

# Johkasou System in Vietnam ベトナム国における浄化槽システム

JICA浄化槽の導入による分散型生活排水処理水準向上に関する普及・実証事業  
(Verification Survey with the Private Sector for Disseminating Japanese Technologies for  
Improvement of Domestic Wastewater Treatment through Introducing Johkasou in Hung Yen)

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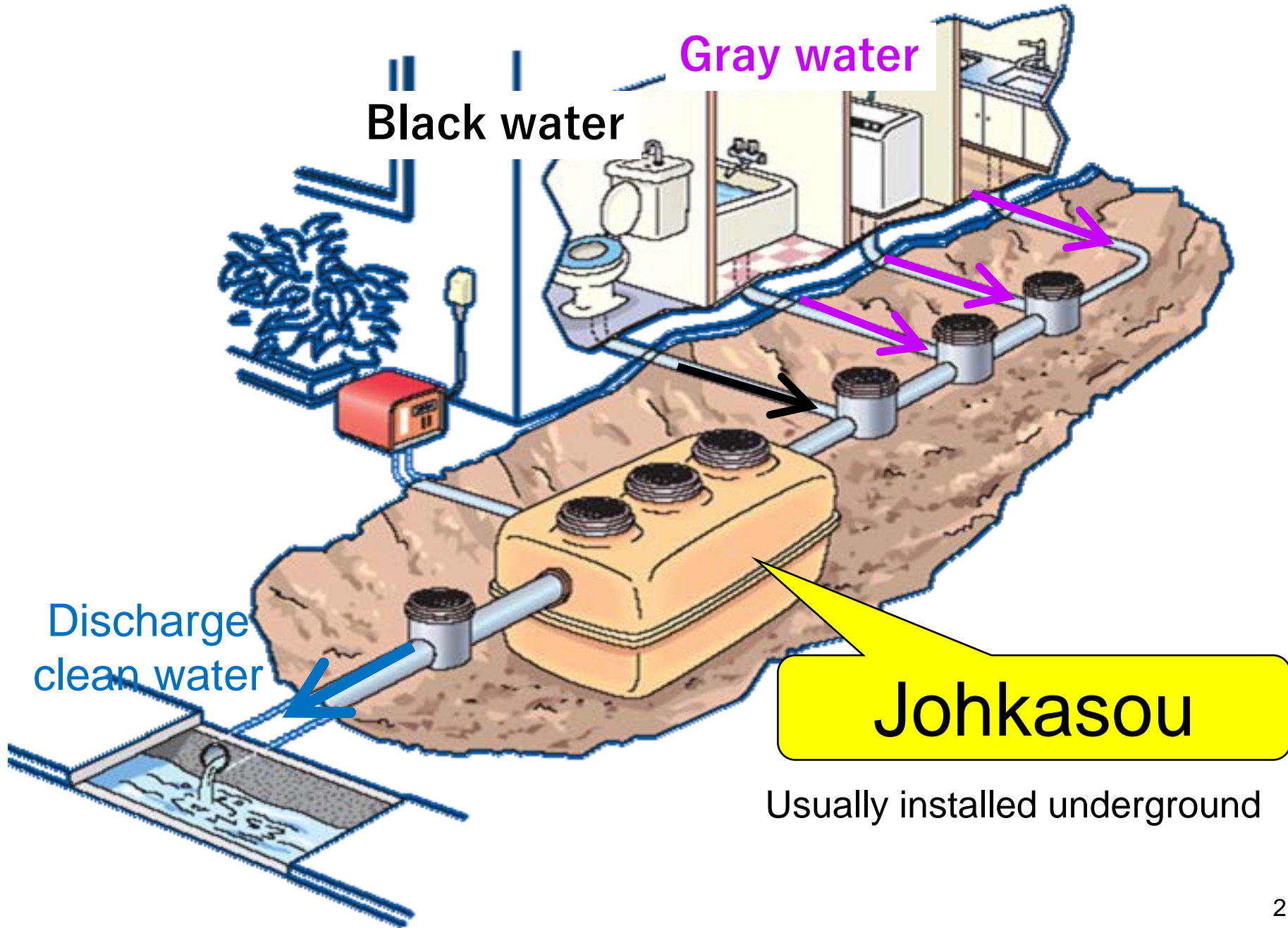
# Objectives and Outline of the project

- Many of the Johkasou has already been installed in Vietnam, and decentralized wastewater treatment facilities with high-treatment performance such as Johkasou is expected to be more popular.
- In this project, the object is to launch a Johkasou service business in Vietnam, and provide Johkasou with specifications and price levels suitable for Vietnam, as well as operation and maintenance (O&M) services after installation based on the business experience in Japan.
- Counter part : Ministry of Natural Resources and Environment (MONRE), Department of Natural Resources and Environment, Hung Yen Province (DONRE)
- Installed Johkasou in this project : Large scale: 1unit, Medium scale: 2 units, Small scale: 2 units
- Project period: May, 2018 ~ December, 2023



# Feature of Johkasou

- Unlike the septic tank which is common decentralized wastewater treatment facilities popular in developing countries, Johkasou can treat not only toilet wastewater but also domestic wastewater.
- Since the performance evaluation testing system for Johkasou has been established in Japan, treatment performance is guaranteed. (Ex: For BOD removal type Johkasou, effluent BOD is 20 mg / L or less. Septic tanks of which main treatment process is anaerobic treatment cannot meet the effluent standards of many countries. )
- It requires less installation area than DEWATS, constructed wetlands, and SANIMAS, which are popular in developing countries.
- Since the Johkasou made of fiber reinforced plastic (FRP) rather than concrete or brick are common, the tank body is not easily affected by the local construction technology level.
- Since Johkasou system postulate appropriate O&M such as sludge extraction (desludging) and maintenance, if O&M is not performed, the Johkasou will be a treatment facility at the same level as the septic tank, SANIMAS, and DEWATS.



# Situation and Barrier of Johkasou in Vietnam

- As of December 2020, according to the report from Johkasou System Association, already 1,325 units of Johkasou has been installed in Vietnam (about the half of those are small scale Johkasou such as 5 PE).
- In addition to Japanese Johkasou manufacturers, Vietnamese companies also manufacture and sell Johkasou-like products. Demand for decentralized wastewater treatment facilities, which have higher treatment performance than septic tanks, is gradually increasing.
- **Barrier**
  - To introduce a regulation that stipulate an installation requirement of appropriate decentralized wastewater treatment facilities with higher treatment performance than septic tank.
  - To enhance the understanding of effectiveness of Johkasou and the importance of O&M.
  - To disseminate the technologies on manufacturing, installation work, and O&M.
  - To introduce a regulation that obliges O&M such as desludging of the decentralized wastewater treatment facilities.



# What we achieved and way forward

- Strengthening relations with the central government (MONRE, Ministry of Construction) and local government (Hung Yen province), appealing Johkasou system.
- Approaching to collaborate with local companies responsible for the construction of large to small scale Johkasou.
- Searching for local partner companies to build up an appropriate O&M system.
- Implementation of dissemination and enlightenment activities for Hung Yen residents.
- Proposal of a draft provincial ordinance on the installation, O&M and inspection of decentralized wastewater treatment facilities in Hung Yen Province.

In order to disseminate the high-quality decentralized wastewater treatment infrastructure (Johkasou) in Vietnam, it is indispensable to properly manage Johkasou system by Vietnam themselves.