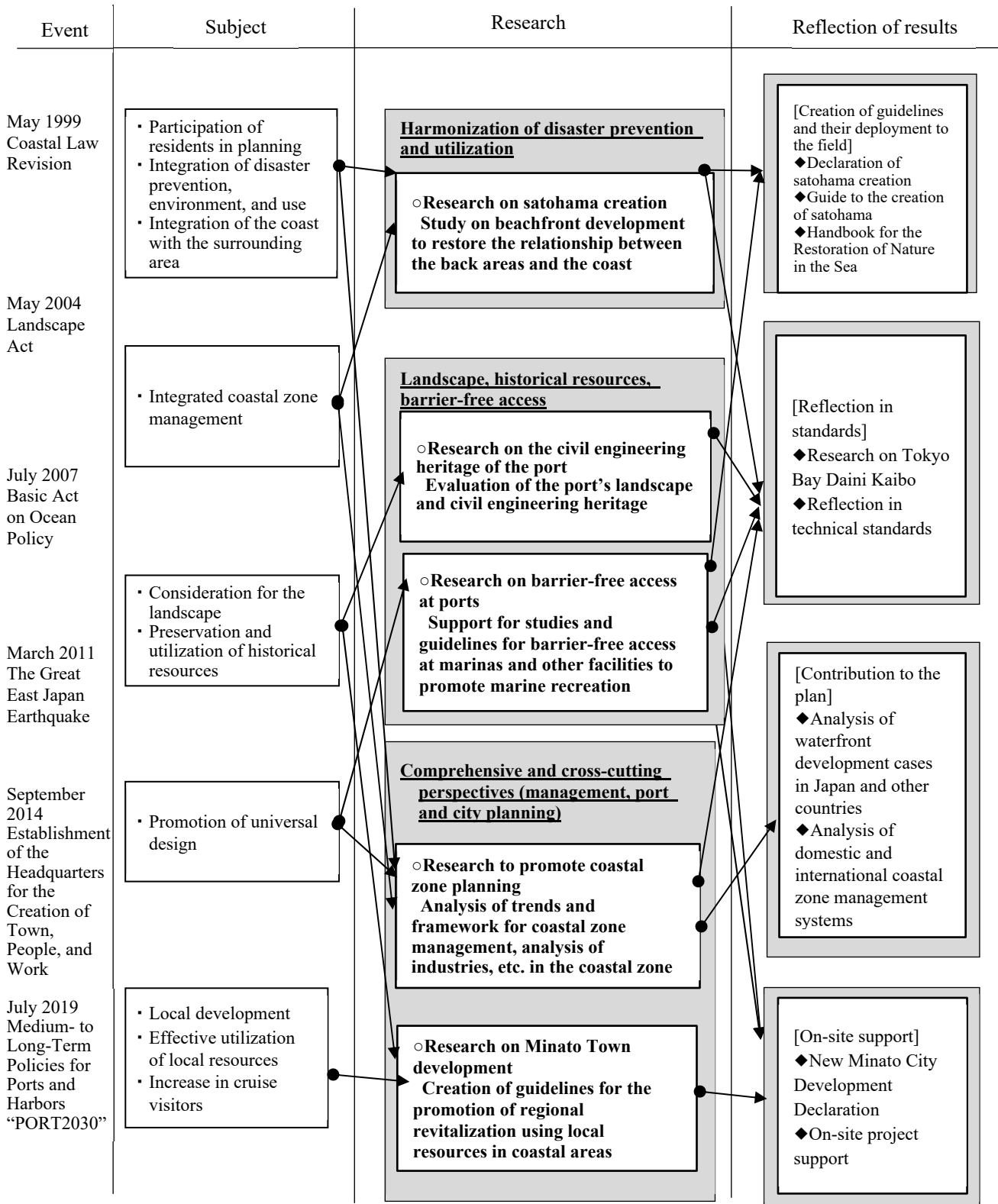


Coastal zone management and port and town development

1. Outline of Studies and Activities



(1) Research on satohama creation

[Background/Issues]

The Coastal Law was revised in 1999, and “environmental development and conservation” and “utilization” were added to the purpose of the law in addition to “protection.” As a result, in addition to disaster prevention, it is now required to take into consideration the environment and utilization of the coastline, and to integrate the coastline with the surrounding area.

[Research Outline and Results]

Based on these trends, we studied the concept of beachfront development to restore the relationship between the back areas and the coast, and compiled a basic policy and guidelines.

(2) Research on the civil engineering heritage of ports

[Background/Issues]

The “National Policy Outline for Creating a Beautiful Country” was published in 2003, and the Landscape Law was enforced in 2004, requiring consideration of the landscape in the development of public facilities.

[Research Outline and Results]

Evaluation and analysis were conducted on ports and harbors from the viewpoint of landscape and civil engineering heritage and the results were compiled in a document.

(3) Research on barrier-free access at ports

[Background/Issues]

With the 2006 enactment of the Law Concerning Facilitation of Mobility of the Elderly and Persons with Disabilities (New Barrier-Free Law), it became necessary to promote barrier-free accessibility in public transportation, buildings, and other facilities. In addition, the promotion of barrier-free accessibility and universal design in marinas and other facilities became an important issue for the promotion of marine recreation.

[Research Outline and Results]

In reviewing the equipment guidelines for barrier-free facilities in marinas, we provided support for demonstration tests, etc., and reflected the results in technical standards.

(4) Basic research to promote coastal zone planning

[Background/Issues]

The Basic Act on Ocean Policy, which came into effect in 2007, stipulates the formulation of a basic ocean plan to promote ocean policy and the comprehensive management of coastal areas, including “utilization,” which has increased the momentum for the formulation of comprehensive plans for coastal areas.

[Research Outline and Results]

In order to provide basic data for planning, we analyzed the trends in coastal zone management in other countries, coastal zone management frameworks, and industry and energy consumption in the coastal zone, and published our findings as National Institute of Advanced Industrial Science and Technology (NIIST) data.

(5) Research on Minato Town development

[Background/Issues]

The mid- to long-term policy for ports, “PORT 2030,” which was announced in 2019, positions “cruises” and “spatial formation” and calls for regional revitalization through the utilization of regional resources and existing stock at ports.

[Research Outline and Results]

The basic direction for promoting regional development from the viewpoint of the sea and the port - new port and town

development - through effective utilization of regional resources and existing stock in the coastal area was compiled and published.

2. Main Research Results

(1) Research on satohama creation

- A study was conducted on the concept and methods of beach creation to restore the relationship between the back areas and the coast. In addition to analyzing advanced cases, the definition of “satohama” and practical approaches to “satohama creation” were organized.
- The results of the study were compiled in the “Satohama Development Declaration,” which is the basic concept of seaside development, and the “Guidepost for Satohama Development” and “Manual for the Restoration of Marine Nature,” which are guidelines for its promotion, and contributed to the promotion of Satohama development.¹⁾²⁾



Figure-1 Example image of a satohama (Hakushaseicho) (Source: Road Map for Satohama Creation)

(2) Research on the civil engineering heritage of the port

- The Daini-Kaiho (second sea wall), which was constructed as a military facility at the mouth of Tokyo Bay, was evaluated from the viewpoint of industrial landscape.³⁾
- We also analyzed the “constancy” and “viewing angle” of visual perception in coastal landscapes, and pointed out that the presence of a sea surface may make distant objects “smaller” than they actually are, and that there may be a difference between the physical and perceived viewing angles.⁴⁾



Figure-2 The Second Sea Fortress (Source: “History of the Construction of the Third Fortress in Tokyo Bay”) (Compilation by the publication committee for the Tokyo Bay third sea fort construction history)

(3) Research on barrier-free access at ports

- Based on the recognition that the promotion of barrier-free marinas and the introduction of universal design are important issues for the promotion of marine recreation in Japan, we provided support to a non-profit organization to revise the guidelines for barrier-free marinas on the occasion of the Olympic and Paralympic Games, including demonstration tests and other studies.⁵⁾
- Landscape considerations, and barrier-free and universal design in ports are positioned in the technical standards.



Figure-3 Demonstration experiment

(4) Research on coastal zone management

- A survey of domestic examples of waterfront development revealed that landscape ordinances are used as a tool for landscape creation.⁶⁾

- We analyzed the development methods and systems of waterfront developme... in North America, and identified and pointed out various systems that are not found in Japan, such as organizational forms, zoning, and land acquisition methods related to development management.⁷⁾

- A questionnaire survey was conducted in Yokohama City to clarify the residents' perception of coastal zone management and the policies they expect.⁸⁾ The geographical scope, framework, and perspectives of coastal zone management in China, Japan, and Korea were also clarified, and the ideal direction of coastal zone management was summarized.^{9),10)}

(5) Research on Minato Town Development

- We analyzed the past transition of spatial development in the waterfront area, and identified its characteristics and issues. Based on this analysis, the following future directions were identified: revitalization and effective utilization of regional resources related to the sea and ports, collaboration and networking with the surrounding areas, and contribution to the enhancement of the overall value and attractiveness of the region as a port town. The report also outlines the concept of setting goals for port town development for each type of port town.

- Furthermore, we organized our recommendations, including the importance of cooperation among the national government, port administrators, and local municipalities, as well as the sharing of visions by all parties concerned. These were published as the “New Minato City Development Declaration.”⁹⁾

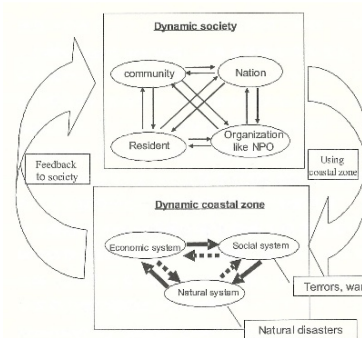


Figure-4 Structure of the coastal zone⁸⁾

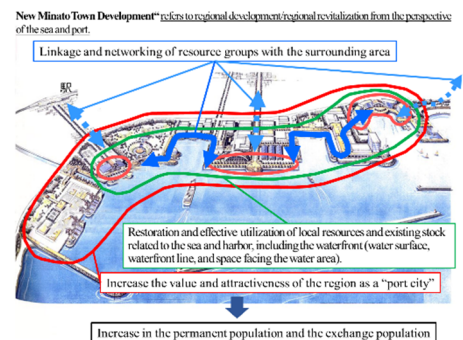


Figure-5 New Minato Town Development⁹⁾

3. List of Related Books and Technical Documents

- 1) Declaration of Satohama Creation and Signposts for Satohama Creation (MLIT HP) https://www.mlit.go.jp/kowan/umibe_bunka/satohama.htm
- 2) Handbook of marine nature restoration - Its planning, technology and practice - General introduction, 2003
- 3) Study on Fort #2 in Tokyo Bay as Landscape Heritage
NILIM Technical Note No. 37 <http://www.nilim.go.jp/lab/bcg/siryou/tnn/tnn0037.htm>
- 4) Study on Perceptual Properties of Coastal Landscape
NILIM Technical Note No. 36 <http://www.nilim.go.jp/lab/bcg/siryou/tnn/tnn0036.htm>
- 5) Initiatives to ensure safety when wheelchairs are used in marinas, NILIM Annual Report 2018
- 6) An Investigation on Mechanism of Waterfront Development and Management and Recent Development Case in North America
NILIM Technical Note No. 260 <http://www.nilim.go.jp/lab/bcg/siryou/tnn/tnn0260.htm>
- 7) A Survey on District Plans, Landscape Regulations in Waterfront Development Area in Japan
NILIM Technical Note No. 302 <http://www.nilim.go.jp/lab/bcg/siryou/tnn/tnn0302.htm>
- 8) NILIM Technical Note No. 326 <http://www.nilim.go.jp/lab/bcg/siryou/tnn/tnn0326.htm>
- 9) Public Cognitive Structure of Coastal Zone Management in Yokohama
NILIM Technical Note No. 348 <http://www.nilim.go.jp/lab/bcg/siryou/tnn/tnn0348.htm>

10) Perspectives on Integrated Coastal Management

NILIM Technical Note No. 473 <http://www.nilim.go.jp/lab/bcg/siryou/tnn/tnn0473.htm>

11) Shinminato City Development Declaration https://www.ysk.nilim.go.jp/kakubu/engan/enganiki/teigen_R010531.pdf

4. Future Prospects and Remaining Issues

- With the aim of contributing to regional revitalization in coastal areas, the project will continue to support research on systems, planning methods, spatial development methods, evaluation methods, etc. to promote attractive port and town development as well as land use conversion in coastal areas from the viewpoint of locating new industries, upgrading logistics functions, updating dock functions, forming bases for visitor and local resident interaction, and effectively utilizing and renovating local resources and existing infrastructure.