

# Research Trends and Results

## New Developments in Coastal Management

### --- Introducing the Concept of Disaster Mitigation and Preventive Maintenance ---

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#### 1. Proposals released by Coastal Management Review Committee

From October 4 to December 16, 2013, the Coastal Management Review Committee, which consists of members from the Rural Development Bureau, the Fisheries Agency of the Ministry of Agriculture, Forestry and Fisheries, and the Water and Disaster Management Bureau and Ports and Harbors Bureau of the Ministry of Land, Infrastructure, Transport and Tourism, met 4 times and released proposals. The committee discussed coastal management for the future since various issues have arisen in coastal areas of Japan since the 1999 revisions to the Seacoast Law, including damage by tsunamis resulting from the 2011 earthquake off the Pacific coast of Tohoku and progressive deterioration in coastal protection infrastructure. In these meetings, the Coast Division supported the executive office in technical matters.

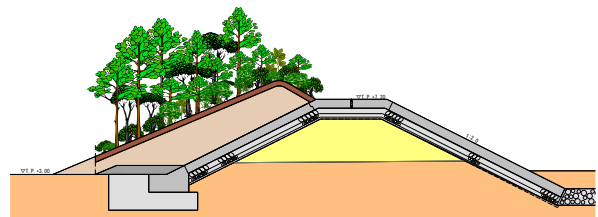
As particularly important subjects, the committee discussed the "clarification of disaster mitigation measures in coastal management" and "improvements to coastal maintenance." This former was a new subject since "disaster mitigation," which is an issue facing coastal protection infrastructure, has never been discussed. The latter subject aims to improve maintenance in coastal areas, which timely responds to the launch of "First year of social capital maintenance."

#### 2. Clarification of disaster mitigation measures in coastal management

The concept of "disaster mitigation," which was newly introduced to coastal management, had been provided by the Central Disaster Prevention Council in view of the damage suffered from the Great East Japan Earthquake. "Coastal dikes of resilient structure" and "green embankments" (Figure) which integrates trees with a dike, were both raised by the Coast Division after the Great East Japan Earthquake and are expected to be effective towards reducing inland flood heights and ensuring evacuation time by delaying dike breaks even in the case of overtopping.

Introducing the concept of "disaster mitigation" requires consideration of land "area", in addition to the conventional concepts of coasts as a "line" and seas as "area." It will, therefore, greatly change the conventional concept of coastal management. In the future, it will be necessary to promote comprehensive measures for disaster prevention / mitigation in coastal areas inclusive

of inland areas. This will require collaboration and coordination with municipal evacuations, land utilization planning and other disaster prevention and mitigation measures.



**Figure: Trees Integrated with Coastal Dike of Resilient Structure**

#### 3. Improvement of coastal maintenance

Coastal protection infrastructure that was constructed more than 50 years ago and is still in use accounts for about 40% of the all infrastructure and rapid deterioration is a related concern. In addition, the inclusion of not only infrastructure but also erosion control measures for beaches will make coastal management complicated.

Since the committee discussed the necessity of preventive management, its importance was also recognized for coastal areas managed mainly by prefectures. However, since budgets and human resources are limited, the need to strengthen cooperation with private-sector organizations in developing activities in municipalities or coastal areas was also discussed. It was, therefore, made clear that the trend in coastal management is to include local residents without leaving everything to governments.

#### 4. Other

In addition to the aforementioned two subjects, the committee discussed erosion control measures for beaches, conservation of Okinotorishima Island, and measures for adapting to global warming. In the near future, systems will be developed so that coastal management may be performed in accordance with the contents released by the committee.

#### [Reference]

Material on the Coastal Management Review Committee  
[http://www.mlit.go.jp/river/shinngikai\\_blog/kaigankanrin\\_oarikata/index.html](http://www.mlit.go.jp/river/shinngikai_blog/kaigankanrin_oarikata/index.html)