

# Model Project for Improvement of Water Environment in Asia

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Ministry of the Environment, Japan



## Water Environmental Conservation in Asia

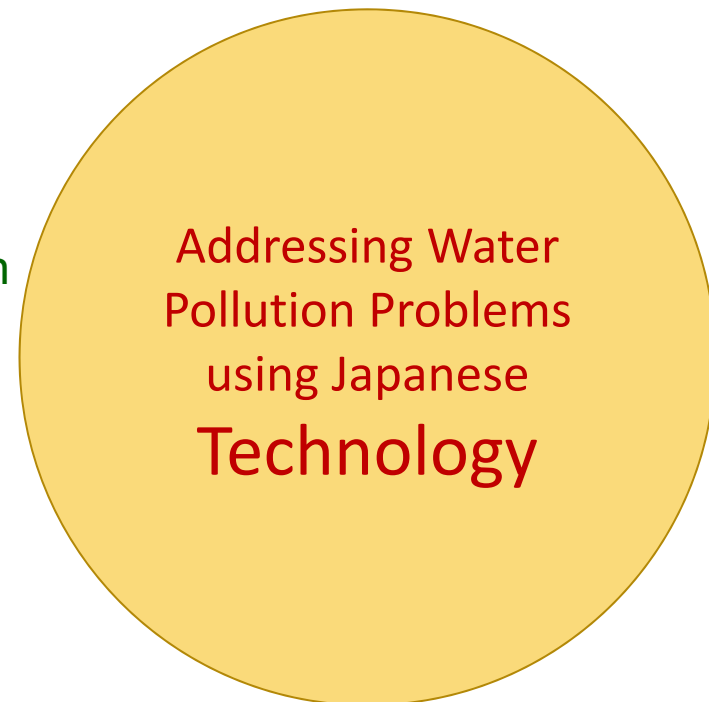
Water Environmental  
Partnership in Asia (WEPA)



Collaboration



Pilot Projects for Water  
Environment Improvement in Asia



## Purpose

- To support the dissemination of excellent water treatment technologies made by Japanese private companies to foreign countries.
- To support the improvement of water environment in Asian countries by disseminating Japanese water treatment technology.

## Method

- Ministry of Environment seeks publicly appropriate technology from Japanese private companies. Selected companies will be supported financially by MOEJ.
- Selected companies shall conduct a Feasibility Study in the first year and a Pilot Project after the second year as well as develop business models through advertisement of the applied technology.
- Projects can disseminate the applied technology to other areas as well as contribute to water environment improvement in the country.

## Outcome - Issue

- To have selected 24 projects for 8 years.
- 9 projects in Viet Nam, 5 projects in Indonesia, 2 projects in China, India and Malaysia, 1 project each in Philippine, Myanmar, Fiji and the Solomon Islands.
- Domestic wastewater treatment, Industrial wastewater treatment, Phosphorus resource recovery system, control of Non-point source pollution.
- The smooth operation needs cooperation from local actors including the government. In addition to pricing, the legal system and maintenance management of the local government can be bottlenecks in commercialization.

# The List of Pilot Projects for Water Environment Improvement in Asia

City Country	Project name [Implementer]	Classification	Technology	Fiscal Year [Project Stage]
Haryana, India	Comprehensive upgrading of industrial wastewater treatment systems and promotion of water reuse [Toyo Engineering Co., etc.]	Industrial WW	MBR	2011(FS)
Da Nang, Viet Nam	Da Nang City Industrial Complex Wastewater Treatment [Kajima Co., Maeda Co., Hitachi Plant Technology, Ltd., etc.]	Industrial WW	Flocculation-coagulation & membrane (MF,UF)	2011(FS)
National Railway, Viet Nam	Water quality improvement by biotoilet implementation [Chodai Co., Ltd., Hokkaido University, Etc]	Domestic WW	Biotoilet	2011(FS)
Penang, Malaysia	Zero emission treatment system for piggery wastewater [Aqua Co.,Ltd., EX Research Institute Ltd., etc.]	Livestock WW	Chlorella serial culture (MIYABI System)	2011(FS) 2012(PS)
Jakarta, Indonesia	Improving water quality by Johkasou demonstration test in Jakarta [Kubota Corporation, etc.]	Domestic WW	Johkasou	2011(FS) 2012-2013 (PS)

[Project Stage] FS : Feasibility Study, PS : Pilot Study

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Shenyang, China	Water quality improvement and resource recovery in Shenyang, Liaoning Province [Daiki Ataka Engineering Co., Ltd., etc]	Phosphorus recovery	Phosnix (MAP method)	2012 [FS]
Linyungang, China	Non-Point Source Pollutants Purification System [CTI Engineering co., TBR, Masaki ENVEC, SIDRI, etc.]	NP source, direct treatment	Fibrous contact media mass-produced biomanipulator	2012 [FS] 2013 [PS]
Ha Noi, Viet Nam	Water Environment Improvement Business by Energy-Saving Industrial Organic Wastewater Treatment [Sekisui Aqua Systems Co., Ltd., Sun Engineering Co., Ltd., Osaka Prefectural Government, etc.]	Organic Industrial WW	Biofilm (Rotating contact filter)	2012 [FS] 2013-2014 [PS]
Honiara, Solomon Islands	Diffusion of soil absorption system supportive to Environment [Original Engineering Consultants, Taisei Kogyo, Japan Environment Sanitation Center, etc.]	Domestic WW	Environmental Toilet TSS (Soil treatment, Adsorption/diffusion)	2013 [FS] 2014- 2015 [PS]
Ho Chi Min, Viet Nam	Promotion of Textile Dyeing Industrial Wastewater Treatment [Kobelco Eco-Solutions Co., Ltd., etc.]	Textile Dyeing WW	Biological (USDB, MBBR) Redox (Heavy metals) Physico-chemical (color)	2013 [FS] 2014-2015 [PS]

[Project Stage] FS : Feasibility Study, PS : Pilot Study

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City Country	Project name [Implementer]	Classification	Technology	Fiscal Year [Project Stage]
Mumbai, India	Establishment of water recycling system for Patalganga industrial park in, India [Fuji Electric Co., Ltd., etc.]	Recycled water	Water recycling system	2014 [FS]
Da Nang, Viet Nam	Project for improving the water quality from the wastewater treatment facility and its operation in fishery processing factories [The General Environmental Technos, etc.]	Fishery processing WW	Bioaffinity Polyvinyl alcohol (PVA) gel	2014 [FS] 2015-2016 [PS]
Selangor, Malaysia	Johkasou introduction project for domestic wastewater treatment improvement [Japan Education Center of Environmental Studies (JECES), Daiki Axis Co., Ltd., etc.]	Domestic WW	Johkasou	2014 [FS] 2015-2016 [PS]
Ho Chi Min, Viet Nam	Dissemination Project of AOSD Control System as the Advanced and Cost-Saving Wastewater Treatment Technology for Restoration [Foundation for Advancement of International Science, etc.]	Organic WW	Automatic Oxygen Supply Device (AOSD) Biological optimized control system	2015 [FS] 2016-2017 [PS]

[Project Stage] FS : Feasibility Study, PS : Pilot Study

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Ho Chi Min, Viet Nam	Septage Treatment Project [Hitachi Zosen Co., Kyoto University, etc.]	Domestic WW	Sludge digestion	2015 [FS]
Wundwin, Myanmar	Improving water quality of wastewater from dye factories and O&M skills [HORIBA, Ltd., Hitachi Zosen Co., etc.]	Textile Dyeing WW	Continuous water quality monitoring	2015 [FS] 2016-2017 [PS]
Manila, Philippines	Pasig River basin water environment improvement project using Hi-Beads (Coal Ash Granule) [MI Consulting co., Hiroshima University, etc.]	Direct river purification	Hi-Beads (Granulated Coal Ash)	2016 [FS]
Thai Nguyen, Viet Nam	Dissemination of hybrid subsurface flow constructed wetland systems in Viet Nam [Tusk Co., Ltd., etc.]	Livestock WW	Hybrid subsurface flow constructed wetland system	2016 [FS] 2017-2018 [PS]
East Java, Indonesia	Efficient Industrial wastewater treatment at industrial park in Indonesia by using aerator [Environmental Management and Technology Center, etc.]	Textile Dyeing WW	Aerator	2016 [FS] 2017-2018 [PS]

[Project Stage] FS : Feasibility Study, PS : Pilot Study

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City Country ,	Project name [Implementer]	Classification	Technology	Fiscal Year [Project Stage]
Quang Nam, Vietnam	Water Environment Improvement Project by the Reduction and Purification of Highly Concentrated Waste Liquid [Kyowakiden Industry Co.,Ltd.,etc.]	Industrial WW	Evaporation dehydration, Biological treatment	2017 [FS] 2018 [PS]
Balikpapan, Indonesia	Project for upgrading existing septic tank by Johkasou technology [DAIE Industry Co.,Ltd.,etc. ]	Domestic WW	Johkasou	2017 [FS] 2018 [PS]
Cimahi, Indonesia	Pilot project on textile industry wastewater treatment technology (combination of ABR and DHS) in Citarum river basin [Nihon Suido Consultants Co.,Ltd.,etc.]	Textile industry WW	Anaerobic Baffled Reactor (ABR) and Down-flow Hanging Sponge (DHS)	2018 [FS]
Palembang, Indonesia	Implementation of Portable Toilet System for Improving Water and Hygiene of Slum Environment [LIXIL Corporation, etc.]	Domestic WW	Container-Based Sanitation	2018 [FS]
Western Viti Levu, Fiji	Low environmental impact type wastewater treatment and resource circulation system dissemination project utilizing Anaerobic Aerobic Filter Method (A2F) [Hitachi, Ltd., etc.]	Domestic WW	Anaerobic Aerobic Filter Method (A2F)	2018 [FS]