



# SATREPS project

## Establishment of Environmentally Sound Management of Construction and Demolition Waste and Its Wise Utilization for Environmental Pollution Control and for New Recycled Construction Materials in Vietnam



Based on the agreement among Japan International Cooperation Agency (JICA), Vietnam counterparts, and Saitama University, a bilateral international research project, so-called, JST-JICA SATREPS (Science and Technology Research Partnership for Sustainable Development) project has been implemented since February 2018 (5-year project). In the year of 2019, the project has achieved some promising results in four main activities.

### [Activity 1: Development of guidelines for establishing an environmentally sound management system for Construction and Demolition Waste (CDW)]

"Technical guideline for On-site building demolition work for sorting CDW" is being formulated by SATREPS Guideline Committee. The draft is expected to be revised by the experts and completed in 2020. In May 2019, "SATREPS Workshop on CDW management and Recycling: Activities in Saitama Prefecture and future collaboration in Vietnam" was held in Hanoi to disseminate the SATREPS activities. In order to identify CDW management practice, illegally dumped CDW generation and composition surveys were carried out at some districts in Hanoi in May and December 2019.



*SATREPS Workshop on CDW management and Recycling, May 2019*

### [Activity 2: Development of technical instructions and standards for evaluation and quality control of recycled materials from CDW]

"Technical requirements - Testing methods for Recycled Materials from Construction Demolition Waste for Base and Subbase of Urban Roads" is being formulated by SATREPS Technical Standard Committee and expected to be finalized in March 2020. Many laboratory experiments have been done to characterize the mechanical properties and environmental safety of recycled concrete and brick aggregates for the use of road base and subbase construction.



*Waste composition survey in CDW landfill, June 2019*

**[Activity 3: Development of new technologies for environmental pollution control and infrastructure construction by utilizing recycled materials in Vietnam]**

Opening Ceremony for SATREPS Laboratory was held in September 2019 with the presence of Rector and Vice-Rector of NUCE, President of Saitama University (SU), Project leaders, representatives of JICA, many faculty members and experts from Vietnam and Japan. In order to exchange the research outcomes for developing new technologies for environmental pollution control and infrastructure construction by utilizing recycled materials, many seminars and workshops have been organized. The research outcomes have already been published in many international academic journals and international proceedings papers.



*Training & lecture for newly installed equipment for measuring environmental analyses in SATREPS lab in October 2019*



*Newly installed crushing machine for recycling CDW in October 2019*

**Capacity Development, Public Awareness, Academic and Outreach Activities**

- SATREPS Workshop on CDW management and Recycling: Activities in Saitama Prefecture and future collaboration in Vietnam, on May 7<sup>th</sup>, 2019
- Seminar on Geotechnical and Material Engineering Research, on July 11<sup>th</sup>, 2019
- Seminar on Environmental Engineering Research on July 23<sup>rd</sup>, 2019
- 2<sup>nd</sup> Joint Seminar between NUCE and Saitama University 2019, on September 24<sup>th</sup>, 2019
- International academic conferences: International Symposium on CDW Management and CECAR8 (Tokyo, Apr 2019); IFGTM2019 (Sep 2019); 3RINCS (Thailand, Apr 2019); SATREPS booth at Geotech Hanoi (Nov 2019); 17th International Waste Management and Landfill Symposium (Italy, Oct 2019); ICSECM2019 (Sri Lanka, Dec 2019)

**[Activity 4: Proposal of strategic business models for promoting CDW recycling and practically effective promotion measures for environmental sound CDW management and recycling]**

Baseline survey on CDW treatment and flow, market on construction materials, recycled materials and recycling technologies was conducted to identify the economic feasibility of recycled materials in Vietnam. In order to carry out quality control of recycled aggregates from CDW and promote a pilot study on the manufacturing of recycled materials, a crushing machine was delivered and ready for installation in early 2020.

- SATREPS Project JICA training in Japan in March, October to November 2019
- SATREPS Project JICA business trip to Japan in March 2020



*SU President's courtesy call to NUCE on September 04th, 2019*