Establishment of Research and Education Network on Coastal Marine Science in Southeast Asia: Scope of JSPS COMSEA-RENSEA Projects

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The Southeast Asian Region encompasses diverse coastal ecosystems, as represented by coral reefs, mangrove forests, seagrass beds, and even deep basin over 4000-m deep. These diverse environments harbor the unique and extremely high biodiversity of the region, known as the major biodiversity hotspot in the world. These waters also supply important marine resources to some 600 million people living in the region. However, the region is also under serious threat of environmental decline from various human impacts due, for example, to loads of pollutants from land and habitat destruction associated with resort development and fisheries. There are also concerns about negative impacts of global climate change, as represented by coral bleaching.

To address these issues, it is of primary importance to clarify the current status of the coastal environment and its temporal changes. There is a long history of research on the coastal environment of the region, dating back to the Challenger Expedition in the late 19th Century, resulting in a large body of knowledge accumulated to date. Novel findings and knowledge have also been provided by more recent researches conducted by countries of the region, either domestically or through international collaboration. However, still much remains to be explored on the coastal environment and biodiversity of the region. Moreover, there are large discrepancy and differences among the information obtained by different projects and researches, in terms of the objectives, sea areas, accuracy and precision of data, and forms of data publication and archive. Under this circumstance, the multilateral project "Coastal Marine Science (CMS)", conducted with the support of the Japan Society for the Promotion of Science (JSPS) during 2001-10, has successfully established basic information on the coastal environment in the region, with collaboration among five Southeast Asian countries and Japan. Through this activity, the project also has contributed much to the education of many young scientists who are expected to lead the research and education of the region.

The CMS Project has been succeeded by the Coastal Marine Science in Southeast Asia (COMSEA: 2011–15) and the Research and Education Network on coastal ecosystems in Southeast Asia (RENSEA: 2016–2018) Projects, aiming at further expanding the research and education network on the coastal marine science of Southeast Asia, through (1) research collaboration applying new approaches and methodologies such as satellite remote sensing, molecular genetic analyses, and high-precision analyses of hazardous chemicals, (2) integrative, inter-disciplinary ecosystem researches, and (3) establishment of core of coastal marine science in each country and multilateral network. Through these activities the project aims at enhancing education of researchers who will play major roles not only in domestic but also in international activities on global issues.

Keywords: Southeast Asia, coastal marine science, multilateral network