

JASTIP : 日 ASEAN 科学技術イノベーション共同研究拠点—WP4 防災・減災分野
The JASTIP : Japan-ASEAN Science, Technology and Innovation Platform
—WP4 (Disaster Prevention and Mitigation)

○角 哲也・寶 馨 (総合生存学館)・佐山敬洋・田中茂信・飛田哲男 (関西大学)・上田恭平・牧 紀男
○Tetsuya SUMI, Kaoru TAKARA(GSAIS), Takahiro SAYAMA, Shigenobu TANAKA,
Tetsuo TOBITA (Kansai University), Kyohei UEDA, Norio MAKI

Since FY2015, Kyoto University has launched “Japan-ASEAN Science, Technology and Innovation Platform (JASTIP): Promotion of Sustainable Development Research” within the framework of the Collaboration Hubs for International Research Program (CHIRP) 2015 funded by the Strategic International Collaborative Research Program (SICORP) of Japan Science and Technology Agency (JST). JASTIP serve as a platform for Japan-ASEAN science and technology cooperation based on the network formed by its Headquarters and three joint laboratories, all of which shall operate under the direction of the Steering Committee. Four groups formulated by the coordination with the headquarters and these laboratories are operating four working packages (WP1: JASTIP Headquarters, WP2: Energy and Environment (NSTDA, Thailand), WP3: Bioresources and Biodiversity (LIPI, Indonesia) and WP4: Disaster Prevention and Mitigation (MJIIT, Malaysia)). The 1st Phase of the JASTIP has finished at the end of August, 2020 and the 2nd Phase has started from September 1, 2020. This special session shows general outlines of JASTIP-WP4 and unique contributions from DPRI members.

1. Introduction

The ASEAN countries are located in a humid tropical tectonic zone, in which various kinds of natural hazards take place. The climatic zone generates typhoons in the southwestern Pacific Ocean and tropical cyclones in the eastern Indian Ocean, as well as convective storms bringing torrential rainfalls. Such conditions cause serious water-related disasters by floods along rivers, high tides in coastal zones, and flash floods, mudflows and landslides in mountainous areas. ASEAN countries are vulnerable to such meteorological and hydrological hazardous phenomena and damaged every year. Earthquakes often occur in the tectonic zone. In 2004, there was an earthquake in the northern Sumatra island in Indonesia, which damaged coastal areas in countries surrounding the Indian Ocean and killed 245,000 people by a tsunami caused by it. The tectonic zone also has many volcanoes especially in the Philippines and Indonesia, which erupts often (every ten years in Indonesia) and causes damages by eruption itself, lahars (destructive mudflows on the slopes of a volcanos), earthquakes and air pollution by volcanic ash. In agricultural areas fires in peatland causes air pollution called as haze, which spread over a wide area in Malaysia, Indonesia and Singapore and affects human health.

The JASTIP Working Package 4 (WP4) deals with

such natural hazards and disaster risks. The WP4 selected the Malaysia-Japan International Institute of Technology (MJIIT) of the University Technology Malaysia (UTM) as a main counterpart and established a JASTIP laboratory in Kuala Lumpur Campus, on the basis of the MoU between Kyoto University and UTM concluded in August 2016. Then another JASTIP laboratory was established in Ho Chi Minh Campus of Thuyloi University, Vietnam.

2. Objectives of WP4

Main objectives are summarized as follows.

- To establish disaster prevention systems that can reduce disaster risk and realize early warning
- To establish a network for international cooperation in the ASEAN region
- To provide scientific, technological, and social countermeasures to predict, prevent and cope with natural disasters that is increasing under the circumstances of population growth and concentration in urban areas.
- To encourage MJIIT's Master of Disaster Risk Management Program by dispatching Japanese researchers as lecturers and receiving students for a short-term (two weeks) training in Japan, as well as capacity building activities in disaster management in ASEAN countries.

3. Research directions of the 2nd Phase (2020-2025)

Fig.1 shows research topics of the 2nd Phase. Based on the 1st Phase, we have set up the following highlighted projects (Fig.2).

1) Transboundary issues:

- ① Mekong River (Flow and Sediment Regime Change), Lao PDR, Cambodia, and Vietnam
- ② Haze: Malaysia, Brunei, and Indonesia,

2) Common issues in ASEAN countries:

- ① River Basin Management (Flood, Water Resources and Sediment): The Philippines and Vietnam

- ② Cultural Heritage & DRR (Flood and Sediment): Malaysia, Vietnam, Indonesia.

In order to sharing our good experiences and encourage collaborations, we will strengthen activities of the JASTIP Education and Research Network for Disaster and Climate Resilience (Fig.3).

	Research Topics
Malaysia	Storm, Flood, Landslide, Debris Flow, WQ, Community Based-DRR , ICT for DRR, DRR in World Heritage sites
Vietnam	Mekong River (Sediment, Salt water intrusion, Bank erosion), River Basin Management (Flood, Water Resources and Sediment, Coastal erosion)
Indonesia	Peatland Flood, Sediment, Landslide, Transboundary Air Pollution (Haze)
The Philippines	River Basin Management (Flood, Water Resources and Sediment), Pre-disaster Recovery Planning,
Thailand	Liquefaction by earthquake, Mekong River
Myanmar	Rainfall and Evaporation Observation at Dams, Flood, Dam Safety, Earthquake
Cambodia	Mekong River , Water resources management in Tonle Sap
Lao PDR	Mekong River
Brunei	Transboundary Air Pollution (Haze)

Fig.1 Research topics of the 2nd Phase WP4 (Disaster Prevention and Risk Reduction)

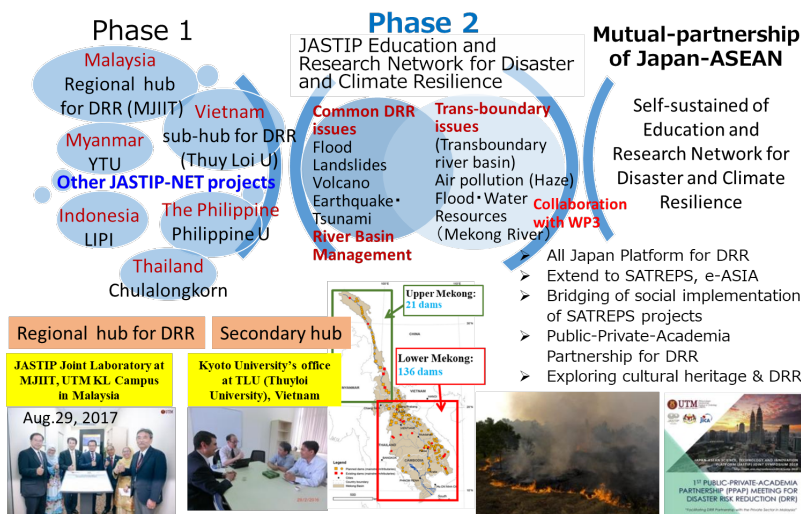


Fig.2 Highlighted projects of the 2nd Phase WP4

-Facilitating sustainable development in ASEAN through education, research and field practice-



Fig.3 JASTIP Education and Research Network for Disaster and Climate Resilience

Proposing activities to share good lessons and advanced methodologies among members

- Newsletter, Database
- Online open seminars
- Invited lecturers for DPPC, MDRM/CPT from ASEAN Partners



Lecturers from Japan for MIJIT-DPPC, MDRM/CPT