tr>
<td><strong>Project Highlight:</strong></td>
<td>Seven (7) projects were selected as the priority projects for rehabilitation</td>
</tr>
</tbody>
</table>

**Background**
Natural disasters have caused much deterioration, requiring rehabilitation works. Such rehabilitation works have not necessarily been performed to a sufficient level due to budgetary and technical constraints of the Indonesia Government. In such circumstances, GOI has formulated the national policy to undertake adequate operation and maintenance works and has requested financial support from GOJ. Maintaining the original function of the infrastructure is necessary for the development of Indonesia. Implementation of the rehabilitation project is requested for the priority projects that would have the sufficient benefit.

**Overall Goal**
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**Project Purpose**
1) To strengthen the operation and maintenance capacity of the responsible O&M organizations, particularly in the light of the decentralization policy
2) To rehabilitate the function and capacity of damaged or worn-out facilities that were built with the financial assistance of OECF/JBIC

**Outputs**
1) Civil Works for Upper Solo and Madiun River: improvement of river structure, rehabilitation of intake's rubber gate
2) Civil Works for Brantas River: improvement of the river structure, Sabo dam, dredging system, revetment
3) Civil Works for Mt. Kelud Urgent Sabo: improvement of Sabo Dam and bypass channel
4) Civil Works for Ural River irrigation: improvement irrigation structure [concrete fixed type floating weir, Earth canals with a part of earthen lining and concrete lining (43 km)]

TC: Technical Cooperation
GA: Grant Aid
ODA Loans: Official Development Assistance Loans
**Japanese ODA to Indonesia**

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<td><strong>Project Name</strong></td>
<td>Brantas Middle Reaches River Improvement Project</td>
</tr>
<tr>
<td><strong>Project Type</strong></td>
<td>TC &amp; ODA Loans</td>
</tr>
<tr>
<td><strong>Project Site</strong></td>
<td>Brantas River, East Java</td>
</tr>
<tr>
<td><strong>Name of JICA Experts / Consultants</strong></td>
<td>Nippon Koei Co., Ltd. &amp; Associates</td>
</tr>
<tr>
<td><strong>Project Highlight:</strong></td>
<td>Improvement of the Brantas Middle Reaches River as one of the component of the overall river basin development of the Brantas River</td>
</tr>
<tr>
<td><strong>Background</strong></td>
<td>The Project area has been developed as a granary of East Java. The majority of inhabitants depend on agricultural production for living. However, the irrigation area along middle reaches of the Brantas River has suffered from threat of floods because of insufficient river discharge capacity. The project was planned to be implemented stagewise so that the capacity of the river channel could be enough to discharge a 10 year probable flood after completion of the 1st stage construction and a 50-year probable flood after completion of the 2nd stage construction respectively</td>
</tr>
<tr>
<td><strong>Overall Goal</strong></td>
<td>To enhance regional development in the Brantas River Basin</td>
</tr>
<tr>
<td><strong>Project Purpose</strong></td>
<td>To mitigate flood damage which may be caused by a 50-year probable flood and to relieve life and property of inhabitants along middle reaches of the Brantas River from threat of floods</td>
</tr>
</tbody>
</table>
| **Outputs**                     | 1) Brantas River Basin Development Plan  
2) Bank raising, river bed dredging, revetment  
3) Rubber Dam  
4) Installation Flood Forecasting and Warning System  
5) River improvement Total length: 99 km  
1st stage: Design flood discharge: 1,350 m³/s, river bed dredging: 7,088,000 m³/s, levee embankment: 516,000 m³/s  
2nd stage: Design flood discharge: 1,500 m³/s, river bed dredging: 7,525,000 m³/s, levee embankment: 857,000 m³/s, telemeterized flood forecasting and warning system |

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GA    : Grant Aid  
ODA Loans : Official Development Assistance Loans
**Project Name**
Surabaya River Improvement Project (SRIP) & Surabaya Urban Development Project (SUDP)

**Project Type**
TC & ODA Loans

**Project Site**
Surabaya City, East Java Province

**Project Period**
Master Plan & Feasibility Study (JICA) : 1971 - 1973,
Detail Design & Construction of Stage I Works (SRIP I, IP-109) : 1975 - 1980,

**Name of JICA Experts / Consultants**
IDEA Consultants, Inc. & Associates

**Project Highlight:**
After improvement of the Mas river, greening and amenity facilities have been provided along the channel

**Background**
Surabaya city and its hinterland have been suffering from flood disasters such as flooding of the Surabaya, Mas, Marmoyo and Kedurus rivers and habitual inundations caused by local heavy rainfall

**Overall Goal**
1. To promote sustainable economic development
2. Poverty alleviation

**Project Purpose**
Reduction/prevention of flood damages in Surabaya, the second biggest city in Indonesia

**Outputs**
1. Improvement of Surabaya, Mas, Marmoyo, Kedurus rivers and other major drainage channels with 50-year design scale
2. Construction of Kedurus P/S (10 m3/s) with reservoir (35 ha)

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<td>Project Name</td>
<td>Surabaya River Improvement Project (SRIP) &amp; Surabaya Urban Development Project (SUDP)</td>
</tr>
<tr>
<td>Project Type</td>
<td>TC &amp; ODA Loans</td>
</tr>
<tr>
<td>Project Site</td>
<td>Surabaya City, East Java Province</td>
</tr>
<tr>
<td>Name of JICA Experts / Consultants</td>
<td>IDEA Consultants, Inc. &amp; Associates</td>
</tr>
<tr>
<td>Project Highlight:</td>
<td>After improvement of the Mas river, greening and amenity facilities have been provided along the channel</td>
</tr>
<tr>
<td>Background</td>
<td>Surabaya city and its hinterland have been suffering from flood disasters such as flooding of the Surabaya, Mas, Marmoyo and Kedurus rivers and habitual inundations caused by local heavy rainfall</td>
</tr>
</tbody>
</table>
| Overall Goal           | 1. To promote sustainable economic development
2. Poverty alleviation |
| Project Purpose        | Reduction/prevention of flood damages in Surabaya, the second biggest city in Indonesia |
| Outputs                | 1. Improvement of Surabaya, Mas, Marmoyo, Kedurus rivers and other major drainage channels with 50-year design scale
2. Construction of Kedurus P/S (10 m3/s) with reservoir (35 ha) |

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## Project Name
Volcanic Disaster Countermeasure Projects for Mt. Semeru

## Project Type
TC & ODA Loans

## Project Site
Lumajang, East Java

## Project Period

## Name of JICA Experts / Consultants
Yachiyo Engineering Co., Ltd. & Associates

## Background
In accordance with Indonesia National Third Five Year Plan (1979/80-1980/84), DGWRD in Ministry of Public Works insist to achieve 1) To maintain the safety of agricultural areas, 2) To secure the fairness among local people, 3) To protect industrial areas against disasters. Mt. Semeru erupted on Feb. 1994 causing 6 death or missing. Pyroclastic material deposited on 3 rivers with 40 m height at maximum.

## Overall Goal
To contribute to people safety and protect agricultural areas of the southeastern slope of Mt. Semeru and Lumajang City

## Project Purpose
To mitigate damage caused by lahar flow to public and private property and to agricultural land in Lumajang Regency

## Outputs
- Sabo/Check Dam: 11 units,
- Consolidation Dam/Groundsill: 3 units,
- Training Dike: 20.8km,
- Rehabilitation of Irrigation Facilities

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<td>Volcanic Disaster Countermeasure Projects for Mt. Semeru</td>
</tr>
<tr>
<td><strong>Project Type</strong></td>
<td>TC &amp; ODA Loans</td>
</tr>
<tr>
<td><strong>Project Site</strong></td>
<td>Lumajang, East Java</td>
</tr>
<tr>
<td><strong>Name of JICA Experts / Consultants</strong></td>
<td>Yachiyo Engineering Co., Ltd. &amp; Associates</td>
</tr>
<tr>
<td><strong>Project Highlight:</strong></td>
<td>Urgent Countermeasure for Volcanic Disasters</td>
</tr>
<tr>
<td><strong>Background</strong></td>
<td>In accordance with Indonesia National Third Five Year Plan (1979/80-1980/84), DGWRD in Ministry of Public Works insist to achieve 1) To maintain the safety of agricultural areas, 2) To secure the fairness among local people, 3) To protect industrial areas against disasters. Mt. Semeru erupted on Feb. 1994 causing 6 death or missing. Pyroclastic material deposited on 3 rivers with 40 m height at maximum.</td>
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<td><strong>Overall Goal</strong></td>
<td>To contribute to people safety and protect agricultural areas of the southeastern slope of Mt. Semeru and Lumajang City</td>
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<tr>
<td><strong>Project Purpose</strong></td>
<td>To mitigate damage caused by lahar flow to public and private property and to agricultural land in Lumajang Regency</td>
</tr>
<tr>
<td><strong>Outputs</strong></td>
<td>Sabo/Check Dam: 11 units, Consolidation Dam/Groundsill: 3 units, Training Dike: 20.8km, Rehabilitation of Irrigation Facilities</td>
</tr>
</tbody>
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<tr>
<td><strong>Project Name</strong></td>
<td>Integrated Disaster Mitigation Management Project for &quot;Banjir Bandang&quot;</td>
</tr>
<tr>
<td><strong>Project Type</strong></td>
<td>TC</td>
</tr>
<tr>
<td><strong>Project Site</strong></td>
<td>Jember District and Neighboring Area</td>
</tr>
<tr>
<td><strong>Project Period</strong></td>
<td>November 2008  -  November 2011</td>
</tr>
<tr>
<td><strong>Name of JICA Experts / Consultants</strong></td>
<td>UENO Toshiyasu, SHIIBA Shusaku, YOSHIDA Keiji</td>
</tr>
<tr>
<td><strong>Project Highlight:</strong></td>
<td>Target disaster will be Banjir Bandang, which, in the project, will be defined as large scale flush floods or debris flow caused mainly collapse of natural dams</td>
</tr>
<tr>
<td><strong>Background</strong></td>
<td>&quot;Banjir Bandang&quot; occurs suddenly and flows down mixed with water, sand, rocks and so on. It happens due to a large-scale hillside collapse upstream of the river. Every rainy season has many &quot;Banjir Bandang&quot; disasters and a lot of people and properties in Indonesia suffer damage. In the Joint Committee of Indonesia and Japan on Disaster Reduction in 2006, &quot;Banjir Bandang&quot; was confirmed as one of big problem in Indonesia such as tsunami and earthquake</td>
</tr>
<tr>
<td><strong>Overall Goal</strong></td>
<td>Early warning and emergency measures for Banjir Bandang is established at the hazardous areas all over Indonesia</td>
</tr>
<tr>
<td><strong>Project Purpose</strong></td>
<td>Capability for Banjir Bandang disaster mitigation of PU and local organization concerned in the main hazardous area is strengthened</td>
</tr>
<tr>
<td><strong>Outputs</strong></td>
<td>1. The method for researching Banjir Bandang area is established at the model site</td>
</tr>
<tr>
<td></td>
<td>2. Early warning and emergency measures for Banjir Bandang is improved at the model site</td>
</tr>
<tr>
<td></td>
<td>3. Capability for researching Banjir Bandang hazardous area is strengthened in the main hazardous areas in Indonesia</td>
</tr>
</tbody>
</table>

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<tr>
<td><strong>Project Name</strong></td>
<td>Bali Beach Conservation Project</td>
</tr>
<tr>
<td><strong>Project Type</strong></td>
<td>TC &amp; ODA Loans</td>
</tr>
<tr>
<td><strong>Project Site</strong></td>
<td>Sanur, Nusa Dua, Kuta and Tanah Lot – Bali Province</td>
</tr>
<tr>
<td><strong>Name of JICA Experts / Consultants</strong></td>
<td>Nippon Koei Co., Ltd. &amp; Associates</td>
</tr>
<tr>
<td><strong>Project Highlight:</strong></td>
<td>Tourism development in Nusa Dua and Sanur areas had been severely affected by deteriorations of the beaches. Coastal protection works were urgently required in order to prevent or reduce further deterioration of the beaches</td>
</tr>
<tr>
<td><strong>Background</strong></td>
<td>Bali Island had been worldwide famous resort area and the livelihood of most of the population depended on the tourism industry. However the erosion of the sand beaches threatened the activity of tourism and living of the people</td>
</tr>
<tr>
<td><strong>Overall Goal</strong></td>
<td>To conserve the sand beach and coastal resources against the beach and cliff erosion and to rejuvenate the tourism attractive points in the Bali Beach</td>
</tr>
<tr>
<td><strong>Project Purpose</strong></td>
<td>1)To restore the eroded sand beaches 2)To reduce the forces, both natural and development related which damage the beaches by using physical and legislative means 3)To converse the production and supply of coral sand</td>
</tr>
<tr>
<td><strong>Outputs</strong></td>
<td>1)Feasibility Study 2)Shore Protection Works for Sanur Beach 3)Shore Protection Work for Nusa Dua Beach with Quarry Development 4)Tanah Lot Protection Works 5)Shore Protection Works for Kuta Beach</td>
</tr>
</tbody>
</table>

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**Project Name**: Jeneberang River Basin Development Project  
**Project Type**: TC & ODA Loans  
**Project Site**: Makassar City, Gowa Regency, Takarar Regency, South Sulawesi Province  
**Project Period**  
**Study**  
1. Feasibility Study of Lower Jeneberang River Flood Control Project by JICA (February 1979 - September 1980)  
**Construction**  
2. Bili-Bili Multipurpose Dam (1992-99)  
4. Environmental Improvement Works for Bili-Bili Dam (1993-01)  
5. Pampang River Improvement Project (1996-01)  
**Name of JICA Experts / Consultants**: CTI Engineering International Co.Ltd. & Associates  
**Project Highlight**: Integrated regional development project composed of flood control, power generation, water supply, city drainage, watershed conservation, environmental Improvement works and irrigation  
**Background**: Makassar City, the capital of South Sulawesi Province, is the largest urban center and the main export gate in the East Indonesia. However, the area had been seriously damaged by the flood mainly from the Jeneberang river in the wet season. On the contrary, it suffers from irrigation water shortage problem in the dry season, and Makassar City becomes critical in supplying water for both domestic use and industry. Under the above circumstances, the Government of Indonesia had decided to implement projects for the flood control and water resources development of the Jeneberang River basin  
**Overall Goal**: Regional Economy & Social Stability  
- Drastic improvement of living environment and sanitary in the project area;  
- Provision of further industrial development; Increment of rice yield & farm income and  
- Enhancement of economic activity.  
**Project Purpose**: Mitigation of the repeated flood damage in Makassar City and its surrounding areas by river improvement works, drainage system improvement and flood discharge regulation using the dam and reservoir; and Development of water resources by impounding river water to meet the water demand for the municipal water supply, irrigation and hydropower generation  
**Outputs**: Bili-Bili Multipurpose Dam (Reservoir Capacity : 375million m3, Purpose: Flood Control, Water Supply (Irrigation, Industry, Municipal Water), Power Generation), Lower Jeneberang River Improvement Works (Improvement Length : 11.8km, Drainage Improvement 13.9km), Pampang River Improvement (Improvement Length : 11.2km, Pomp Station : 6 m3/s), RWTM (Pipe Length 16.3km) & Somba-Opu Water Treatment Plant (Nominal Capacity at 1 m3/s), Bili-Bili Hydroelectric Power Plant (Annual Output: 77 GWh), Bili-Bili Irrigation System (Service Area : 24,000 ha)
# Project Name
Urgent Disaster Reduction Project for Mt. Bawakaraeng

# Project Type
TC & ODA Loans

# Project Site
South Sulawesi Province

# Project Period
Detail Design & Construction: July 2005 - July 2014

# Name of JICA Experts / Consultants
Yachiyo Engineering Co., Ltd. & Associates

## Background
On 26th March, 2004, gigantic collapse occurred in northern caldera wall of Mt. Bawakaraeng. The volume of collapsed mass is estimated at 200 to 300 million m³. The caldera wall collapse with a height of 700-800m brought tremendous damage to the surrounding area, accounting for 32 people death and total damage was estimated at about Rp. 22 billion

## Overall Goal
To facilitate the stable water supply to downstream area by reinstating of the function expected to the dam, and contribute to uplift the welfare in affected areas

## Project Purpose
To protect public and private assets such as Bili-Bili dam, farmland and private properties along the Jeneberang River, by repairing existig infrastructure, building sabo facility and installing forecasting system to debris flow coming from Mt. Bawakaraeng

## Outputs
- Excavation at Edge of Reservoir and Riverbed: 4.5 mill. M³
- Construction of Sabo Facility: 15 units
- Evacuation and Rural Road: 15.7 km
- Rural Water Supply: 1,000 households
- Vegetation Work in Caldera: 45 ha
- Bridge: 2 units
- Telemetry System
- Most Urgent Maintenance Dredging System
- Sabo Master Plan

## Items of the Project

<table>
<thead>
<tr>
<th>Details</th>
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</thead>
<tbody>
<tr>
<td>Excavation Works, Sabo Dam Construction, Regional Development, Countermeasures against Sedimentation Problem in Bili-Bili Reservoir</td>
</tr>
<tr>
<td>To facilitate the stable water supply to downstream area by reinstating of the function expected to the dam, and contribute to uplift the welfare in affected areas</td>
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<tr>
<td>To protect public and private assets such as Bili-Bili dam, farmland and private properties along the Jeneberang River, by repairing existig infrastructure, building sabo facility and installing forecasting system to debris flow coming from Mt. Bawakaraeng</td>
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