

## Implementation systems

### Lao side

- UDAA Office, Luang Prabang City
- DPWT, Luang Prabang Province
- DONRE, Luang Prabang Province

### Japan side

- Nasucreate Co., Ltd.
- JAPAN TECHNO CO., LTD.
- Japan Education Center of Environmental Sanitation

## Background

- Lao PDR is aiming to move away from dependence on resource exploitation in its main industries, such as mining and hydropower, and transform its economy to one based on agriculture, services, tourism and manufacturing. The tourism industry accounts for about 40% of the country's GDP, and the number of tourists is growing rapidly with the construction of new airport and hotels.
- Urban area in Luang Prabang City is designated to world heritage-listed area. However, traditional latrines remain, in which human waste is not properly treated, and miscellaneous wastewater is discharged untreated. Such existing system deteriorates water environment and may seriously affect tourism due to rapid tourist destination development and urbanization.
- Stringent standards on wastewater discharge amended in 2017, for example, BOD 20 mg/L, are applied to specified buildings. Wastewater treatment technology and strategy appropriate to the World Heritage City need to be developed.



## Project outline

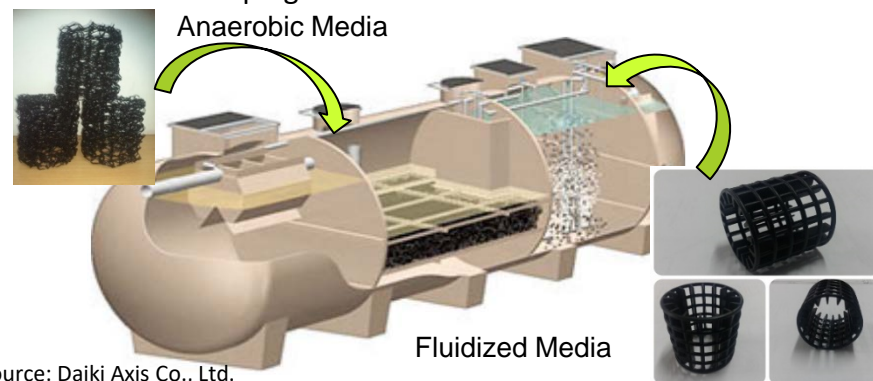
- Verification of environmental improvement effects by demonstrating the treatment performance of the installed Johkasou system.
- Examination of Johkasou installation methods (design/construction) and O&M techniques suitable to the local conditions
- Examination of the regulations & institutions necessary for introducing Johkasou
- Establishing a business model that meets the needs of Laos

## Location

Luang Prabang City, Luang Prabang Province,  
Lao People's Democratic Republic

## Outline of technology

- Johkasou, of which technology Japanese manufacturer developed, complies with ammonia regulations in ASEAN countries. The products are delivered by container shipping. The Company has sold about 1,500 units in 20 countries.
- Performance of the product is achieved with less space as well as less energy consumption compared to the conventional technology.
- The product is long-lasting, and easy to maintain and manage, suitable to developing countries.



Source: Daiki Axis Co., Ltd.

## Expected results and business prospects

- Improved environmental sanitation and water environment will contribute for sustaining tourism resources in the World Heritage City through high-quality wastewater treatment using Japanese Advanced Johkasou System.
- Johkasou business model that integrates "EPC + OM" will be introduced to Lao through working together utilizing the know-how and network of Johkasou business in Japan and Vietnam.