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N I L I M

News Letter

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■ Preparation of the "Manual of regeneration methods for improving condominiums"

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Approximately 4.47 million condominiums had been constructed by the end of 2003. Condominiums, which are a common form of urban housing, provide homes for about 10% of Japanese people. Aged and deteriorated condominiums are rapidly increasing, and the regeneration of buildings by improvement and reconstruction have become a serious social issue.

The Ministry of Land, Infrastructure and Transport has made attempts to encourage smooth reconstruction of condominiums. To protect the global environment, the service life of buildings should also be extended by effectively utilizing existing buildings and improving their performances. The Housing Planning Division of the Housing Department prepared and published the "Manual of regeneration methods for improving condominiums", which summarizes repair methods for improving the residential environment of condominiums and extending their service life, jointly with the Urban Building Division of the Housing Bureau (June 3, 2004).

Condominiums are usually repaired based on repair cycles planned for each member, equipment and other constituent element. The Manual provides information about methods for improving the existing performances during planned repair works (Photo 1), and large-scale regeneration methods that involve increases in floor area and remodeling (Photo 2). Information is also available about procedures prescribed by the Building Standard Law, related regulations and Condominium Ownership Law, and is available financial support, and loans.



Photo 1 Construction of a slope with an appropriate inclination along entrance stairs and better-grade finish of the approach



Photo 2 Adding rooms on the south of a building

Performance-based Road Administration and Management

Traffic Engineering Division

The age of simply increasing the quantity of roads has ended, and in view of the government's financial difficulty it is now urgent to take appropriate and efficient measures to respond to diversifying public needs and perform transparent administration and management.

In 2002, the government started to change road administration policies into performance-based ones. Attempts that incorporate the business administration method are called New Public Management, and have been introduced by other nations in a series of administrative reforms since the late 1970s.

The Road Department is investigating effective, practical methods of road administration management, assessment indices, management methods for each region, and performance-based budget formulation.

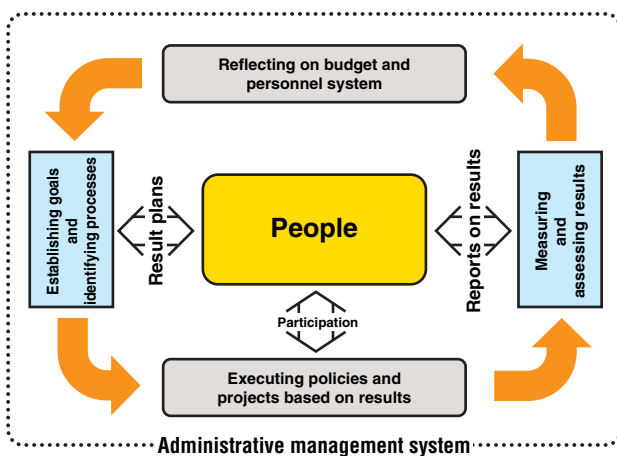


Figure 1

NILIM Special Session at APHW 2004, Singapore

River Department

The Second International Conference on Hydrology and Water Resources in Asia Pacific Region (APHW 2004) was held in Singapore, July 5 to 8, 2004. About 150 people from over 20 countries and regions participated. NILIM held a special session as a part of APHW2004 on July 7, 2004, to which seven experts on water management were



Photo 3 NILIM Special Session at APHW, July 2004, Singapore

invited from Asian nations. At the session, problems in water management, laws and systems for these problems, and actual applications of the laws and systems were discussed. The topics were the 2003 flood in Huai River and the dry-up problem of Yellow River in China, national technical specifications for river in Lao PDR, measures to control urban heat islands in Malaysia, water use and management in the Philippines, new water laws in Indonesia, and new flood mitigation acts and water management during droughts in Japan. The session ended by confirming the necessity of establishing a continual and informal network among participants (http://groups.yahoo.com/group/nilim_session). The Asia Pacific Association of Hydrology and Water Resources (APHW) was established on September 1, 2002, and the first conference was held in Kyoto, Japan, March 2003. NILIM held a special session also at the first conference.

Supporting the Annual Meeting and the International Seminar of PIANC

Planning and Coordinator Division

The 2004 Annual Meeting (AGA) of the Permanent International Association of Navigation Congress (PIANC) and an international seminar were held in Fukuoka from May 10 to 13, 2004. Munekazu Hirose, Deputy Director of the National Institute for Land and Infrastructure Management (NILIM), participated on behalf of the government of Japan.

AGA is the general meeting of the PIANC which is held once a year in one of the participating countries by the board of directors of the Association. At the 2004 AGA, which was attended by 98 people from 18 countries, activities of regional sections were reported, and activities of PIANC for sustainable development were resolved.

An international seminar was held celebrating AGA. At the technical session on issues involving in dredging, which are serious issues both in Japan and Europe, the former director of NILIM, Hisao Hirao, made a keynote speech entitled "Dredging technologies for harbor construction in Japan" and participated in the subsequent panel discussion.



Photo 4 International Seminar of PIANC

PIANC is an international organization headquartered in Belgium, and performs various activities such as surveys and studies on technological problems concerning harbors

and sea routes, provides technological support to developing nations, and acts as an advisory body designated by the Economic and Social Council of the United Nations.

The National Institute for Land and Infrastructure Management (Yokosuka Branch) has been actively involved in research on harbor technologies with the Association, published a PIANC manual on the concept of earthquake-resistant designs in Japan, and has contributed greatly to the development of harbor technologies in the world.

■ Tsukuba Session of Japan-Australia 2nd CDC (Code Development Collaboration) Meeting

International Research Division

The Japan-Australia 2nd Code Development Collaboration Meeting (CDC Meeting) was held from March 22 to 24, 2004, in Japan. The Housing Bureau of the Ministry of Land, Infrastructure and Transport (MLIT) and the Australian Building Code Board (ABCB) have held the meeting periodically since July 2002, to enhance mutual understanding and collaboration on the development and harmonization of building codes.

In the CDC meeting on March 24, 2004, the NILIM held the Tsukuba session. Both countries' delegations made presentations and held discussions on the "Future Progress of the Building Code in Australia" and "Next Building Regulatory System in Japan." They also talked about the ABCB officer's secondment program to Japan. The officer plans to visit NILIM for one week in July and to study the development process of Japan's Energy Codes for Buildings and Housings, because ABCB is currently developing their own energy codes for buildings.



Photo 5 Group Photo at Tsukuba Session of 2nd CDC Meeting

■ CIB World Building Congress 2004

Building Department

Celebrating its 50th anniversary, the CIB World Building Congress 2004 was held throughout the first week of May, in Toronto, Canada. Mr. Sasaki, Vice Director-General, and Dr. Hirano, Director of the Building Department, represented the National Institute for Land and Infrastructure Management (NILIM) at the Congress.

The CIB (International Council for Research and Innovation in Building and Construction), which was established in 1949, is an NPO and the world's largest international council of research institutes and researchers in the field of building research. Recently, the CIB has been conducting three proactive programs: Performance-based Building, Sustainable Construction, and Revaluing Construction. Fascinating keynote speeches concerning these issues were delivered at every plenary session.

With respect to Performance-based Building, Dr. John Duncan of the Building Research Association of New Zealand (BRANZ) made a useful presentation entitled "Whose Performance Requirements are Paramount?" Subject to New Zealand's advanced history on performance-based building codes, he gave his deep insights on problems underlining a pure performance-based regime, including recent experiences about the "leaky" dwellings issue. This may imply potential difficulties of structuring and implementing a pure performance-based building regulatory system.

Since the NILIM has long supported the review and development of building codes toward performance-based codes, such information and suggestions will prove useful for our further studies on more suitable performance-oriented regulations.

■ Housing Stock Division Newly Established

Housing Stock Division

This year, the Housing Stock Division was newly established in the Housing Department. The housing situation of Japan is satisfactory in terms of the quantity available for the total number of households, and the quality has also been improving through new construction and remodeling. In this new century, the social environment of Japan is undergoing major changes such as stability of land prices, economic slowdown, aging of society, and stricter environmental regulations. Remodeling of existing buildings is therefore likely to increase with construction investment from now on. We are conducting research and development on the following issues in order to create good housing stock corresponding to various needs, encompassing sustainable building, suitable maintenance and management, conditions of existing house market, etc.

Specific research topics are:

- Research and development for selection of efficient improvement and/or updating methods for public housing stock
- Research and development on market guidance measure for the development of technology for assessing the environmental quality of residences and buildings, improving the performance, and technical spread
- Research on residential property policy for the rationalization and regional vitalization of housing location
- Correspondence to the improvement in nature of the residence through a market function (environmental management of a housing market) Research on housing management and circulation to improve the housing stock

In May 2004, the third Five-Year Technology Plan for Sewerage was formulated by the Sewerage and Wastewater Management Department, City and Regional Development Bureau, Ministry of Land, Infrastructure, and Transport ("MLIT"), and Water Quality Control Department, NILIM. This plan is based on the Basic MLIT Technology Plan and succeeds the second Five-Year Technology Plan for Sewerage.

This plan provides directions for sewerage research and development (R&D) involving several sectors including governmental organisations, academic institutions, and

private entities. It also specifies detailed R&D items to be developed by MLIT and the like.

The structure of the main content has three layers. The upper one is consistent with the five objectives in the development strategy of the Basic MLIT Technology Plan, the middle one is composed of 12 objectives, and the lower one describes 32 R&D items. The upper and middle ones are shown in the table.

The full texts are available in Japanese at http://www.mlit.go.jp/kisha/kisha04/04/040513_.html.

Table: Major and Intermediate Challenges of the Third Five-Year Technology Plan for Sewerage

Major Challenges	Intermediate Challenges
I. Safe and secure life	1. Creation of cities safe from disasters 2. Risk management of water environment
II. Creation of beautiful and sustainable national land	3. Creation of sound water cycle and good water environment through watershed management 4. Preservation of ambient water quality 5. Management of sewerage resources 6. Response to urban renewal 7. Conservation of global environment
III. Comfortable life with low living expenses	8. Efficient provision of sewage works 9. Efficient management of sewage works 10. Promotion of cooperation with other industries
IV. Vigorous society with greater international competitive strength	11. Response to internationalization
V. Society in which the public feels involved as members	12. Public participation

RESEARCH REPORT of National Institute for Land and Infrastructure Management (December, 2003)

No	Title of Paper	Names of Divisions
14	Study on Standard for Joint Spacing and Joint Sealing Materials in Airport Concrete Pavement	Airport Facilities Division
15	Study on a Procedure for Formulating Level 2 Earthquake Motion Based on Scenario Earthquakes	Earthquake Disaster Prevention Division
16	Procedure for Producing Probabilistic Seismic Hazard Maps	Earthquake Disaster Prevention Division

TECHNICAL NOTE of National Institute for Land and Infrastructure Management (December, 2003)

No	Title of Paper	Names of Divisions
109	An Investigation of Fuel Efficiency Consumed by Container Trailer	Coastal Zone Systems Division
114	Interim Report of the NILIM Fundamental Study III - Improving the living environment for a better life -	Urban Disaster Mitigation Division
123	Proceedings of the 2nd Japan-U.S. Governmental Conference on Drinking Water Quality Management and Wastewater Control	Wastewater System Division
124	Deformation and Strength Properties of Geosynthetics Applied at Coastal Confined Waste Disposal Site	Coastal Disaster Prevention Division
125	A Development of Economic Evaluation Method on Seismic Design for Port Facilities Considering Freight Transportation Cost	Port Systems Division
126	An Analysis on Multimodal Transportation in Japanese Hinterland of International Maritime Container Cargo	Port Systems Division
127	A Comparison of Cost-Benefit Analysis Manual for Airport Development Projects between United States and Japan	Airport Planning Division
128	A Few Studies of the Aviation Policy of South Korea and the Competitive Potential of Incheon International Airport -Based on Financial Comparison between Japanese and Korean Airports/Airlines and the Change of Aviation Agreements-	Airport Planning Division
129	A Preparation of Time Series Analysis Program Considering the Seasonal Pattern and An Application to the Aviation Demand Analysis	Airport Planning Division
130	Problems and Current Situations of International Air Cargo Transport in Japan	Airport Planning Division
131	A Cross Section Analysis and Time Series Analysis of the Passenger OD in East Asia	Airport Planning Division
135	Annual Report of Advanced Road Design and Safety Division in FY 2002	Advanced Road Design and Safety Division

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We publish "2004 Annual Report of NILIM" to show our research activities and accomplishments, and you can see its contents on our website, www.nilim.go.jp. English version will be available in the future.



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