
International Research Activities

1 International research activities at the NILIM

While considering the relevant policies of the MLIT, the NILIM is promoting exchanges mainly with overseas government agencies and governmental research institutions, as well as international research activities based on the following three perspectives.

(1) Technical contribution to domestic policies

The NILIM is utilizing bilateral, multilateral cooperation and other agreements concluded by it and the MLIT to build a network with overseas government agencies, etc., collect information on advanced cases, damage in disasters, etc., and to reflect what can be learned in domestic policy proposals, technical standards, etc.

(2) Technical cooperation for developing other countries

The NILIM is making use of the knowledge and lessons learned on the maintenance of public facilities and disaster response in Japan obtained from a standpoint similar to a public facility manager, as well as research results on the advancement of disaster prevention and mitigation measures that reflect such knowledge and lessons learned, to provide support to developing and other countries for measures that address advanced technical issues facing local governments, the formulation of technical standards, skill improvement of engineering officials in governments, etc.

(3) Development of infrastructure systems overseas

The NILIM is utilizing its knowledge on the formulation of technical standards to support policy development in Japan, to customize Japanese technical standards to the various conditions of the relevant country. Meanwhile, the NILIM also participates in committees for international standardization, plays a leading role in the internationalization of technical standards, and ensures consistency between domestic and international standards. Thus, the NILIM provides technical support for the development of infrastructure systems overseas.

2. Main international research activities in FY2021

In FY2021, due to the spread of COVID-19 variations such as the Delta and Omicron strains, many countries continued to restrict cross-border travel by immigration control, etc. Therefore, as in the last fiscal year, international conferences and meetings were cancelled or postponed and replaced with online meetings.

The following are representative international research activities we conducted in FY2021 during the COVID-19 pandemic.

2.1 Exchange of opinions with overseas organizations on road bridges

The Road Structures Department hosted the “U.S.-Japan Bridge Engineering Workshop” in an online format, based on the U.S.-Japan Memorandum of Understanding for Transportation Infrastructure Cooperation concluded between the U.S. Department of Transportation and the MLIT. In this year's Conference, we held discussions for three days on seismic design, repair and reinforcement cases, new construction methods and new materials, and shared new knowledge on new construction and maintenance of road structures that both countries have.

In addition, an online meeting was conducted based on the "Memorandum of Understanding on Agreement for Joint Research and Development on Road Bridges"⁽¹⁾ between the Directorate for Roads of Viet Nam: (DRVN) of the Ministry of Transport and the NILIM. During the meeting, there was a lively exchange of opinions about bridge monitoring and cases of rehabilitation and reinforcement of concrete box girder bridges, which provided a meaningful opportunity to improve the technical level of both countries.

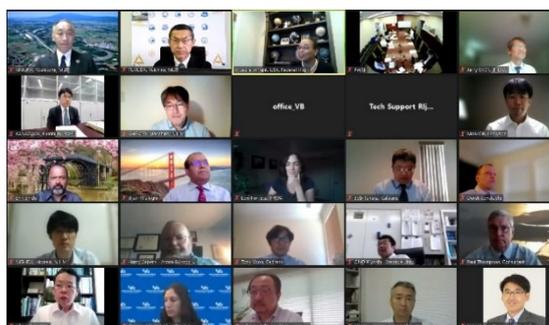


Photo 1: U.S.-Japan Bridge Engineering Workshop

2.2 Exchange of opinions with Germany on standards and measures for energy-saving in buildings

In FY2019, the NILIM signed a Memorandum of Understanding on research cooperation between NILIM, the Building Research Institute (BRI), and the German Federal Institute for Research on Building, Urban Affairs and Spatial Development (BBSR)²⁾. Based on this MOU, in the online bilateral meeting of the current fiscal year, researchers mainly from BBSR (Germany), NILIM, and BRI introduced the initiatives of Japan and Germany regarding the trends in energy-saving standards and measures for buildings and exchanged opinions.

2.3 Cooperation in the formulation of national port standards in Vietnam

Based on the "Memorandum of Understanding for Cooperation in Developing National Technical Standards for Port Facilities" between the MLIT and the Ministry of Transport of Vietnam (signed in March 2014, renewed in July 2016 and renewed again in October 2020), the Port and Harbor Department has been conducting workshops to formulate national standards for ports in Vietnam in cooperation with the country's research institutes, etc. So far, seven parts of the Vietnamese National Port Standards (General Provisions, Loads and Actions, Material Conditions, Foundations, Ground Improvement, and Mooring Facilities in the Design Standards, Construction and Inspection Standards, and Maintenance Standards) have been officially issued by the Vietnamese Ministry of Science and Technology.



Photo 2: Japan-Vietnam Technical Workshop

In FY2021, based on the renewed MOU, the Port and Harbor Department held a total of four web workshops in Japan and Vietnam for two standards out of the design standards, i.e., Breakwaters, and Dredging and Reclamation (**Photo 2**), and both countries jointly edited the draft of the Vietnamese National Port Standards.

2.4 Activities concerning ISO

The Research Center for Infrastructure Management participated in meetings on information exchange at construction sites, and discussed and reported online on the establishment of a new standard, Part 4 (construction site topography) of the Standard for Information Exchange between Equipment at Construction Sites (ISO 15143) (TC127). In addition, the Building Department discussed international standards for fire resistance test methods for hydrocarbon fires at an online meeting (TC92). The Water Quality Control Department participated in the annual meeting on water, wastewater and rainwater management and in online meetings as a member of the WG on Climate Change (TC224/WG16).

2.5 Cooperation in JICA projects and training

The NILIM accepts trainees from overseas in response to JICA requests, and conducts lectures at its institutes and tours of its test facilities every year. The following training sessions were conducted in online formats this year as well.

- (1) Project management in social infrastructure development (Research Center for Infrastructure Management) [5 trainees]
- (2) Dam safety management (River Department) [9 trainees]
- (3) Port development and planning (for port engineers) (Administrative Coordination Department) [15 trainees].
- (4) Port maintenance planning (Administrative Coordination Department) [14 trainees]

☞ See the following for details.

- 1) NILIM Website (regarding the Japan-Vietnam Agreement)
http://www.nilim.go.jp/lab/beg/foreign/kokusai/viet_nam.htm
- 2) NILIM Website (regarding the Japan-Germany Agreement)
<http://www.nilim.go.jp/lab/beg/foreign/kokusai/germany.htm>