



Japanese ODA to Indonesia

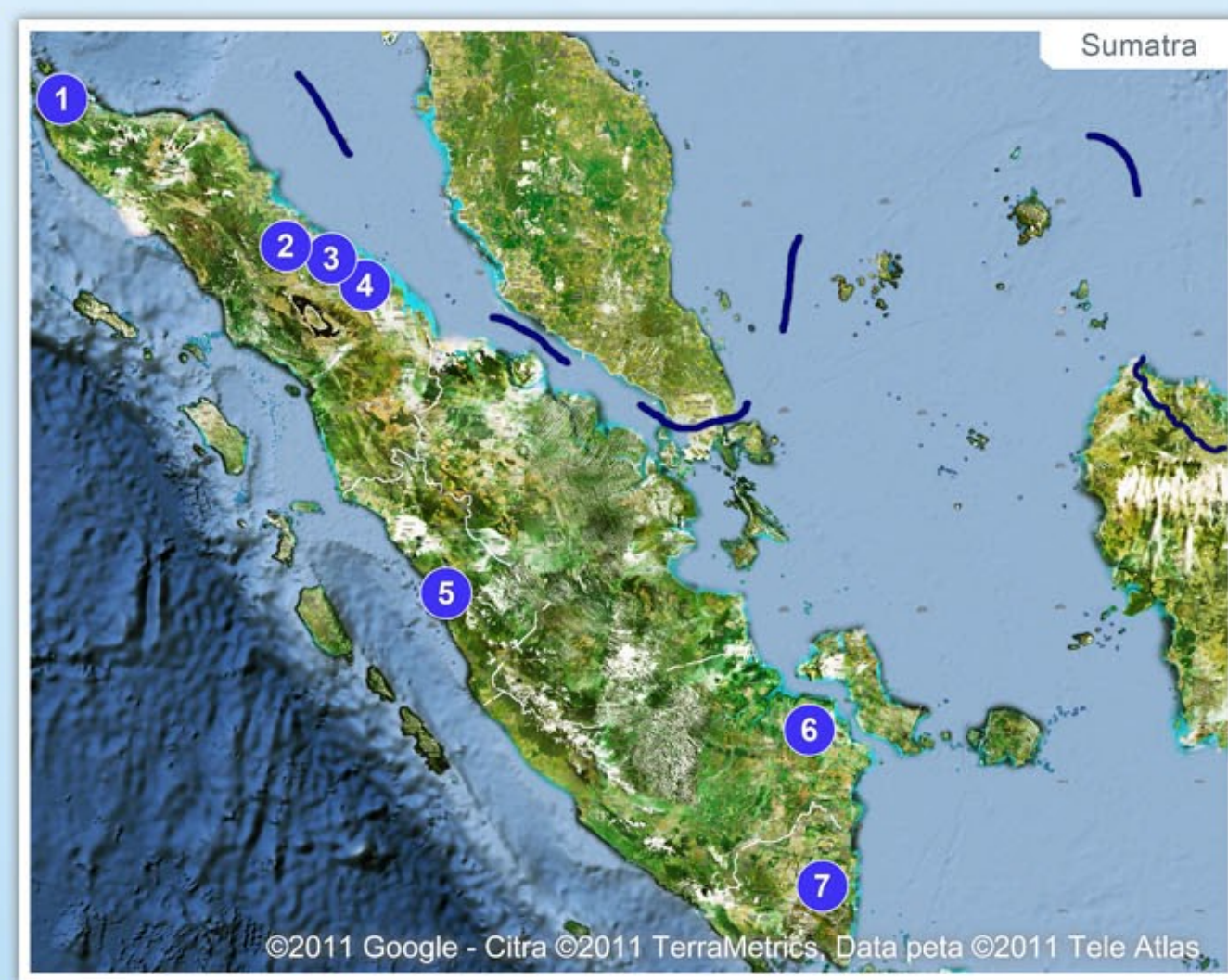
Main Projects in the Field of Water Resources Management, Flood Management and Sabo

1 Project Name : Krueang Aceh Urgent Flood Control Project

Project Site : The Krueang Aceh Basin, Aceh Province
Project Period : Preliminary Study : 1972 - 1973
 FS : 1979
 DD, February 1981 - November 1982
 Construction: August 1983 - January 1993

Project Highlight : Frequent floods occurred prior to the project appraisal (before 1983), but no considerable flooding has occurred since the project completion date.

Project Outputs : 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 Sibeh, small river improvements within the city.
 Stage 2 (Phase 1): Construction of flood control channels (River channel of 12km, 900m³/s).

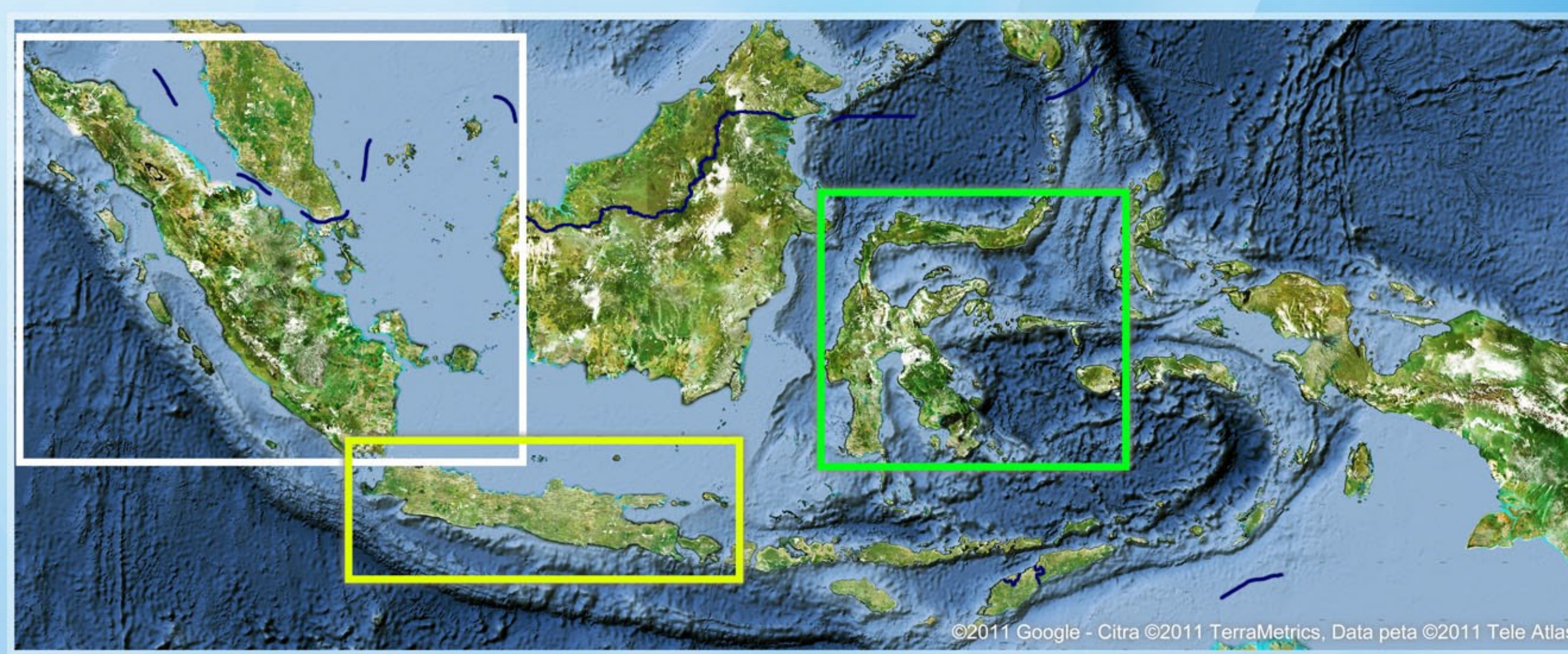


2 Project Name : Medan Flood Control Project

Project Site : Medan City, North Sumatra Province
Project Period : MP & FS : March 1990 - March 1992
 DD : March 1995 - September 1996
 Construction : January 1999 - January 2009

Project Highlight : 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.

Project Outputs : Percut river improvement works 28km, Medan Floodway construction 3.8km, New Road Bridge 13 units, and diversion and improvement works of upper Deli river 1.0 km.



27 Project Name : Volcanic Disaster Countermeasure Projects for Mt. Semeru

Project Site : Lumajang, East Java
Project Period : 1. Mt. Semeru Urgent Rehabilitation Project (Phase I) Detail Design & Construction : 1986 - 1991
 2. Mt. Merapi and Mt. Semeru Volcanic Disaster Countermeasures Project (Phase II) Detail Design & Construction : July 1996 - November 2001

Project Highlight : Urgent Countermeasure for Volcanic Disasters.

Project Outputs : Sabo/Check Dam: 11 units; Consolidation Dam/Groundfill: 3 units; Training Dike: 20.8km; Rehabilitation of Irrigation Facilities.

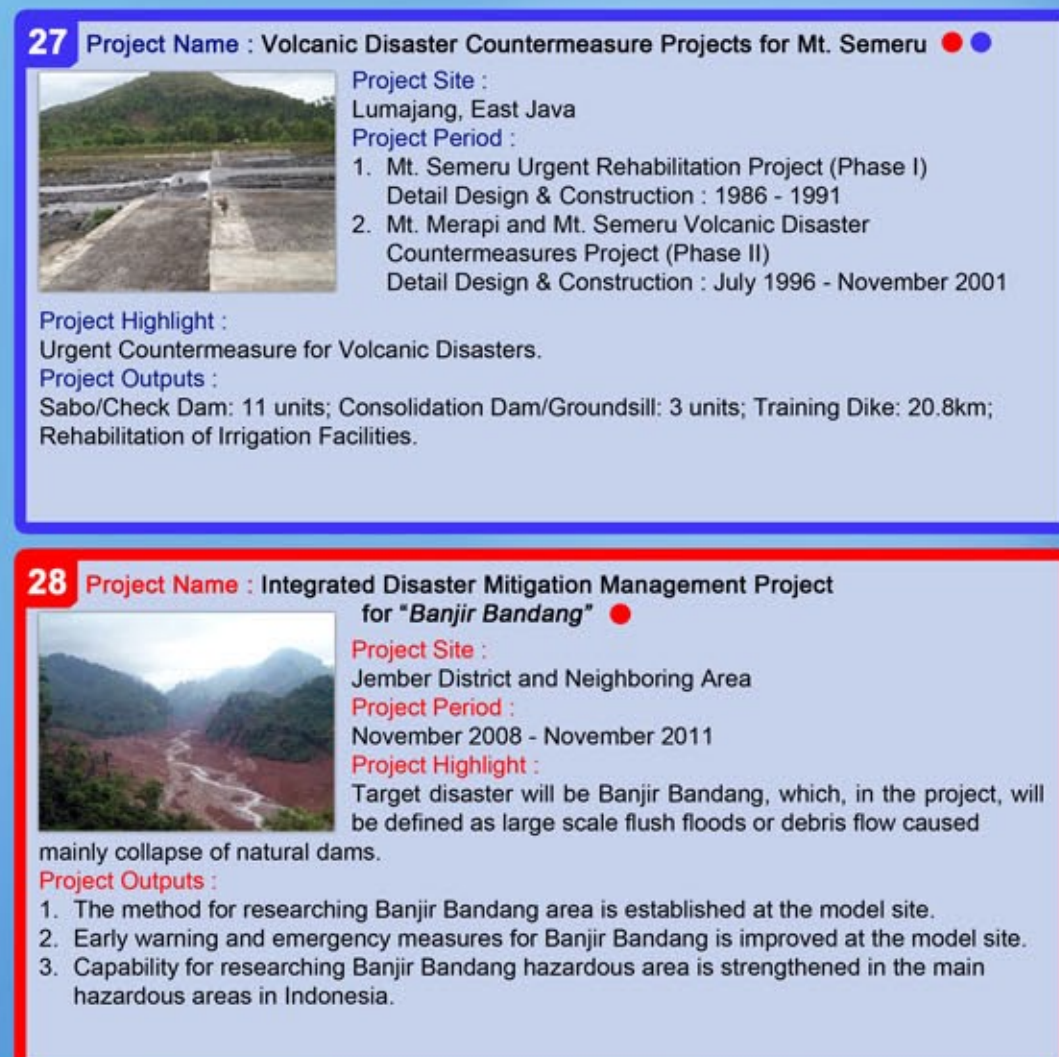


28 Project Name : Integrated Disaster Mitigation Management Project for "Banjir Bandang"

Project Site : Jember District and Neighboring Area
Project Period : DD : November 2008 - November 2011

Project Highlight : Target disaster will be Banjir Bandang, which, in the project, will be defined as large scale flash floods or debris flow caused mainly collapse of natural dams.

Project Outputs : 1. The method for researching Banjir Bandang area is established at the model site.
 2. Early warning and emergency measures for Banjir Bandang is improved at the model site.
 3. Capability for researching Banjir Bandang hazardous area is strengthened in the main hazardous areas in Indonesia.

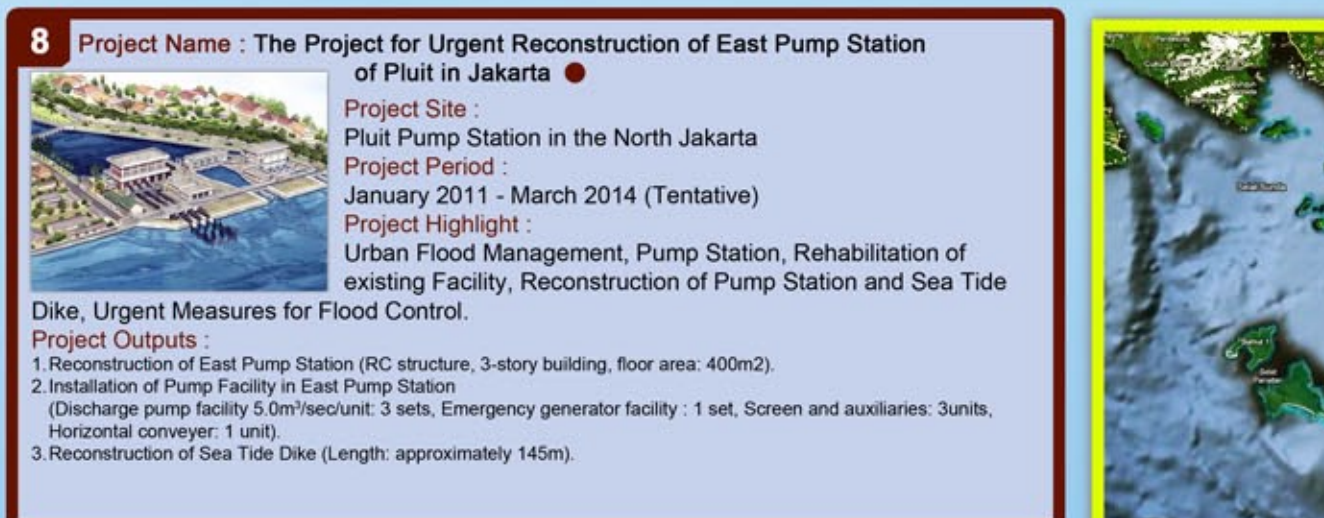


3 Project Name : Ular River Flood Control and Improvement of Irrigation Project

Project Site : Deli Serdang Regency, North Sumatra Province
Project Period : Urgent Works (JICA) : 1969 - 1976
 MP, FS, DD & Construction : 1976 - 1989
 Sustainability Works : 1989 - 1995

Project Highlight : Sustainable yield of paddy and plantation products.

Project 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 works, main/secondary/tertiary canals.
 3. Construction of 6 span 192 m prestress PC bridge.



8 Project Name : The Project for Urgent Reconstruction of East Pump Station of Pluit in Jakarta

Project Site : Pluit Pump Station in the North Jakarta
Project Period : Urgent Works (JICA) : 1969 - 1976
 MP, FS, DD & Construction : 1976 - 1989
 Sustainability Works : 1989 - 1995

Project Highlight : Urban Flood Management, Pump Station, Rehabilitation of Existing Facility, Reconstruction of Pump Station and Sea Tide Dike, Urgent Measures for Flood Control.

Project 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/hour/sect: 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).



22 Project Name : Mt. Kelud Urgent Volcanic Disaster Mitigation Project

Project Site : Kediri, Blitar, Tulungagung Regencies in East Java Province
Project Period : DD & Construction : October 1992 - May 1996

Project Highlight : Sabo Facilities, Improvement Crater Lake Drainage Tunnel

Project Outputs : Check/Consolidation Dam: 6 units
 Gravel Pocket: 2 unit
 Silt Pocket: 2 unit
 Strengthening of Existing Dike
 Improvement of Crater Lake Drainage Tunnel
 Improvement of Existing Diversion Channel
 Rehabilitation of Existing Irrigation Weir



29 Project Name : Bali Beach Conservation Project

Project Site : Sanur, Nusa Dua, Kuta and Tanah Lot - Bali Province
Project Period : DD : November 1991 - February 1993
 Construction : April 1998 - December 2008

Project Highlight : 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.

Project Outputs : 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



4 Project Name : Lower Asahan River Flood Control

Project Site : Kuaran and Tanjung Balai City, Asahan Regency, North Sumatra, Lower Asahan River Basin
Project Period : MP : 1984 - 1985
 DD : February 1988 - February 1990

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.

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 detailed design for flood forecasting and warning system.



9 Project Name : Jakarta/Jabodetabek River Flood Control Project

Project Site : JABODETABEK Area
Project Period : DD & Construction : 1985 - 1992
 (East Jakarta) DD & Construction : 1988 - 1999
 DD : February 1988 - February 1990
 DD & Construction : 1991 - 1998
 (Cilwung-Cisadane) MP, FS & DD : 1994 - 2008
 (Mobile Pump [Grant Aid]) : 2003 - 2004

Project Highlight : Cideng PIS (40 m³/s) is the biggest pump capacity in Indonesia.

Project Outputs : 1. Construction of Cideng PIS (40 m³/s).
 2. Construction of Grogol-Selatan Interceptor (25-year design scale).
 3. DD of East Banjir Canal.
 4. Improvement of major river/drainage channels (25-year design scale).
 5. Construction of Ancol and Satek PIS.
 6. Grant of mobile pumps (10 units).

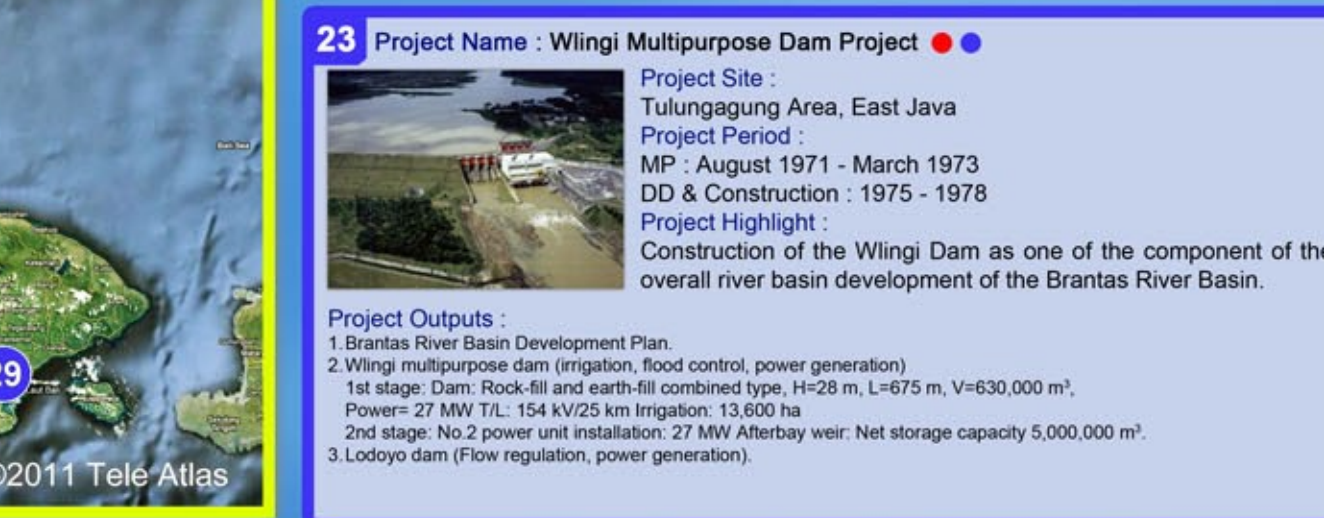


23 Project Name : Wlingi Multipurpose Dam Project

Project Site : Tulungagung Area, East Java
Project Period : MP : August 1971 - March 1973
 DD & Construction : 1975 - 1978

Project Highlight : Construction of the Wlingi Dam as one of the component of the overall river basin development of the Brantas River Basin.

Project Outputs : 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.
 1st stage: Power 27 MW TL, 154 kV/25 km Impactor, 13,000 ha.
 2nd stage: No. 2 power unit installation, 27 MW Afterbay weir, Net storage capacity 5,000,000 m³.
 3. Lodyo dam (Flow regulation, power generation).



30 Project Name : Jeneberang River Basin Development Project

Project Site : Makassar City, Gowa Regency, Takarar Regency, South Sulawesi Province
Project Period : 1979 - 2006

Project Highlight : Integrated regional development project composed of flood control, power generation, water supply, city drainage, watershed conservation, environmental improvement works and irrigation.

Project Outputs : 1. Brantas River Basin Development Plan.
 2. Jeneberang River Basin Development Plan (Improvement Length: 11.8km, Drainage Improvement 13.9km).
 3. Pampang River Improvement (Improvement Length: 11.2km, Pump Station: 6 m³/s, RWTM (Pipe Length 16.3km) & Bomba-Qui Water Treatment Plant (Nominal Capacity at 1 m³/s), 25-BH Hydroelectric Power Plant (Annual Output: 77 GWh).
 4. 88-BH Irrigation System (Service Area: 24,000 ha).



5 Project Name : Padang Area Flood Control Project

Project Site : Padang City & Padang Pariaman Regency, West Sumatra Province
Project Period : MP & FS (JICA) : 1982 - 1984
 DD : 1985 - 1988
 (Stage 1) Construction : 1991 - 1996
 (Stage 2) Construction : 1996 - 2002

Project Highlight : Post Earth-quake Rehabilitation Works (JICA Grant Aid) : 2009 - 2011

Project Outputs : 1. River channel improvement of Arau, Kurangi, 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.



10 Project Name : Capacity Development Project for Sabo

Project Site : Padang City & Padang Pariaman Regency, West Sumatra Province
Project Period : October 2010 - September 2013

Project Highlight : Comprehensive Flood Management Plan, Urban Flood Management, Capacity Development.

Project Outputs : 1. Clarification of respective roles of related organizations.
 2. Formulation of Comprehensive Flood Management Plan (CFMP) and Comprehensive Flood Management Action Plan (CFMAP), starting legislation process.
 3. Establishment of the Mechanism for monitoring, evaluation and feedback for CFMP.
 4. Establishment of sustainable coordination and collaboration mechanism among river basin stakeholders (Public, Private and Resident).



13 Project Name : Capacity Development Project for Sabo

Project Site : Semarang City, Central Java Province
Project Period : MP & FS (by JICA) : 1992-1993;
 DD Service (by JICA) : 1997-2000; Construction : 2007-2014

Project Highlight : Special Issues of the Project are: 1. Provision of river amenity facilities as river in urban center, 2. Dam reservoir development for tourism.

Project Outputs : 1. River improvement works along the West Floodway and Garang River (Improvement Length: 9.2km).
 2. Construction of Jabang Multipurpose Dam (Reservoir Capacity: 20.4million m³, Purpose: Flood Control, Water Supply (Industry, Municipal Water)).
 3. Sironingir Weir Rehabilitation.
 4. City Drainage Improvement.
 5. Design of water supply system in Semarang City.



16 Project Name : Integrated Water Resources and Flood Management Project

Project Site : Semarang City, Central Java Province
Project Period : MP : June 1972 - March 1974; Grant Aid : 1991 - August 2004
 DD : 1992 - 1994; Construction : February 1997 - August 2004

Project Highlight : Construction of floodway and pumping station.

Project 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., Slueway of 13 nos.
 4. River Improvement including related structure (Dyking = 89.7 km, Short cut channel L = 2.2 km Width = 120 km, Slueway of 29 nos., Channel revetment LW = 3,025 m) HW = 1,284 m.
 5. Babel barrage Gate weir with 137.5 m, Barrage check gate with host = 6 nos.
 6. Comprehensive Development and Management Plan Study.

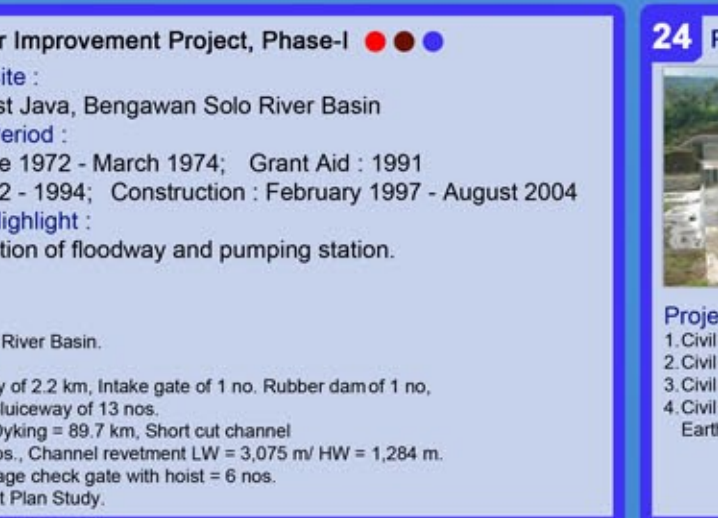


19 Project Name : Lower Solo River Improvement Project, Phase-I

Project Site : Solo, East Java, Bengawan Solo River Basin
Project Period : MP : June 1972 - March 1974; Grant Aid : 1991 - August 2004
 DD : 1992 - 1994; Construction : February 1997 - August 2004

Project Highlight : Construction of floodway and pumping station.

Project 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., Slueway of 13 nos.
 4. River Improvement including related structure (Dyking = 89.7 km, Short cut channel L = 2.2 km Width = 120 km, Slueway of 29 nos., Channel revetment LW = 3,025 m) HW = 1,284 m.
 5. Babel barrage Gate weir with 137.5 m, Barrage check gate with host = 6 nos.
 6. Comprehensive Development and Management Plan Study.

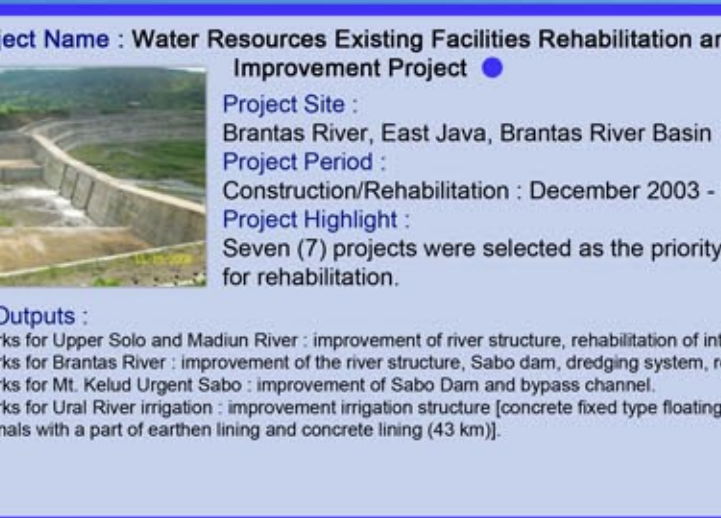


24 Project Name : Water Resources Existing Facilities Rehabilitation and Capacity Improvement Project

Project Site : Brantas River, East Java, Brantas River Basin
Project Period : DD & Construction : December 2003 - December 2011

Project Highlight : Seven (7) projects were selected as the priority projects for rehabilitation.

Project Outputs : 1. Civil Works for Upper Solo and Madun River: improvement of river structure, rehabilitation of intake 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: improvement irrigation structure [concrete fixed type floating weir, Earth canals with a part of earthen lining and concrete lining (43 km)].

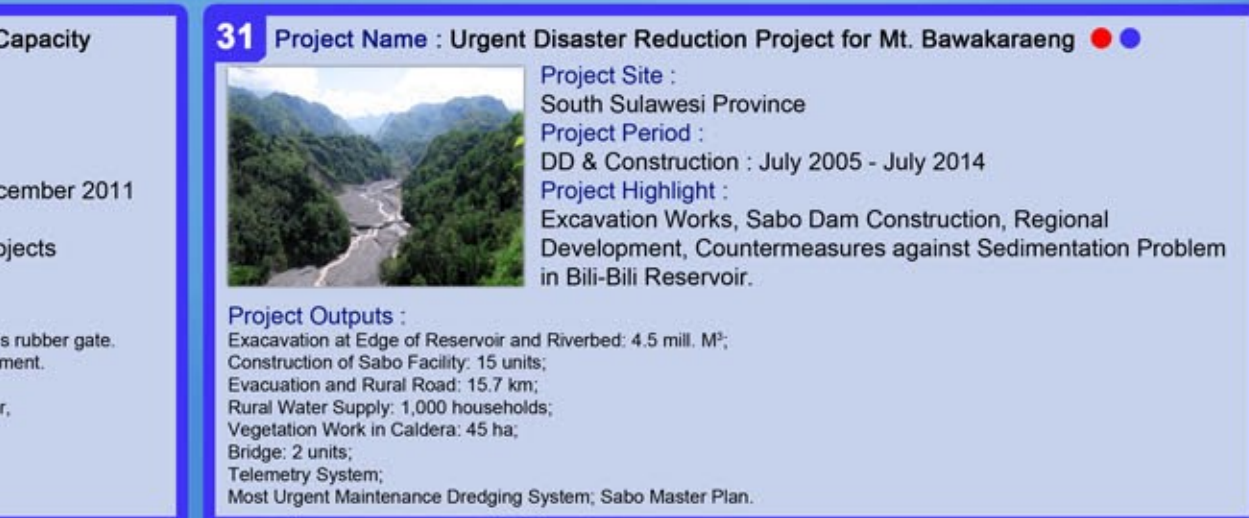


31 Project Name : Urgent Disaster Reduction Project for Mt. Bawakaraeng

Project Site : South Sulawesi Province
Project Period : DD & Construction : July 2005 - July 2014

Project Highlight : Excavation Works, Sabo Dam Construction, Regional Development, Countermeasures against Sedimentation Problem in Bi-Bi Reservoir.

Project Outputs : Excavation at Edge of Reservoir and Riverbed: 4.5 ml; MP; Construction of Sabo Facility: 15 units; Excavation and Rural Road: 157 km; Rural Water Supply: 1,000 households; Vegetation Work in Caldera: 45 ha; Bridge: 2 units; Intake System; Most Urgent Maintenance Dredging System; Sabo Master Plan.

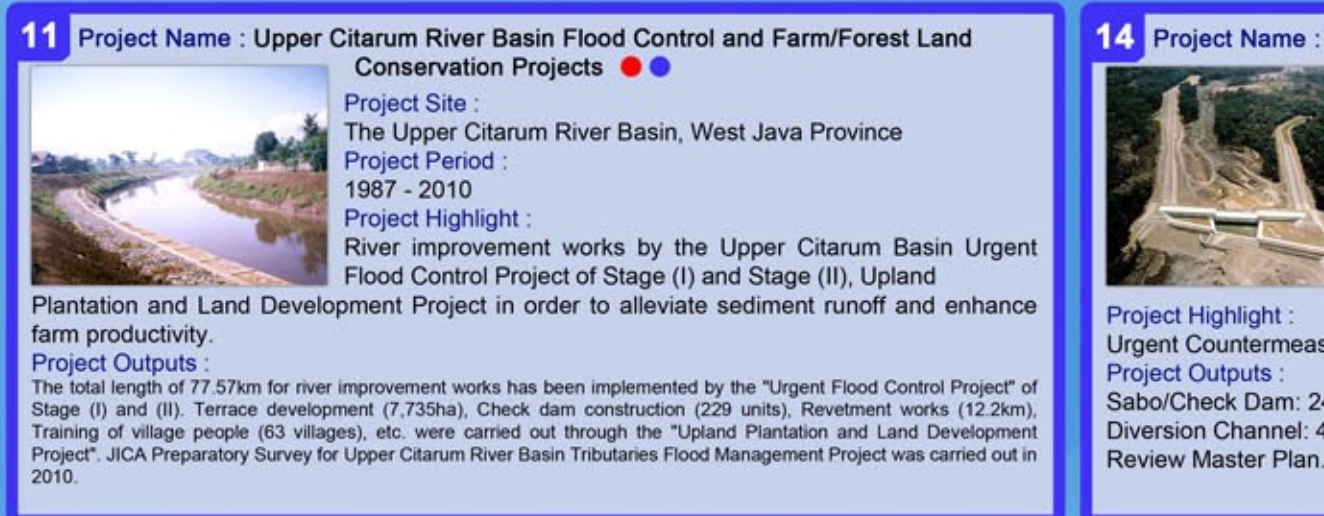


6 Project Name : South Sumatra Swamp Improvement Project

Project Site : Air Sugihan/Pulau Lima, South Sumatra Province
Project Period : DD : January 1993 - September 1996
 Construction : February 1994 - July 1999

Project Highlight : Detailed design of project infrastructures and facilities, Implementation of rehabilitation and improvement of drainage system, transportation facilities and domestic water supply facilities.

Project Outputs : 1. New/Rehabilitation of Primary canal : 143.9 km.
 2. New/Rehabilitation of Secondary canal : 593.5 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 : 1,584 units.
 7. Road construction : 39.8 km.
 8. Construction of new bridge : 1,012 units.

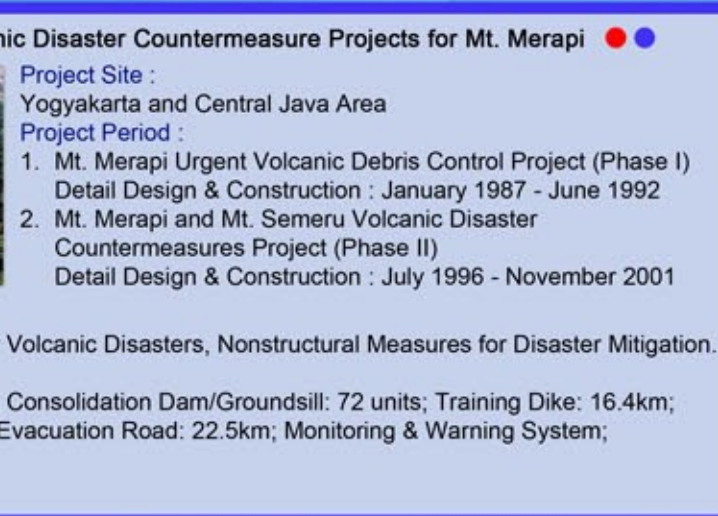


11 Project Name : Upper Citarum River Basin Flood Control and Farm/Forest Land Conservation Projects

Project Site : The Upper Citarum River Basin, West Java Province
Project Period : 1987 - 2010

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.

Project Outputs : The total length of 77.5km for river improvement works has been implemented by the "Urgent Flood Control Project of Stage (I) and (II) (Terra) Development (7.73ha), 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.

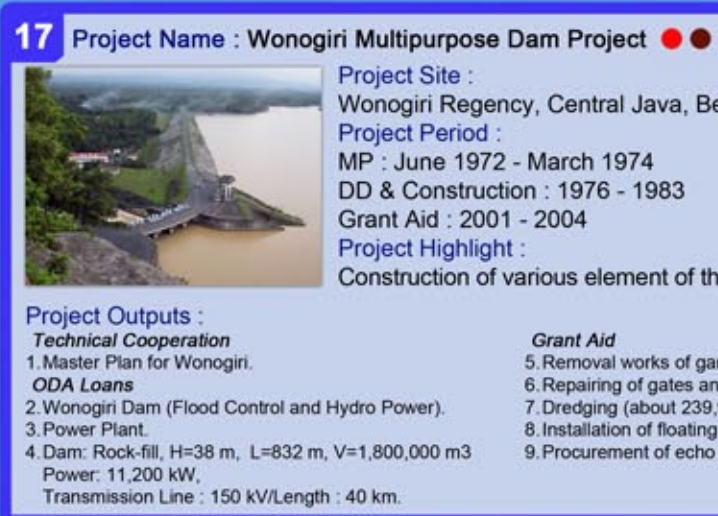


14 Project Name : Volcanic Disaster Countermeasure Projects for Mt. Merapi

Project Site : Yogyakarta and Central Java Area
Project Period : 1. Mt. Merapi Urgent Volcanic Debris Control Project (Phase I) Detail Design & Construction : January 1987 - June 1992
 2. Mt. Merapi and Mt. Semeru Volcanic Disaster Countermeasures Project (Phase II) Detail Design & Construction : July 1996 - November 2001

Project Highlight : Urgent Countermeasure for Volcanic Disasters, Nonstructural Measures for Disaster Mitigation.

Project Outputs : Sabo/Check Dam: 24 units; Consolidation Dam/Groundfill: 72 units; Training Dike: 16.4km; Diversion Channel: 4.1km; Evacuation Road: 22.5km; Monitoring & Warning System; Revetment Master Plan.

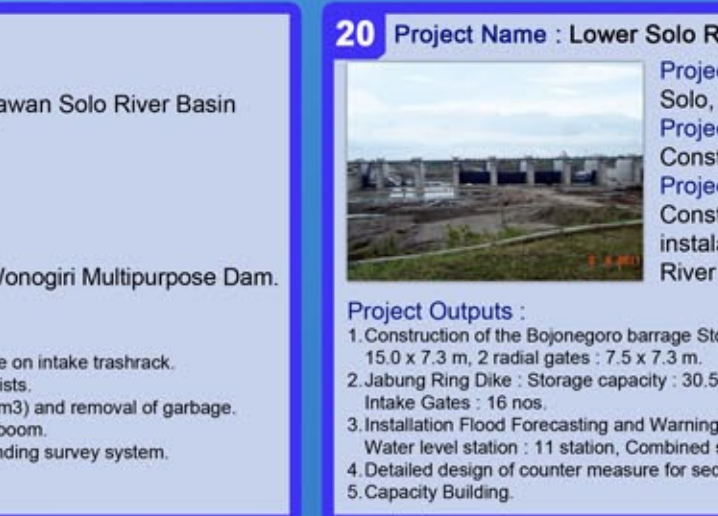


17 Project Name : Wonorejo Multipurpose Dam Project

Project Site : Wonorejo Regency, Central Java, Bengawan Solo River Basin
Project Period : MP : June 1972 - March 1974
 DD & Construction : 1976 - 1983
 Grant Aid : 2001 - 2004

Project Highlight : Construction of various element of the Wonorejo Multipurpose Dam.

Project Outputs : Technical Cooperation
 Master Plan for Wonorejo.
 ODA Loans
 1. Wonorejo Dam (Flood Control and Hydro Power).
 2. Power Plant.
 3. 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.
 4. Removal works of garbage on intake trashrack.
 5. Repairing of gates and hoists.
 6. Dredging (about 239,930 m³) and removal of garbage.
 7. Installation of floating log boom.
 8. Procurement of echo sounding survey system.




20 Project Name : Lower Solo River Improvement Project, Phase-II

Project Site : Solo, East Java, Bengawan Solo River Basin
Project Period : DD & Construction : September 2007 - November 2013

Project Highlight : Construction of flood forecasting and warning system on the Solo River area.

Project Outputs : 1. Construction of the Bopogoro 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. Jabang 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 Wonorejo Dam reservoir.
 5. Capacity Building.



25 Project Name : Brantas Middle Reaches River Improvement Project

Project Site : Brantas River, East Java, Brantas River Basin
Project Period : MP : August 1971 - March 1973; DD : 1978 - 1980;
 Construction : 1980 - 1990

Project Highlight : Improvement of the Brantas Middle Reaches River as one of the component of the overall river basin development of the Brantas River.

Project Outputs : 1. Brantas River Basin Development Plan.
 2. Bank raising, river bed dredging, revetment.
 3. Segawa weir and connection fund.
 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, levee embankment: 516,000 m³, 2nd stage: Design flood discharge: 1,500 m³/s, river bed dredging: 7,525,000 m³, levee embankment: 857,000 m³, Intermittent Flood Forecasting and warning system.



Project Type

- Technical Cooperation (TC)
- Grant Aid (GA)
- Official Development Assistance Loans (ODA Loans)
- MP: Master Plan
- FS: Feasibility Study
- DD: Detail Design

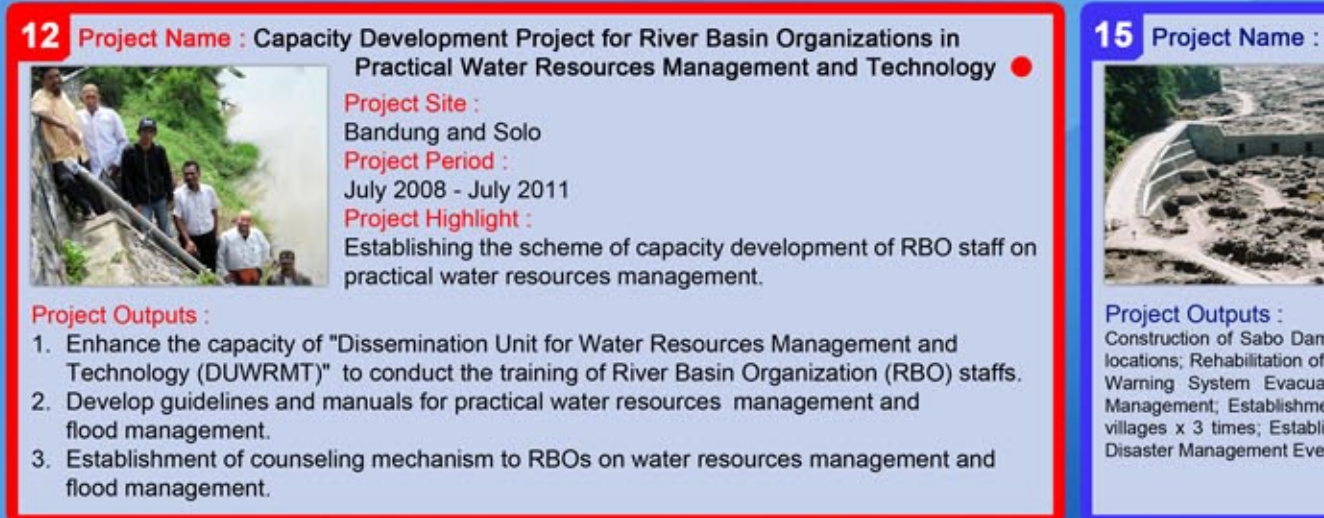


7 Project Name : Batulegi Dam Project (Way Sekampung Irrigation Project)

Project Site : Way Sekampung River, Bandar Lampung, Lampung Province, Way Sekampung River Basin
Project Period : MP : June 1972 - March 1974
 DD & Construction : February 1994 - November 2003

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

Project Outputs : 1. Batulegi Multipurpose Dam (rockfill, center core type) H: 122 m, V: 9,640,000 m³, L: 701 m.
 2. Flood Control: Design Discharge: 1,930 m³/s.
 3. Irrigation (76,790 ha in total) Waterway types: 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.

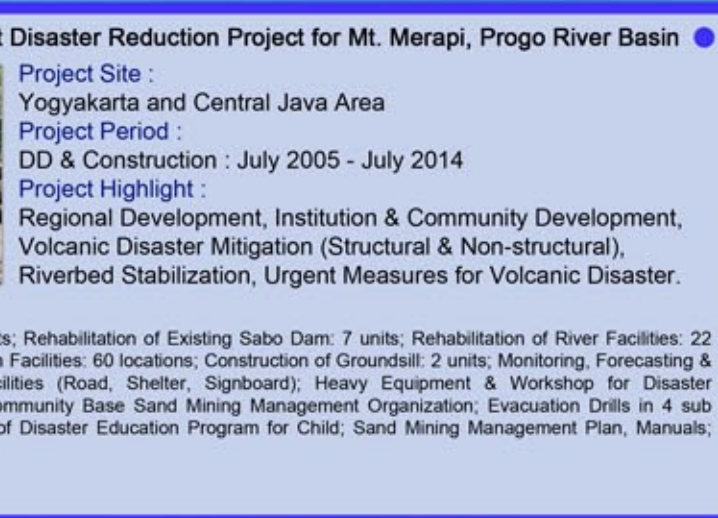


12 Project Name : Capacity Development Project for River Basin Organizations in Practical Water Resources Management and Technology

Project Site : Bandung and Solo
Project Period : MP : June 1972 - March 1974
 DD & Construction : February 1994 - November 2003

Project Highlight : Establishing the scheme of capacity development of RBO staff on practical water resources management.

Project Outputs : 1. Enhance the capacity of "Dissemination Unit for Water Resources Management and Technology (DURWMT)" 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.



15 Project Name : Urgent Disaster Reduction Project for Mt. Merapi, Progo River Basin

Project Site : Yogyakarta and Central Java Area
Project Period : DD & Construction : July 2005 - July 2014

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

Project 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 Groundfill: 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.

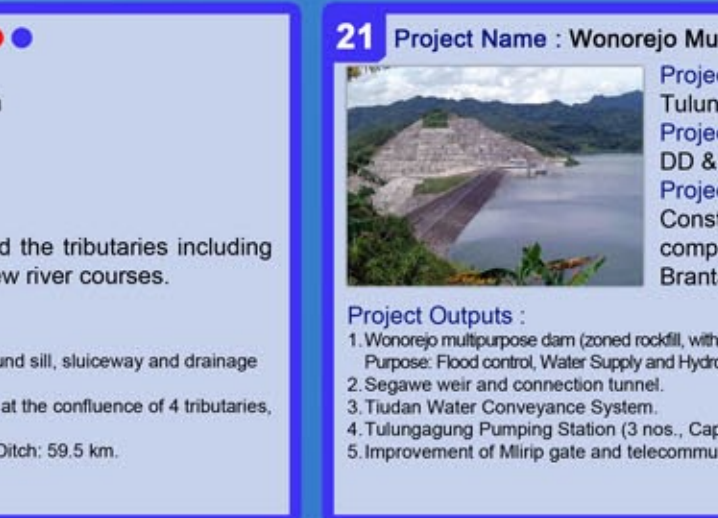


18 Project Name : Madun River Urgent Flood Control Project

Project Site : Madiun, East Java, Brantas River Basin
Project Period : MP : June 1972 - March 1974
 DD & Construction : 1983 - 1995

Project Highlight : The improvement of the main stem and the tributaries including construction of short cut channels as new river courses.

Project Outputs : 1. Master Plan on Development of the whole Solo River basin including Madun River.
 2. Shortcut channel, new levee, heightening of existing levee, revetment, groin and ground sill, slueway and drainage channel, new bridges, compensatory works for road relocation and irrigation facilities.
 3. Improvement of 22 km long section of the Madun River, improvement of river sections at the confluence of 4 tributaries and construction of 1.8 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.

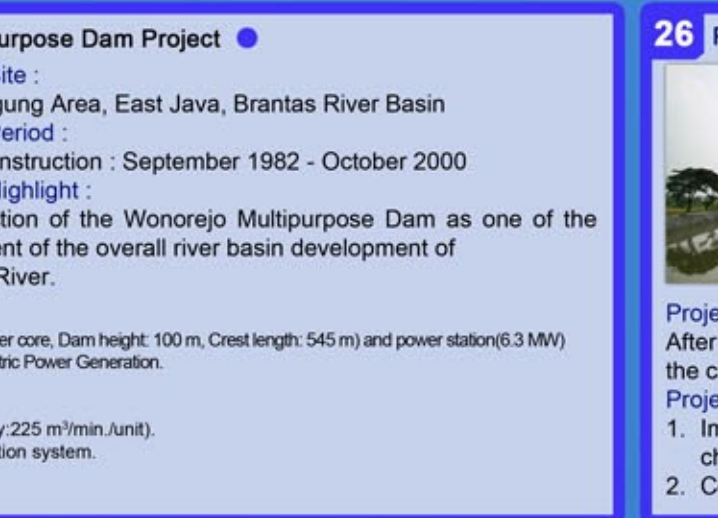


21 Project Name : Wonorejo Multipurpose Dam Project

Project Site : Tulungagung Area, East Java, Brantas River Basin
Project Period : DD & Construction : September 1982 - October 2000

Project Highlight : Construction of the Wonorejo Multipurpose Dam as one of the component of the overall river basin development of Brantas River.

Project Outputs : 1. Wonorejo multipurpose dam (ponded oxbow, with center core, Dam height: 100 m, Crest length: 545 m) and power station (63.3 MW).
 Purpose: Flood control, Water Supply and Hydroelectric Power Generation.
 2. Segawa weir and connection fund.
 3. Tudan Water Conveyance System.
 4. Tulungagung Pumping Station (1 nos., Capacity: 225 m³/min./unit).
 5. Improvement of Millip gate and telecommunication system.



26 Project Name : Surabaya River Improvement Project (SRIP) & Surabaya Urban Development Project (SUDP)

Project Site : Surabaya City, East Java Province
Project Period : MP & FS : 1971 - 1973
 DD & Construction of Stage I Works (SRIP I) : 1975 - 1980
 DD & Construction of Stage II-1 Works : 1987 - 1996
 DD & Construction of SUDP : 1994 - 2002

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

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

