

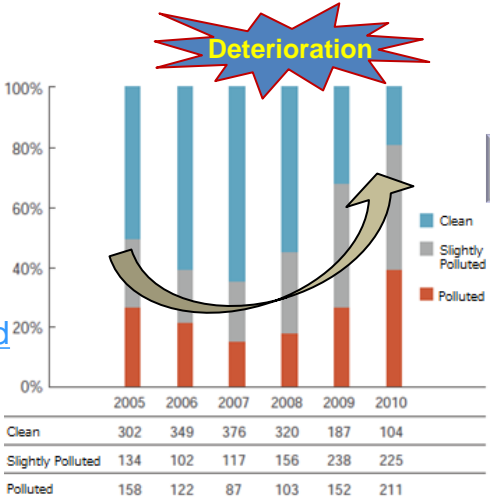
Johkasou introduction project for domestic wastewater treatment improvement in Malaysia

Implementation systems

Japan Education Center of Environmental Sanitation (JECES)
 Daiki Axis Co., Ltd.
 Kyokuto Giko Consultant Co., Ltd. (KGC)

Background

- Organic pollution is the main cause of water quality deterioration in rivers.
- Existing CSTs (communal septic tanks) show low treatment performance due to inappropriate maintenance and aging facilities.
- The treated effluent of CSTs does not meet the discharge standards.



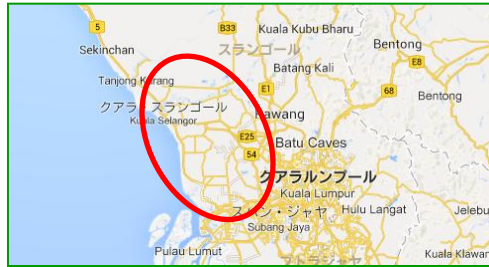
State of river quality by BOD sub-index
 (Source: Department of Environment, Malaysia, 2011)

Project outline

- Improve the existing problematic CSTs by introducing the Japanese johkasou and contribute to the improvement of public health and the water environment in Malaysia.
- A Feasibility Study (FS) will be conducted in Selangor District following the agenda shown below, in which a johkasou will be installed to replace a CST. Following installation, the performance of the johkasou will be assessed.
 - Site survey for the pilot project (location, space, layout, etc.)
 - Quantity/quality of household wastewater, influent/effluent of CST, house connection to the sewer system
 - Negotiation with related organizations
 - Contact with local manufacturers
 - Reflection for business model

Location

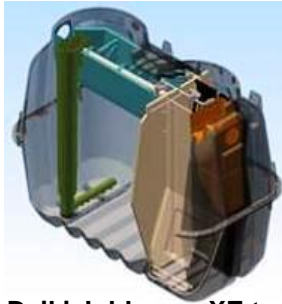
Selangor, Malaysia



Outline of Technology

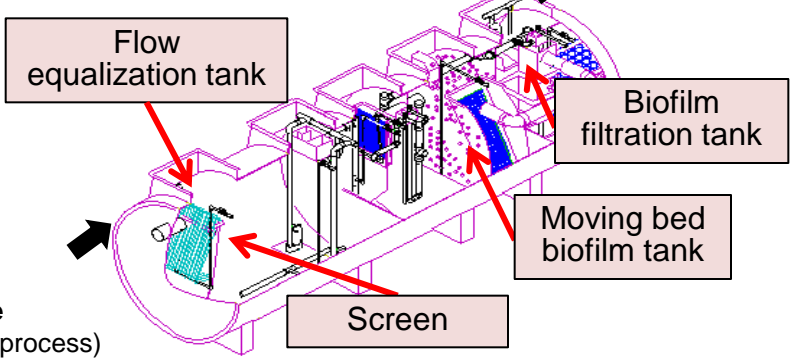
- Shift from the existing anaerobic biological treatment process to the aerobic biological treatment process with the introduction of the Japanese johkasou technology

Small-scale Johkasou



Daiki Johkasou XE type
 (Moving bed biofilm tank process)

Middle-scale Johkasou



Expected results and business prospects

- Expected benefits: Solve the problems associated with CSTs and contribute to the improvement of public health and the water environment. The introduction of the johkasou technology and maintenance system will provide a solution for the replacement of aging CSTs and the upgrade of small sewage treatment systems (SSTs) in Malaysia.
- Business model: Start johkasou business in Malaysia through collaboration with local companies for the replacement of CSTs and the upgrade of SSTs. In addition, introduction of johkasou in commercial facilities and specific areas.