

## Reflection of research and development outcomes into policies

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### 1. Fifteen years since the establishment of the Urban Planning Department

The Urban Planning Department was born as a part of the National Institute for Land and Infrastructure Management (NILIM) that was established when the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) was launched through the central government restructuring in April 2001. The Department celebrated the 15<sup>th</sup> anniversary in 2016.

The NILIM conducts comprehensive investigations, tests, research, and development of technologies, which are in the field of housing and social assets to use, develop, and conserve national lands as related to policy planning and proposals of the tasks of the MLIT. For 15 years since its establishment, the Urban Planning Department has been in charge of investigation, research, development, and provision of technical instructions in the field of urban planning, urban facilities, urban disaster management, and urban development.

As an organization of the MLIT, the NILIM is specifically in charge of the following: (i) investigation and research to contribute to policy planning, proposals, and implementation; (ii) preparation of drafts of technical standards based on laws and regulations; and (iii) research of technical instructions and promulgation of research outcomes. To mark the 15th anniversary of the Urban Planning Department, this paper describes, based on the annual reports of the NILIM, how the specific roles (i) to (iii) have been fulfilled, and how research outcomes have been reflected in policies and promulgated in the process. This paper thereby aims to gain future perspectives.

### 2. Reflection of research and development outcomes into policies

The annual report of the NILIM is the record that comprehensively summarizes activities of the NILIM and their outcomes for each year. The reports are released to the public so that people involved with the development and management of housing and social assets can refer to them. The report consists of Chapter 1 for introduction, Chapter 2 for the report of activities, and Chapter 3 for the report of outcomes and public relations. Chapter 3, outcomes and public relations, describes how research outcomes are reflected into policies, which is the main focus of this paper.

About 50 to 100 research outcomes of the NILIM as a whole are reflected in policies every year except for the aftermath of its establishment. About one to ten research outcomes of the Urban Planning Department are mentioned in the report every year. The methods of reflection range from technical standards based on laws and regulations to drafts of new policies and activities to spread the outcomes. The majority is technical standards and policies related to laws and regulations.

In chronological order, the annual reports show the records of activities related to technical support that is required as a part of the MLIT. Most outcomes in the early stages consisted of ones related to urban regeneration, which was a national policy back then, especially for the prevention of disasters in densely built-up areas. The following activities consisted of support for the urban policies of local governments around the time when the issue of the revitalization of central urban areas was one of the social issues. Investigations and researches of natural disasters, such as ground liquefaction management measures, were conducted after the Great East Japan Earthquake in 2011. The Low Carbon Urban Policy Act was enacted in 2012. The Urban Planning Department had been conducting researches in the global environment and reflecting the outcomes in policies since before the enactment. Now the Department's goal is to reflect researches of the Compact City under a declining society related to the revitalization of rural districts.

In general, research and development are roughly categorized into two types: those started after the onset of some social problem and ones started based on awareness of problems in research and policies, which are reflected in policies as social awareness changes. The matter is not which type is more important. Yet, the former quickly becomes policies and thus easier for citizens to understand. Meanwhile, the meaning of the latter type of research and development is often difficult to understand, because they require a long term, sometimes more than ten years, to be materialized as policies. The research and development related to the Urban Planning Department might seem to be classified at a high frequency into the former type. Yet, based on the above perspective, most of the recorded cases are actually the latter type of research and development.

Another characteristic of the Urban Planning Department is that they are also promulgating and providing technical instructions while reflecting research outcomes in policies. The national government sometimes plans and proposes policies for urban development for which the Urban Planning Department is responsible, but local governments and autonomous resident groups are the main executors of the policies. Technical support for users is essential along with the implementation of policies through research and development in order for the users to receive and use advanced and cutting-edge research and development as simple and widely applicable technologies.

### 3. Technical instructions as a reflection into policies

Technical instructions of the Urban Planning Department are mainly targeting local governments, especially wards, cities, towns, and villages. Technical instructions are the opportunity to directly apply knowledge and technologies gained through research and development to actual fields. It is also a valuable opportunity to improve technical levels and promote research and development by identifying needs and problems that actual fields are facing.

Meanwhile, enormous numbers of outcomes have been accumulated over the 15 years, and individually providing technical instructions to suit actual conditions is a difficult task that can require time and effort. There is a limit to responding to individual demands, but the Department has been putting efforts into doing so in recent years. The Department is planning effective and efficient technical instructions for users to autonomously use the research outcomes, such as releasing programs and providing manuals to users.

There are problems, however. Officers of local governments only have experience in administrative procedures; programs are a challenge for them, and they cannot continue using them. In addition, programs and manuals require maintenance, such as improvement and updating, which are difficult tasks that cannot be done in someone's spare time.

Some local governments are installing their own research organizations and researchers to work on urban policy. It may be worthwhile to strengthen the relationship with these research organizations of local governments not only for research and development, but also for the reflection of outcomes into policies. A benefit of such attempt is that it can cover wider research fields that cannot be covered by the Urban Planning Department of the NILIM alone.

Measures to generate time and funds for maintaining the programs and manuals must also be established. Here are some proposals; organizing efforts and creating specialties, cooperating with private organizations such as the Japan Association for Building Research Promotion, and collecting costs from users. In addition, funds should be allocated for the substitute costs of maintaining and managing experimental facilities.

Annual report of the NILIM: Reflection into policies (Urban Planning Department)  
(Annual report for FY 2003)  
-Revision of the Act on Promotion of Improvement of Disaster Control Districts in Populated Urban Districts and preparation of regional disaster management performance evaluation manual  
(Annual report for FY 2005)  
-Development and release of a simulation program to evaluate urban disaster management evaluation  
-Establishment and release of "Guidance for using and planning LRT integrated with urban development"  
(Annual report for FY 2006)  
-Revision of the Act on Promotion of Improvement of Disaster Control Districts in Populated Urban Districts  
-Preparation and release of Operation Guidebook for Organizational Regulations for the Development of Dense Urban Districts  
(Annual report for FY 2007)  
-Examination of technical standards in the enforcement regulation of the revised Populated Urban Development Act  
-Development of Technical Policy for Planning Disaster Control District and Reorganization District  
-Establishment of Urban Development Subsidy Index and Utilization Manual  
-Promulgation of Operation Guidebook for Organizational Regulations for the Development of Dense Urban Districts  
-Development and use of domestic roads -Reflection to the Regulation and Operation Policies related to Building Standards Act-  
(Annual report for FY 2008)  
-Promulgation of Operation Guidebook for Organizational Regulations for the Development of Dense Urban Districts  
-Reflection to the Low Carbon Urban Development Guideline (draft) and technical support for Environmental Action Plan Model Project  
(Annual report for FY 2009)  
-Reflection to the Low Carbon Urban Development Guideline  
-Promulgation of Operation Guidebook for Organizational Regulations for the Development of Dense Urban Districts  
(Annual report for FY 2010)  
-Reflection to the revision of Populated Urban District Development Policy in Basic Plan of the Living Environment (national plan)  
-Promulgation of Operation Guidebook for Organizational Regulations for the Development of Dense Urban Districts  
(Annual report for FY 2011)  
-Publication of Investigation and Research of the Earthquake in the Pacific off the Coast of Tohoku (quick report) in 2011  
-Publication of the summary of the Field Survey and Research on "The 2011 off the Pacific coast of Tohoku Earthquake (the Great East Japan Earthquake)"  
-Publication of Investigation Report of Damages caused by the Earthquake off in the Pacific off the Coast of Tohoku in 2011  
-Promulgation of Operation Guidebook for Organizational Regulations for the Development of Dense Urban Districts  
(Annual report for FY 2012)  
-Release of the Examination and Investigation for the Restoration of Cities Damaged by Ground Liquefaction in the Great East Japan Earthquake (Guidance (draft))  
-Development of software that can quickly compute effects of using the groundwater lowering method to control ground liquefaction in residential areas  
-Release of the Examination and Investigation of Groundwater Lowering Method to be used in Cities Damaged by Ground Liquefaction (Guidance (draft))  
-Development of software that can quickly compute effects of using the grid-like underground wall construction method to control ground liquefaction in residential areas  
-Promulgation of Operation Guidebook for Organizational Regulations for the Development of Dense Urban Districts  
-Technical advice for the management of heat island in the Law for the Reduction of Carbon in Cities  
(Annual report for FY 2013)  
-Release of the Examination and Investigation of Grid-like Underground Wall Construction Method in Cities Damaged by Ground Liquefaction (Guidance (draft))  
-Restoration Committee for Cities Damaged by Ground Liquefaction  
-Dialogue session for working-level officials of disaster-hit municipalities to control ground liquefaction in urban areas  
-Description of the accessibility index in the Urban Planning Basic Investigation Officer Meeting  
-Reflection of contents of the accessibility index in the Examples of Data Analysis in Basic Investigation of Urban Planning (draft)  
-The 2013 Urban Disaster Control and Management Officer Meeting  
-Preparation of the draft of JIS, "method to test the spread of fire in building facade"  
-Promulgation of Operation Guidebook for Organizational Regulations for the Development of Dense Urban Districts  
-Support for investigation to partially revise the Building Standards Act  
(Annual report for FY 2014)  
-Promulgation of Operation Guidebook for Organizational Regulations for the Development of Dense Urban Districts