

## 26 September 2023: Field visits of Wastewater treatment research group

A team of the project's G5 (Wastewater treatment) with JICA short term experts made following two field trips.

### **Field visit to pig farm (25 Sept 2023)**

*Participants:* Prof. Kazuhiro Mori, Prof. Tadashi Toyama, Dr. Yoshitaka Ebie, Dr. Chart Chiemchaisri, Dr. Wilai Chiemchaisri, Dr. Nopparit Sutthasil (post-doc), Dr. Chayanid Witthayaphirom (post-doc), Ms. Chonnada Chandaravithoon (Ph.D. student)

*Visiting purpose:* To get information about farm wastewater management and explore possibility to install duckweed-based wastewater treatment pond at the farm

#### *Farm information:*

Manop farm, Tha Manao sub-district, Chai Badan district, Lopburi province. The farm size is 600 pigs with wastewater quantity estimated at 10-20 m<sup>3</sup>/d. The wastewater is treated in anaerobic digester (100 m<sup>3</sup> volume; 50 m<sup>3</sup> water and 50 m<sup>3</sup> gas volume) followed by sedimentation pond and stabilization pond. The produced biogas is collected and partially used in farms and the rest is supplied to nearby villages for home use (cooking). This project Biogas project registered to Thailand GHG Voluntary Emission Reduction (T-VER) program and the construction was also supported by PTT (Public) Co. Ltd.

#### *Activities:*

- 8 a.m. Depart from Kasetsart University, pick up Japanese professors at the hotel
- 11 a.m. Brief visit to Wat Phra Phuttabat, Saraburi province, lunch at nearby restaurant
- 1 p.m. Visit community biogas from pig farms, meet with Mr. Wasan Dochai (Biogas project leader) and Mr. Manop Donchai (farm owner).
- 3 p.m. Visit a learning center of Tha Manao sub-district which share knowledge about climate change and ways to reduce greenhouse gases to public.
- 3.30 p.m. Depart and travel back to Bangkok

#### *Photos:*



From left to right: Wat Phra Phuttabat, Manop farm introduction, biogas digester



From left to right: sludge drying bed, surface water pond with duckweed growth, group photo at learning center

### Field visit to Tanio Thai factory (26 Sept 2023)

*Participants:* Prof. Masaaki Morikawa, Prof. Michihiko Ike, Prof. Kazuhiro Mori, Prof. Tadashi Toyama, Dr. Yoshitaka Ebie, Dr. Chart Chiemchaisri, Dr. Wilai Chiemchaisri, Dr. Varintorn Boonyaroj (post-doc)

*Visiting purpose:* To get information about factory wastewater and explore possibility to apply duckweed to factory wastewater treatment

#### *Factory information:*

Tanio Thai factory locates in Bang-poo industrial estate, Samut Prakarn province. The factory produces red bean paste products and canned boiled quail eggs. The produced wastewater which is mainly originated from cleaning process is discharged to central wastewater treatment plant of Bang-poo industrial estate.

#### *Activities:*

- 1 p.m. Depart from Kasetsart University
- 2.30 p.m. Arrive Tanio Thai factory, meet Mr. Shimosato Kiyomitsu, general manager and his team, Brief discussion on visit purpose, SATREPS project and factory introduction
- 3 p.m. Visiting tour of factory process
- 4 p.m. Depart factory and return back to Kasetsart University

#### *Photos:*



From left to right: project briefing by Prof. Morikawa, factory tour, group photo in front of the factory

We, the project would like to thank the both companies for kind cooperation.