

What is Expected from NILIM

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1. Mission of NILIM

Since the National Institute for Land and Infrastructure Management (NILIM) was established in 2001, it has conducted research activities in accordance with its Research Policy as a common recognition shared by all individual researchers.

As the Mission of NILIM, the revision of NILIM's Research Policy in 2017 states that, "as the only national research organization in the field of housing and social infrastructure, the NILIM aims to realize a safe, secure, dynamic and attractive land and society now and in the future by using technology as the driving force," and describes the "Basic attitude" of NILIM as "participating in the policy development of the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) as a technical expert taking into account the administrative perspective," "returning the advanced and comprehensive technical capabilities cultivated through research activities to the actual field of work" and "leading the insight of the future vision of land and society and the promotion of technological development to the creation of new policies."

2. External Evaluation of NILIM

To evaluate these efforts, evaluations of research and development organizations are conducted every 5 years from the two aspects of implementation and promotion of research and development and organizational operation based on "General Guidelines for Evaluating Government Funded R&D," "MLIT Guidelines for Evaluating R&D," and the like. The evaluation criteria for evaluations of organizations are shown in the **Figure**. In 2023, the condition of activities in the preceding 5-year period (FY 2018-Fy 2022) was summarized, and an evaluation by external experts and others at a meeting of the NILIM Research Evaluation Committee was held in December of 2023 ¹⁾.

This committee expressed the opinion that NILIM's activities could be evaluated as "fully appropriate" in terms of both implementation and promotion of research and development and organizational operation, as MLIT had achieved remarkable results through R&D supporting MLIT's policies and response during disasters and support for improvement of technical capabilities in actual fields of work, etc., and had also implemented cross-sectional initiatives and promoted human resource training for young persons and strengthening of experimental facilities, etc.

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| <p>[I. Implementation and promotion of research and development]</p> <ul style="list-style-type: none">① Research and development supporting planning, drafting and dissemination of MLIT policies② Technical support for disaster/accident response and development of advanced countermeasure technologies③ Support for improvement of field technology capabilities of MLIT Regional Development Bureaus④ Collection, analysis and management of data that form the technical basis for planning and drafting policies, and return to society <p>[II. Organization operation]</p> <ul style="list-style-type: none">⑤ Construction of management systems supporting high-quality research⑥ Training, etc. of human resources anticipating policy development from both the research side and the administrative/field side, with technology as a foundation⑦ Possession and strengthening of the functions of experimental facilities, etc., and technology research and development in the fields of housing and social infrastructure⑧ Effective recommendations on research outcomes and research activities |
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Figure Criteria for organizational evaluation

Particularly in recent years, the needs for disaster response and readiness required from NILIM have become more advanced and diverse, and it is thought that those efforts were highly evaluated. Among the 8 evaluation criteria in the above-mentioned organizational evaluation, NILIM contributed directly to disaster prevention and mitigation, and the institute also supported improvement in ② Technical support for disaster/accident response and development of advanced countermeasure technologies and ③ Support for improvement of field technology capabilities of MLIT Regional Development Bureaus.

Where ② is concerned, one evaluator expressed an opinion to the effect that "NILIM responded using new technologies corresponding to the conditions at the actual site, and utilized and accumulated knowledge without delay. In particular, promotion of activities in the form of local support, and the fact that NILIM has a system that allows national engineers themselves to judge, evaluate and give recommendations on disposal/repair measures for structures damaged by disasters and accidents could be highly evaluated."

Regarding ③, we received an opinion that "The one-stop system for responding to consultation requests from the local community can be highly evaluated. In addition, it can be judged that the PDCA cycle, including improvement of field technical capabilities and improvement of standards, is being practiced with the staffs of Regional Development

Bureaus, etc. so as to enable an initial response in the field, which is critical when a disaster occurs. I hope that NILIM will continue these activities in the future. Furthermore, the point that persons loaned to NILIM and the staff of Regional Development Bureaus, etc. who receive training are analyzing research outcomes could be highly evaluated.

We are happy that NILIM's efforts to date have been highly evaluated, and we believe this will also increase our motivation in the future.

3. Expectations for NILIM

Japan's Basic Act for National Resilience was revised in June of 2023, and the Cabinet Office approved the Fundamental Plan for National Resilience in July of the same year. Together with promotion of research and development on disaster prevention and mitigation, the Plan called for strengthening of research institutes related to national resilience.

In addition, the "Basic Policy for Economic and Fiscal Management and Reform 2023" (Basic Policy, the so-called "big-boned policy"), which was approved by a Cabinet resolution in June 2023, proposed expansion and strengthening of the TEC-Force and other disaster-prevention systems and functions to further strengthen the initiatives of the Fundamental Plan for National Resilience. This "TEC-Force, etc." denotes not only the Regional Development Bureaus, but also "research organizations that conduct field surveys which require advanced technical capabilities during disasters, and also provide support for emergency measures and other activities," and we recognize that this means NILIM and other research institutes. We believe that the fact that the role played by NILIM during disasters is positioned as part of the Fundamental Plan for National Resilience and the above-mentioned "Basic Policy" is deeply significant, as it indicates the high evaluation of our support activities to date, as well as the magnitude of the expectations placed on NILIM.

4. Looking Back on 2023

The trend toward increasingly severe disasters was unchanged in 2023, as could be seen in Typhoon No. 2 in June and the heavy rains caused by activation of the weather front accompanying that storm, torrential rains at the end of the rainy season, and the nationwide damage caused by Typhoon No. 13. After each of these disasters, experts from NILIM were dispatched to the stricken areas.

Among earthquakes, a strong earthquake with its epicenter in southeast Turkey occurred in February. In response, NILIM dispatched experts in the road, urban, and housing fields as members of the Japan Disaster Relief Team and expert teams. In Japan, an earthquake with a seismic intensity of 6 upper (on a scale of 7) occurred in the Noto district of Ishikawa Prefecture occurred in May, and an earthquake with seismic intensity of 5 upper also occurred in the Tokyo Metropolitan area during the same month. In all, 6 earthquakes with seismic intensities of 5 lower or more occurred during May.

Moreover, 2023 was also the 100th anniversary of the Great Kanto Earthquake, which struck the Tokyo area in 1923. Events and news reports in connection with that earthquake in a variety of fields commemorated that disaster. NILIM actively participated in these events, and the FY 2023 NILIM Conference was held on the theme of "Challenges of NILIM for Earthquake Disasters – 100 Years Since the Great Kanto Earthquake –." NILIM also cooperated in the preparation of an NHK special entitled "The Great Kanto Earthquake – Three Days of Ruin in Tokyo –," which was presented by Japan's national television broadcaster, NHK, and experts from NILIM appeared and provided commentary²⁾.

The Chinese character for "tax" was selected to symbolize the year 2023, but for civil engineers and persons involved in architecture and construction, it was a year of "tremors." Moreover, because the Noto Peninsula Earthquake occurred on January 1, 2024, continuing this series of disaster, 2024 will also be remembered as a year of "tremors" by those concerned. During the 2 months following the Noto Peninsula Earthquake, NILIM dispatched 86 experts to the disaster sites, local countermeasures headquarters, etc. for a total of 447 man-days (as of March 1), and compiled the results of the surveys and analysis. Information on these activities is available on the NILIM website³⁾.

5. Toward 2024

Support activities for the Noto Peninsula Earthquake subsequently transitioned to the next phase, which includes participation in recovery/reconstruction study committees. Beginning in 2024, waterworks administration will be transferred to MILT, and based on this, a new Water Supply System Division will be established in NILIM. Because unified research activities and disaster response are required, including both waterworks and sewerage, this is considered to be a new expectation for NILIM.

The third round of periodic inspections of highway structures also begins in 2024, and a more advanced management cycle is demanded.

The entire organization will continue to grapple with these issues as one in order to fulfill the roles expected of NILIM.

☞ For more information:

1) Research evaluation for FY 2023:

<https://www.nilim.go.jp/lab/bcg/hyouka/R5/r5index.htm>

2) Efforts of NILIM in connection with the 100th anniversary of the Great Kanto Earthquake:

<https://www.nilim.go.jp/lab/bcg/shinsai100/index.html>

3) Status of activities by NILIM in the 2024 Noto Peninsula Earthquake:

http://www.wdisaster.nilim.go.jp/saigaitaiou/R601jishin/sai_gai_R601jishin.html