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# International Research Activities

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## 1. International research activities in NILIM

NILIM promotes international research activities based on the following three pillars while deepening exchanges with institutions in other countries, centering on governmental organizations and government-affiliated research institutions, and grasping future changes in policy needs related to international activities.

(1) **Technical contribution to domestic policies:**

While concluding bilateral agreements and utilizing agreements concluded by the Ministry of Land, Infrastructure, Transport and Tourism (MLIT), NILIM forms networks with governmental organizations in other countries to collect information on advanced technologies and disasters and reflect the results in domestic policy proposals, technical standards, etc. in order to carry out the core activities of NILIM.

(2) **Technical cooperation for developing countries, etc.**

Utilizing the knowledge and lessons learned from maintenance activities, disaster response, etc. for domestic public facilities and the results of research on more advanced disaster prevention and mitigation reflecting that knowledge, NILIM supports countermeasures, etc. for high-level technical issues confronting the local governments of developing countries, etc. from a standpoint close to that of the administrators of public facilities.

(3) **Overseas deployment of infrastructure systems:**

NILIM participates in committees involved in international standardization using its knowledge of the formulation of technical standards, manuals, etc. which support the development of important policies for issues directly confronting Japan. NILIM also prepares working drafts in some fields, and contributes to the smooth international deployment of Japanese technologies through efforts to “promote international standardization of domestic standards” and “ensure consistency between domestic standards and standards in other countries,” by substantially leading discussions, etc.

## 2. Main international research activities in FY 2020

During the one-year period of fiscal 2020, all countries unavoidably restricted international travel as the novel coronavirus spread around the world. As a result, with some exceptions, international conferences, meetings, etc. were either canceled or postponed or changed to online meetings. Those concerned responded by conducting online meetings, and in-person meetings decreased sharply. Some meetings were originally scheduled to be held by overseas travel limited to the main person in charge, however, accompanying the change to online meetings, in some cases it was possible to hold the meetings with the participation of a larger number of persons, or to deepen the discussions by holding multiple meetings following up with the originally-scheduled meeting.

The following introduces representative examples of international research activities in FY 2020 amid the restrictions imposed in response to the spread of the coronavirus.

### 2.1 Start of international consortium

In the Sabo Department, following a decision at a meeting in Perugia, Italy in January 2020, deeper discussions were possible by online meetings, and as a result, an international consortium called LandAware<sup>1)</sup> related to landslide early warning systems was launched. Accompanying this, a platform was constructed for related research activities at an international conference scheduled for FY 2021.

### 2.2 Exchange of views for Japan-Netherlands joint research

In an online meeting held at the Embassy of the Kingdom of the Netherlands on November 2020, the River Department conducted an exchange of views based on the status report on Japan-Netherlands joint research being carried out at Hokkaido University, etc. concerning Japan-Netherlands joint research on flood damage risk management considering climate change, which was proposed by the Netherlands in FY 2019.

### 2.3 Bilateral research collaboration plan with US Federal Highway Administration (FHWA)

The Road Structures Department conducts an exchange of views called the NILIM-FHWA Conference on policies for the design, construction, operation and maintenance of road structures and trends in research and development related to technical standards with the US Federal Highway Administration (FHWA) around January of each year. but the meeting for fiscal 2020 was postponed due to the coronavirus. However, new research collaboration plans on “Health monitoring and nondestructive inspection” and “New materials” were established in August of 2020, resulting in deeper collaboration on more concrete subjects. An online meeting was

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held in January 2021, leading to a shared awareness of future directions in research, etc.

#### 2.4 Cooperation in JICA Projects / Training

NILIM receives trainees at the request of JICA. Although lectures in the laboratory, tours of experimental facilities, etc. are carried out in normal years, in fiscal 2020, the following training was provided online.

- (1) Project management in social infrastructure construction and maintenance (Research Center for Infrastructure Management) (number of trainees: 20)
- (2) Port development and planning (for port engineers) (Administrative Coordination Department) (number of trainees: 17)

#### 2.5 Receipt of Foreign Intern

The Road Structures Department provided practical training for one intern, who came to Japan from Chile and is attached to the Disaster Management Program of the National Graduate Institute for Policy Studies, on the theme of “Evaluation of seismic force for bridge design based on records of earthquake observation in Chile” (period: May to August, 2020).

#### 2.6 Cooperation in formulation of national harbor standards in Vietnam

The Port and Harbor Department conducts workshops for formulation of national standards for harbors in Vietnam in cooperation with research institutes and other organizations in Vietnam based on the “Memorandum for Cooperation in Formulation of National Technical Standards for Harbor Facilities” (signed in March 2014, renewed in June 2016), which was concluded between MLIT and the Vietnam Ministry of Transport. To date, five parts of the Vietnam national harbor standards (General provisions, Load and actions, Material conditions, Foundations / soil improvement, Construction / inspection standards) have been officially enforced by the Ministry of Science and Technology of Vietnam. Drafts of two parts of the Vietnam national harbor standards (Mooring facilities, Maintenance) are currently under examination by the Vietnamese side, and enforcement of the Vietnam national harbor standard (Maintenance) is scheduled for the near future.

The Memorandum was renewed again during fiscal 2020 (**Photo-1**). During the year, the Port and Harbor Department also held a total of three internet workshops in Japan and Vietnam on the two standards, Breakwaters and Dredging / reclamation, and the two countries jointly carried out editorial work on drafts of the Vietnam national harbor standards.

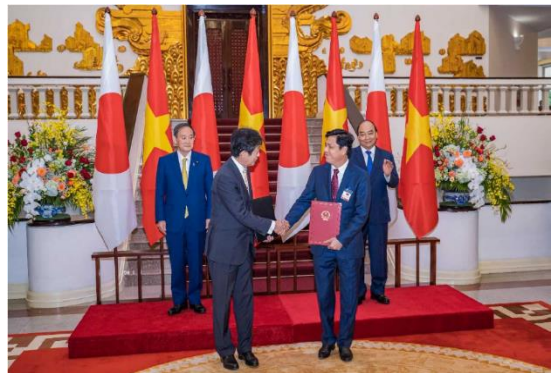


Photo-1 Scene during exchange of Memorandums (October 19, 2020)



Photo-2 Scenes of internet workshops with Vietnam

#### 2.7 ISO-related activities

The Sewerage Department participated in a conference on rainwater management and mainly conducted online discussions of the proposed new standard “Adaptation of Climate Change Impacts” (TC224). The Building Department carried out online discussions on research and development for international standardization related to fire safety, such as implementation of round-robin tests of draft standards for evaluation of gas toxicity during fires, etc. (TC92). The Housing Department held online discussions on evaluation techniques for the energy consumption performance of air conditioning system and commissioning techniques for newly constructed buildings (TC205).

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#### ☞ For more information:

- 1) LandAware website: <https://www.landaware.org/>
- 2) NILIM website: <http://www.nilim.go.jp/lab/beg/foreign/kokusai/kokusaitekikatudou.htm>
- 3) Ministry of Land, Infrastructure, Transport and Tourism (MLIT) website: [https://www.mlit.go.jp/report/press/port05\\_hh\\_000177.html](https://www.mlit.go.jp/report/press/port05_hh_000177.html)