

Implementation systems

Tusk Co., Ltd., K.K. Satisfactory,
National Agriculture and Food Research
Organization

Background

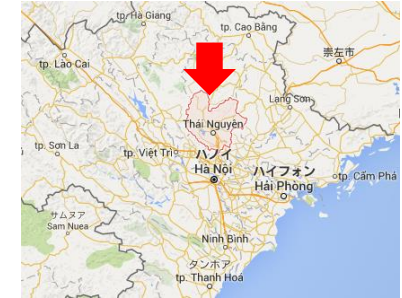
- Pig farming is an important industry in Vietnam with the quantity of pigs ranked 2nd in Asia after China. As a result, the treatment for a large amount of pig manure has become a challenge.
- 40% of pig manure is discharged directly into ponds, rivers, sewages without proper treatment. The rest of pig manure is treated by biogas (30%) and by lagoon (30%); however, there are many challenges regarding the quality of waste water from those treatment.
- Improper treatment of manure has led to unsanitary conditions of living environments such as water pollution, odor... and GHG emission sources (CH₄ emissions from anaerobic digestion).

Project Outline

- We design a hybrid subsurface flow constructed wetland system suitable for pig farming condition in Vietnam and plan for its dissemination.
- Research for FY2016 Feasibility Study would be implemented as below:
 - Research the trend of pig farming in Vietnam.
 - Survey about 10 pig farms.
 - Check the current operation, management condition of subsurface wetland system constructed at Phuc Thinh pig farm by Tusk Co., Ltd and the quality, amount, temperature of raw water and treated water from that system.
 - Build relationship with related government agencies, companies.
 - Prepare the project plan.

Location

Phuc Thinh pig farm,
Hoa Trung commune,
Dong Hy district, Thai
Nguyen Province,
Vietnam



Outline of Technology

- 'Hybrid subsurface flow constructed wetland system' is developed under cooperation of industry, academia and government in Japan.
- The feature of this technology is space-saving, low-cost (initial investment and running cost) and energy-saving.



Expected results and business prospects

- As expected result, it aims to contribute to the improvement of water quality and circulation of resource and energy, reduction of GHG emission, improvement of living environment and the sustainable development of livestock industry,
- For now, our target is livestock waste water treatment in Vietnam, which highly demanded now. In the future, we plan to expand to organic waste water from food processing plants, etc. and to other Asian countries.