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DEVELOPMENT OF COASTAL TERRITORIES

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MOBILITY FUTURE-PROOF INFRASTRUCTURE FOR THE DEVELOPMENT OF COASTAL TERRITORIES

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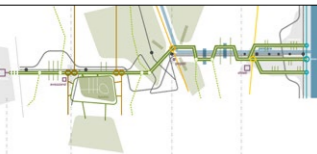


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EMERGING MOBILITIES FOR THE COASTAL EDGES

NORTH-EAST TAIWAN COASTLINE CASE STUDY

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INTRODUCTION

Taiwan, known as “Formosa, the Beautiful Island”, is surrounded by the sea with a coastline stretching 1,520 kilometers. Historically, the coastline served as a significant defense zone under martial law, limiting public access. After martial law was lifted in 1987, the coastline faced immense development pressures, such as industrial zones, large-scale coastal resorts, and highway construction. Public unfamiliarity with and fear of the ocean further isolated the coastline, rendering it a distant and inaccessible borderland vulnerable to ecological damage and illegal activities such as waste dumping.

Taiwan’s coastal geography is unique, shaped by tectonic activity and ocean currents. It includes estuaries, lagoons, intertidal zones, dunes, wetlands, bays, capes, and coastal erosion formations. These transition zones between sea and land are critical habitats for diverse species and are highly sensitive and fragile. Once damaged, restoration is extremely challenging. To ensure sustainable development, resource protection, and coastal

e culturali, plasmate da secoli di migrazioni, colonizzazioni e scambi commerciali.

La costa taiwanese, lunga oltre 1.600 chilometri, presenta un'evidente dicotomia tra la pianeggiante fascia occidentale – più accessibile e urbanizzata – e la costa orientale, più frastagliata, naturale e storicamente meno connessa. La presenza della Catena Montuosa Centrale ha ulteriormente ostacolato la mobilità trasversale, contribuendo alla frammentazione degli insediamenti e alla formazione di comunità costiere relativamente isolate.

Durante la legge marziale (1947–1987), l'accesso pubblico al litorale fu severamente limitato, interrompendo il rapporto

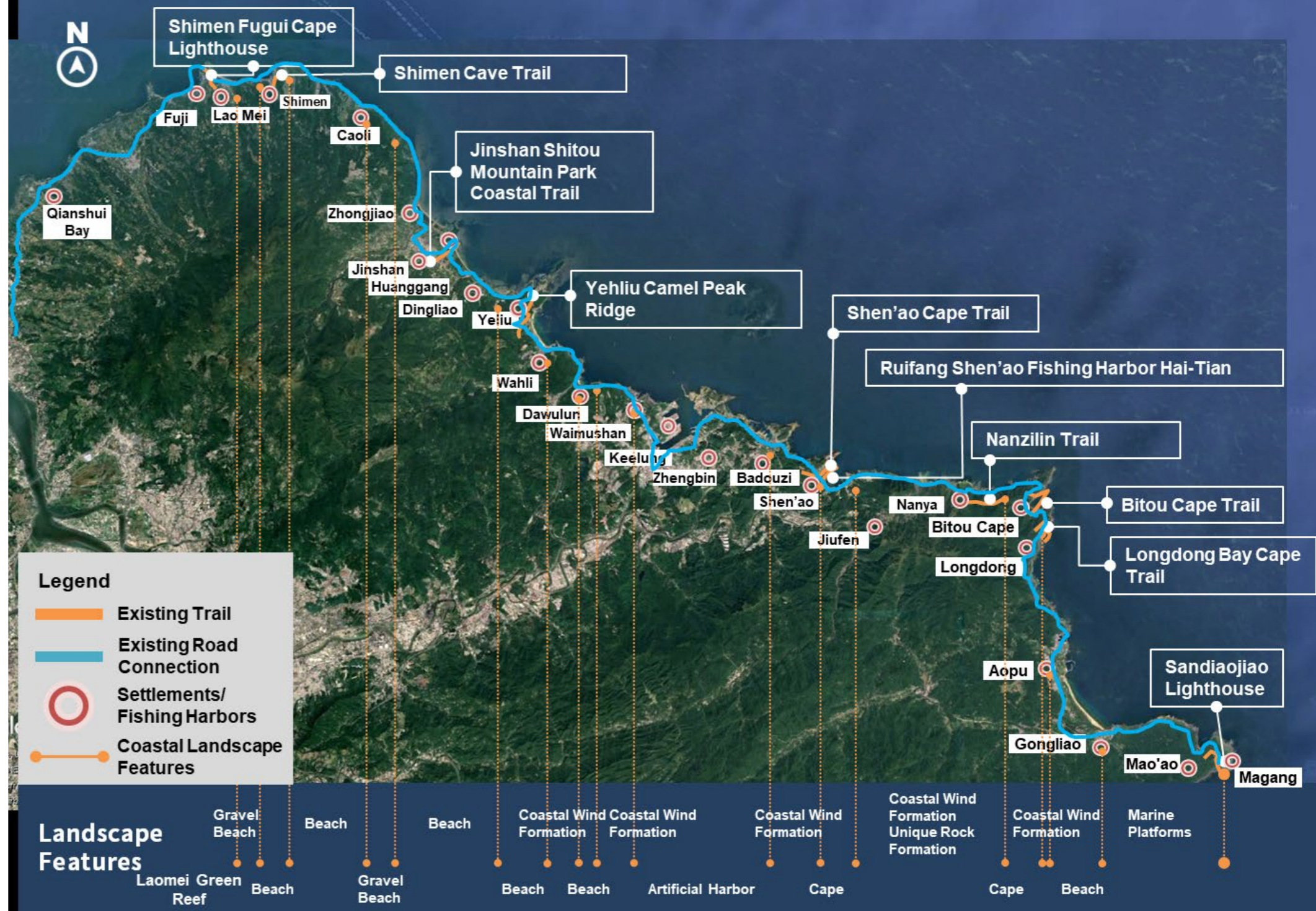
diretto tra popolazioni e paesaggi costieri. Solo dopo il 1987, e soprattutto a partire dal 2015 con l'introduzione della Coastal Management Act e della Wetland Conservation Act, Taiwan ha intrapreso un percorso di riconnessione tra cittadinanza e territorio costiero, con un'attenzione crescente alla tutela ambientale e alla valorizzazione culturale.

L'articolo si concentra in particolare sulla costa nord-orientale di Taiwan, una regione ricca di testimonianze storiche e valore ecologico, ma segnata da criticità legate all'accessibilità, alla gestione del territorio e alla perdita di memoria storica. Gli obiettivi dell'articolo sono: Analizzare le trasformazioni storiche del paesaggio costiero in

relazione alla mobilità e alla fruizione pubblica. Esplorare le potenzialità offerte da nuove tecnologie e infrastrutture leggere per favorire una mobilità sostenibile lungo i corridoi costieri. Promuovere modelli di partecipazione attiva delle comunità locali nei processi di rigenerazione ambientale e culturale. Proporre strategie per integrare turismo ecologico, conservazione e accessibilità, in un'ottica di resilienza territoriale.

Attraverso una lettura multidisciplinare e orientata al futuro, l'articolo riflette sulle possibilità di uno sviluppo costiero armonico, in grado di connettere memoria, natura e innovazione.

Fig. 00 Northern Coast "Path to the Sea" Connection Diagram.
Source: Ministry of the Interior, National Park Service © 2024.
"2023 Local Connection Implementation Plan-Promoting Coastal User Participation and Path to the Sea System Planning"



disaster prevention, the Ministry of the Interior began drafting the “Coastal Law” in the 1970s. After over 30 years of legislative efforts, the “Coastal Management Act” was officially enacted on February 4, 2015. The accompanying “Integrated Coastal Management Plan” was announced on February 4, 2017, establishing the framework for defining coastal areas, protecting resources, managing coastal use, and mitigating disasters.

In parallel, efforts have been made to strengthen local engagement in coastal management, fostering collaboration among central and local governments, public and private sectors, and communities. These initiatives aim to develop a robust coastal management network that aligns with the goals of sustainable coastal development.

The coastline, being remote and vast, requires the involvement of local forces to protect resources and address environmental changes, forming the frontline of coastal management policies. With the continued support of the Ministry of the Interior’s “Sustainable Coastal Management Development Plan for Municipalities and Counties” and the National Park Service’s “Local Connection Plan,” proactive coastal initiatives and *Satoumi* revitalization cases are gradually spreading and flourishing across Taiwan. It is hoped that through a locally-driven coastal stewardship network, the vision of Taiwan’s *Satoumi* can be collectively woven and realized.

LEGISLATIVE HISTORY AND KEY ELEMENTS

Starting in the 1960s, Taiwan’s economic boom increased land-use demands, leading to urban expansion and coastal land reclamation. In the 1970s, the government began managing coastal land development and introduced the “Natural Environment Protection Plan for Taiwan’s Coastal Areas” in 1984 and 1987. This plan designated 12 coastal protection zones, including Tamsui, Lanyang, Suhua, Hualien-Taitung, Changhua-Yunlin-Chiayi, the Northeast Coast, Kenting, the North Coast, Beimen, Jianshan, Jiupeng, and Haomeiliao (refer to fig. 01). Of these, 22 were designated as “nature protection zones” for their higher conservation value, while others were classified as “general protection zones.” The plan clearly outlined tasks for various government agencies, aiming to integrate policy resources and prevent further coastal environmental degradation. Simultaneously, in 1983, the Ministry of the Interior began drafting the “Coastal Law” (draft). The Executive Yuan later approved the “Integrated Coastal Development Plan” in 2007 and its second phase in 2013. After over 30 years of legislative efforts and five submissions to the Legislative Yuan, the “Coastal Management Act” was finally passed in its third reading and officially enacted in 2015.

The law emphasizes the concept of “Integrated Coastal Zone Management” (ICZM), which is based on the natural dynamics of coastal environments and focuses on comprehensive planning and management of coastal resources and ecosystems. Its key aspects include: (1) strengthening coastal planning systems, (2) enhancing participatory mechanisms, and (3) regulating coastal development. To effectively protect, safeguard, utilize, and manage coastal lands, the Ministry of the Interior announced the “Integrated Coastal Management Plan” in 2017. This plan serves as an executive framework for implementing the principles of the Coastal Management Act. It establishes Taiwan’s coastal management system based on three primary pillars: “coastal protection,” “coastal safeguarding,” and “coastal area utilization and management.”

Considering that the 12 coastal protection zones designated under the “Natural Environment Protection Plan for Taiwan’s Coastal Areas” were established over 40 years, their boundaries and precision no longer align with present-day conditions. Furthermore, the lack of a legal foundation in the past diminished their protective effectiveness. After the passage of the Coastal Management Act in 2015, these zones were reassessed and integrated into the coastal protection system under the framework of the Act. Starting in 2015, the Construction and Planning Agency of the Ministry of the Interior initiated efforts to identify potential coastal protection sites, consolidate survey data, and conduct evaluations.

Priority was given to comparing these sites with existing legally protected zones and referencing the classification of environmentally sensitive areas outlined in the National Regional Plan. This served as the basis for defining, categorizing, and classifying the scope of coastal protection zones during the first phase. The results of this initial phase (refer to fig. 02) incorporated 33 projects under 15 laws related to protected areas established for various purposes. These zones were subsequently integrated into the “Integrated Coastal Management Plan” and officially announced for implementation.

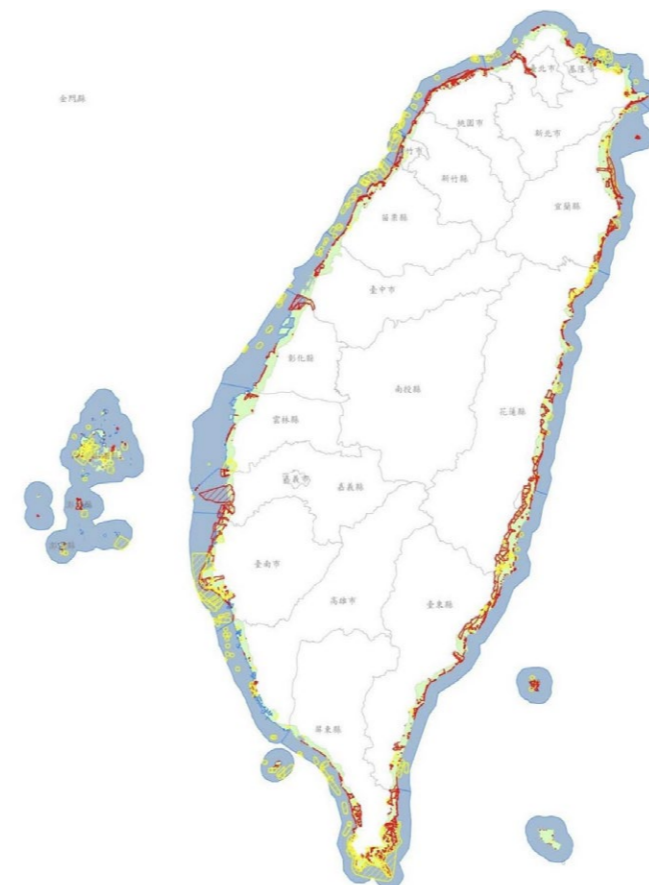


Fig. 01
Distribution Map of Coastal Protection Zones under the “Natural Environment Protection Plan for Taiwan’s Coastal Areas”
Image Source: Construction and Planning Agency, Ministry of the Interior (now National Land Surveying and Mapping Center), Taiwan

Fig. 02
Distribution Map of the First-Phase Results for Coastal Protection Zones under the “Integrated Coastal Management Plan”
Image Source: Ministry of the Interior, Taiwan

CHALLENGES IN PROMOTING COASTAL MANAGEMENT POLICIES

Issues of Exclusivity in Nearshore Areas and Public Natural Beaches

Taiwan’s nearshore areas are utilized for a wide range of purposes, often leading to overlapping uses and resulting in conflicts, exclusivity, and compatibility issues. The installation of wind turbines or large man-made structures on public natural beaches risks disrupting ecological habitats and deteriorating coastal landscapes. Additionally, the necessity of existing, unused fixed structures on public beaches should be reassessed to determine if their presence is still required.

Lack of Integrated Planning for Coastal Areas

Coastal spaces encompass land, sea, and the intertidal zones where they intersect, making it difficult to distinctly separate spatial planning and management. Coastal issues are not limited to coastal land alone but extend to overall national land-use concerns, including the development and management of surrounding settlements, industries, and upstream river sources.

Furthermore, coastal affairs involve numerous government agencies with overlapping jurisdictions, leading to redundant regulations, prolonged coordination, and decision-making processes. This fragmentation resembles a “multi-headed carriage.”

Most local governments lack dedicated coastal management agencies to serve as specialized units for preserving coastal resources. Instead, coastal management responsibilities are dispersed across various agencies, such as the Agriculture Bureau, Fisheries Bureau, Water Resources Bureau, Urban and Rural Development Bureau, and Tourism Bureau. This lack of professional capacity-building results in incoherent coastal management policies and gaps in local governance, making it challenging to achieve coastal management objectives and implement related plans effectively.

Management of Coastal Disaster Prevention and Adaptation Strategies in Response to Climate Change

Global warming has accelerated the melting of polar ice, causing sea levels to rise rapidly. Coastal areas worldwide are among the first to bear the brunt of these changes.

Due to geographic factors and ocean currents, the rate of sea-level rise around Taiwan is twice the global average. Additionally, the scale and intensity of typhoons have been increasing annually, significantly heightening the risk of flooding. Coastal management policies must

proactively address and adapt to the impacts of climate change. In the past, financial constraints led relevant agencies to focus primarily on maintaining existing protection measures when implementing coastal disaster prevention projects. However, the impacts of climate change on coastal regions are unpredictable, and limited space, cost-effectiveness, and funding realities make it unfeasible to continually raise protection standards to account for every eventuality. Future approaches to coastal protection should shift from the traditional goal of “preventing disasters entirely” to a strategy of “accepting a certain degree of risk under basic protective conditions.”

This involves exploring nature-based solutions (NbS) and achieving net-zero emissions. Emphasis should be placed on utilizing natural defenses such as coral reefs and coastal forests, while advancing a nationwide initiative to restore natural coastal defense systems.

Lack of Scientific Research and Justice in the Decision-Making Process

The impacts of climate change, ocean warming, and rising sea levels make it challenging to accurately assess coastal habitat conditions. Conducting baseline surveys for critical coastal and marine ecological resources, such as coral reefs and marine species, is difficult. The responses and evolutionary trends of ecosystems under climate change are poorly understood, leading to uncertainties in resource distribution, attributes, and changing trends.

Current assessments rely only on localized investigations and expert evaluations, which are insufficient as references for comprehensive coastal management plans. Additionally, ongoing large-scale coastal development projects, including offshore wind farms and solar power facilities, pose significant challenges to the protection of coastal resources and landscape management. These projects have drawn considerable public attention, further intensifying scrutiny of the government’s scientific rigor and fairness in the review and decision-making processes.

Vast Coastal Areas Facing Population Decline and Marginalization, Leading to Disconnection from Coastal Resources

Taiwan’s coastline, impacted by artificial construction, faces significant challenges such as coastal changes and severe windblown sand issues. The decline of the fishing industry, coupled with population outflow and aging demographics, has resulted in the marginalization of coastal areas. Furthermore, north-south infrastructure such as seawalls, elevated highways, outer ring roads, Highway 1, and railways have physically disconnected communities from the coast. This makes it difficult for the general

public to access and appreciate the importance of coastal environments and resources. In sparsely populated areas, illegal activities such as waste dumping and environmental destruction often go unchecked. Additionally, the vastness of the coastline and the remote locations of many protected areas, combined with limited government manpower and budget constraints, undermine conservation efforts. Even with well-intentioned regulations and protection frameworks, the lack of enforcement personnel and funding for long-term monitoring results in the mere designation of protected areas without effective protection in practice.

THE SPIRIT AND CASES OF THE LOCAL CONNECTION PLAN

Protecting and sustainably managing coastal resources requires localized, voluntary care and stewardship actions to create a sustainable coastal environment resilient to climate change. With legal frameworks and coastal management tools becoming increasingly robust, it is essential to promote resource conservation-oriented initiatives linked to local industries, such as the concept of Satoumi revitalization. Demonstration projects that nurture active local co-management mechanisms are critical to achieving the goals set by laws and policies.

The Local Connection Plan responds to genuine local needs, focusing on problem-solving, strengthening local capacities, and establishing localized coastal management mechanisms. The philosophy and mission objectives of the Local Connection Plan for coastal management include the following.

Connecting Local Partners to Create Coastal Stewardship Actions

In recent years, the global “Back to the Local” trend has gained momentum, inspiring many individuals to give back to and invest in their communities through collective actions. Universities have also embraced this movement by launching University Social Responsibility (USR) programs, which connect academic expertise with local needs.

Coastal areas, often remote and expansive, require significant local involvement to address resource protection and environmental changes. This local engagement forms the frontline of coastal management policies. To encourage broader participation in coastal stewardship and support localized management actions, the plan translates the spirit of local connections into collaborative coastal environmental advocacy with community groups.

The solution to coastal protection and management

lies not in restrictions but in collaboration. By integrating and linking localized coastal actions across Taiwan, a network of coastal stewards can be formed, fostering the vision of Satoumi for Taiwan. Demonstration projects focused on coastal initiatives will serve as catalysts for these advocacy efforts, inspiring and sustaining further actions for coastal conservation.

Using “Ensuring Public Access” as a Catalyst and Model for Interagency Collaboration

Article 7 of Chapter 2 of the Coastal Management Act explicitly states, “Coastal areas should maintain public access and public usage rights, avoiding exclusive use while safeguarding pre-existing legitimate rights.” This legislation underscores the government’s commitment to ensuring and protecting public access to the coast. However, field investigations and interviews have revealed that many people feel disconnected from the ocean.

Coastal access paths are often fragmented, unsafe, or unfriendly to pedestrians, making it difficult for individuals to even recognize the environmental degradation risks along the coastline. Therefore, identifying and creating pedestrian-friendly access routes to the coast is a crucial first step in promoting locally connected coastal management and ensuring public access rights.

Under the guidance of the Construction and Planning Agency’s coastal management policies, a collaborative effort has been initiated to link various authorities, stakeholders, and communities. The aim is to extend current local connection plans for coastal management into the policy frameworks of relevant agencies. This includes strengthening discussions or advocacy related to Satoumi revitalization and establishing platforms and mechanisms for integrated consultation and cooperation across agencies and between central and local governments.

These collaborative efforts will address substantive issues, clarify roles and responsibilities, and lead large-scale government initiatives, such as the National Coastal Trail. Not only does this align with the Executive Yuan’s “Honoring the Ocean” policy, but it also enables local communities to design a continuous, pedestrian-friendly coastal public access route. This approach significantly enhances ocean accessibility and strengthens tangible connections between coastal communities and the sea.

Strategic Collaboration and Implementation of Coastal Users’ Management Responsibility Mechanism

Given the vast expanse of coastal areas and the diverse industries and entities utilizing them, coupled with the pressures of climate change and environmental challenges, it is imperative to encourage coastal users to fulfill

their corporate social responsibility. Collaborative approaches to seeking diverse solutions for coastal issues have become a necessary path forward.

Through the Local Connection Plan, coastal users – including government agencies, schools, civil organizations, and enterprises – are actively invited to join coastal partnership networks to collectively address and resolve coastal issues. This approach also incorporates large-scale coastal developers, such as renewable energy industries or entities applying for coastal development, to contribute resources. These efforts integrate long-term collaborative agendas, including marine resource surveys and monitoring, coastal environmental education, revitalization of fishing village industries, and fostering a sustainable and harmonious coastal environment.

Preserving Cultural Landscapes to Strengthen the Coastal Knowledge System

Taiwan’s history of immigration and indigenous traditions is deeply intertwined with the ocean. Examples include the interwoven dune and lagoon landscapes in the Taoyuan-Hsinchu-Miaoli region, the Ama (female divers) culture of the northern coast, the black tide culture of spear fishing in Taitung, the intertidal foraging traditions of the Amis people, and the sea rituals of the Kavalan people. These form Taiwan’s unique Satoumi culture and local knowledge system.

In the face of today’s coastal challenges and the need to reconnect with the ocean, it is crucial to systematically explore and understand the living landscapes of coastal settlements. This process allows for a deeper reading and comprehension of the coastline, facilitating the construction of Taiwan’s distinctive Satoumi culture. Preserving the spatial context of these cultural landscapes also provides a meaningful response to national spatial development strategies.

Recognizing local traditional knowledge as a vital asset for constructing Satoumi culture, the “Seeing the Coast Implementation Project” emphasizes learning from local communities. It seeks to uncover the living landscapes and cultural patterns of coastal settlements, fostering collaboration to build a localized coastal knowledge system that aligns cultural heritage with sustainable development.

Adopting National Spatial Governance for Rolling Comprehensive Management of Coastal Areas

In recent years, global warming and climate change have intensified issues such as rising sea levels and frequent typhoons, causing severe impacts on Taiwan’s coastal and marine environments. It is therefore essential to adopt a

national spatial perspective for systematic planning and cross-regional management of protected areas. Incorporating internationally aligned concepts such as Integrated Coastal Zone Management (ICZM) and Satoumi initiatives is critical for achieving sustainable use and management of coastal lands and industries. The focus should shift from strict regulation to forward-looking planning that balances ecological and economic goals, building a comprehensive coastal protection system from the perspective of coastal landscape ecosystems.

Coastal management must move beyond the traditional “point-based” or “block-based” frameworks and instead address coastal land issues within the broader context of national spatial resources and regional landscape systems. Management should not be confined to designated zones such as protected areas, safeguarded zones, or specific sites. Instead, it should embody the spirit of ICZM, aligning with the Coastal Management Act and the Integrated Coastal Management Plan to develop vision-based regional coastal plans. These plans should propose guidelines for sustainable use and supporting mechanisms, facilitating orderly development and management through localized or regional coastal strategies.

This approach serves as a strategy for empowering local governments and strengthening first-line coastal management awareness and effectiveness. It also provides a reference framework for integrated management across different regions. The process requires public-private collaboration and the construction of local partnership networks, leveraging diverse participation platforms to assist communities in identifying key issues and building development visions. Sensitive environments and restricted areas must be addressed, and practical solutions for sustainable practices should be developed.

ENSURING PUBLIC COASTAL ACCESS AND PROMOTING THE PATH TO THE SEA: A CASE STUDY OF THE NORTHERN COAST

Taiwan’s island geography, migration history, and indigenous traditions are closely tied to the ocean, forming a unique *Satoumi* culture and local knowledge system. These *Satoumi*-based lifestyles, cultural practices, and industries are intricately connected to the ocean through distinctive paths to the sea.

On Taiwan’s main island, while settlements and urban developments along the northern, northeastern, and eastern coasts remain closely linked to the coastline for their livelihood and industries, the situation differs significantly in other regions, particularly along the western coast. The expansive plains, sandy shores, and muddy tidal flats, coupled with the construction of the coastal

highway, have disrupted the fabric of coastal settlements, pushing urban and community development inland. This has rendered the coastline remote, inaccessible, and isolated, creating a borderland where sparse human activity allows illegal dumping and ecological habitat destruction to occur unchecked. Today, reconnecting with the ocean requires communities to collaboratively define a “Path to the Sea.” This path enables a systematic and deeper understanding of the coastline, fostering local *Satoumi* culture and supporting localized coastal management. Such a path also aids in preserving and reconstructing the living landscapes and cultural connections of coastal settlements, ensuring that coastal regions remain an integral part of Taiwan’s heritage and sustainable future.

Definition and Goals of the Path to the Sea

The first step toward ensuring public coastal access and promoting awareness, understanding, and protection of coastal resources is to enable people to reach the coastline conveniently and safely. The Path to the Sea is a collaborative initiative developed by local communities, aiming to connect and integrate access routes to the coast. This initiative has the potential to evolve into a nationwide coastal trail system, serving as the most direct way for an island nation like Taiwan to honor its relationship with the ocean.

Taiwan’s coastal geography is distinct, with lifestyle patterns, transportation, and cultural-industrial activities closely tied to its terrain, characterized by development along mountains and seas. The Path to the Sea represents not only a physical route or trail leading to the coast and connecting people to the ocean but also embodies the broader relationships and cultural connections with the sea.

This study defines the Path to the Sea as a pedestrian trail system weaving through the diverse terrains between mountains and seas, reflecting the lifestyles and activities shaped by this interplay. These routes may utilize existing roads and bicycle paths, encompassing areas such as:

- Coastal zones directly adjacent to the ocean,
- *Satoumi* living zones where oceanic lifestyles can be experienced, and
- Foothill coastal zones that offer indirect views and appreciation of the sea.

Through local community participation, discussions can guide route planning and address environmental challenges faced by the coast. By identifying these paths, optimizing service systems, and integrating information, the Path to the Sea can help redefine and highlight the value and character of local *Satoumi* lifestyles.

The planning and assessment of the Path to the Sea serve the following purposes and highlight its importance:

- Engagement of Local Partners (Local Collaborative

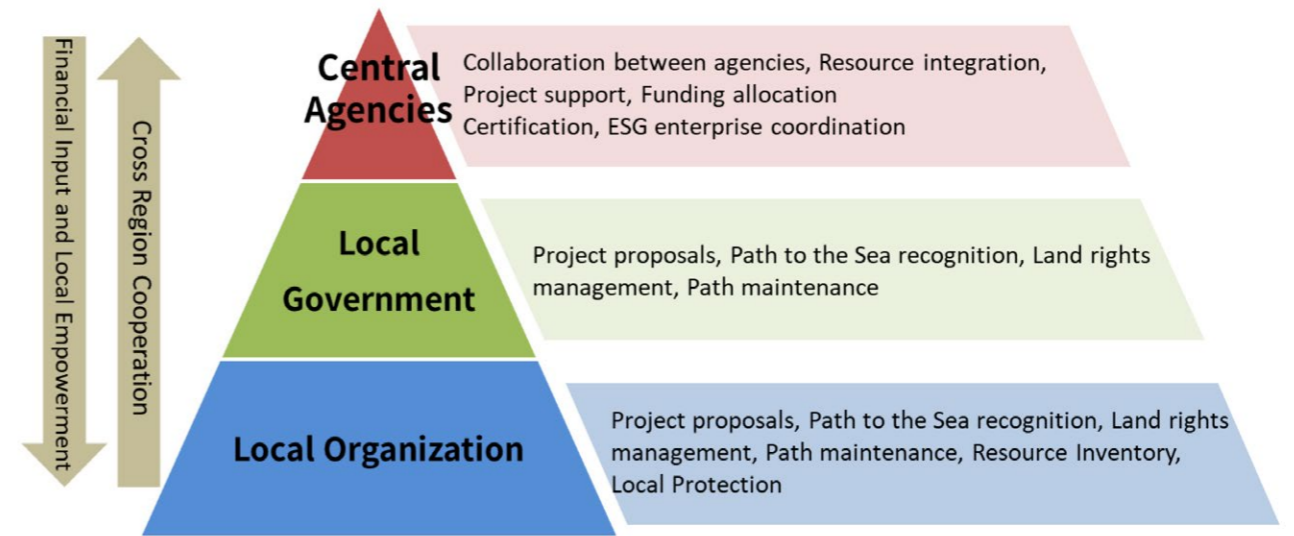


Fig. 03 Collaborative Diagram of Local Organizations, Local Governments, and Central Agencies. Source: Ministry of the Interior, National Park Service © 2024. "2023 Local Connection Implementation Plan-Promoting Coastal User Participation and Path to the Sea System Planning."

Platforms): Encouraging active participation from local communities and stakeholders.

- Enhancing Coastal Accessibility: Ensuring public access rights to the coastline.
- Diverse Ways to Experience the Coast: Combining and connecting multiple access routes to offer various ways to interact with the coastline.
- Focus on Resource Integration and System Development: Prioritizing resource integration, issue identification, software services, and standardized indicator systems over physical infrastructure construction.
- Extending Coastal Trails to Communities and Settlements: Collaborating to promote *Satoumi* revitalization through connections with coastal communities.
- Preserving and Showcasing Coastal Landscape Models: Effectively demonstrating the interaction between cultural, environmental, and landscape elements in coastal regions.

Implementation Mechanism for the Path to the Sea

Taiwan, surrounded by the ocean, boasts abundant coastal resources and diverse coastal landscapes, similar to other island nations like Japan and the United Kingdom. These attributes provide both the potential and the need to establish a National Coastal Trail. The Path to the Sea should be driven by community participation, bringing together coastal community organizations, civic groups, schools, and others in a bottom-up approach to collaborate with local governments.

The goal is to establish a “Local Coastal Partnership Network” that focuses on coastal environment, land, ecology, culture, and industry issues. By identifying the environmental value and cultural significance of the Path to the Sea, and connecting coastal settlements and fishing villages, the initiative seeks to ensure public coastal access and rebuild the relationship between people, the ocean, and nature. This effort aims to inspire collective stewardship of Taiwan’s coastline, transforming the coast from a neglected backyard or dumping ground into a vital and cherished national treasure. Through the construction and integration of the Path to the Sea, Taiwan can create a National Coastal Trail system that reflects its marine landscapes and cultural heritage.

The development of the Path to the Sea should proceed through three coordinated approaches:

- Central Government: Integrate resources across agencies.
- Local Governments: Engage civil society for advocacy and collaboration.
- Corporate and Social Sectors: Involve enterprises through ESG (Environmental, Social, and Governance) initiatives and contributions.

The initial planning and conceptual framework are illustrated in fig. 03.

Operational Process for the Path to the Sea

The ocean is a precious asset for everyone, and the coast serves as a vital repository for blue carbon ecosystems. To effectively establish a coastal stewardship network and enhance coastal accessibility, the Path to the Sea represents the foundational step and first line of defense in safeguarding the coastline. While enabling people to access the coast is an essential starting point, the greater goal is to raise awareness of coastal environmental changes, resource protection, and management issues, aligning with coastal management policies and inspiring local or corporate involvement in subsequent stewardship actions.

Since the implementation of the Integrated Coastal Management Plan, Taiwan still has room for improvement. Achieving reasonable public access and usage rights for coastal areas, preventing exclusive use, and balancing pre-existing legal rights are critical to promoting sustainable utilization of the coastline for all. Additionally, establishing public participation mechanisms in

coastal planning decisions can enhance protection, safeguarding, and management performance.

To this end, the following short-term and mid-to-long-term objectives are proposed:

- Initial Phase: Focus on building and fostering local partnership networks, encouraging participation, and facilitating communication and feedback.
- Practical Design Phase: Conduct spatial planning and supportive designs based on funding allocations.
- Outcome Phase: Further connect regional or national coastal trails, formalizing the Path to the Sea through standardized indicator systems, information platforms, public recognition, and certification.

Simultaneously, the Path to the Sea initiative – centered on advocating public coastal access – will establish a resource integration and task-sharing platform among agencies. It will also promote joint marketing and encourage coastal developers or local organizations to adopt and maintain the routes. The operational process is illustrated in fig. 04.

Demonstration Route: Northern Coast Path to the Sea

Based on the fundamental identification principles of the “Path to the Sea,” a demonstration project is proposed using New Taipei City’s 10 coastal trails (table 01), which currently have a relatively complete system and significant potential for connecting Satoumi settlements. This demonstration route connects Fugui Cape Lighthouse Trail in Shimen to Sandiao Cape Lighthouse through an existing network of trails and roads, with a total length of approximately 93.4 kilometers.

The Northern Coast Path to the Sea encompasses 10 coastal trails in New Taipei City and Keelung City, passing through more than 20 unique fishing village settlements and 10 small and large fishing harbors. The development potential of each trail segment and its surrounding Satoumi resources is analyzed in the following table:

Trail Name	Identification Principles	Development Potential for the Path to the Sea
Fugui Cape Lighthouse Trail	<p>Coastal Segment Characteristics: Northern Cape and Bay Coast</p> <p>Local Organizations and Human Resources: Fugui, Laomei, Shimen and Caoli Community Development Association, Laomei Elementary School, Shimen Experimental High School</p> <p>Governing Authorities: North Coast and Guanyinshan National Scenic Area Administration (Tourism Bureau, Ministry of Transportation and Communications), Coast Guard Administration (Ocean Affairs Council), Water Resources Agency, Fisheries Agency (Ministry of Agriculture), Highway Bureau (Ministry of Transportation and Communications), New Taipei City Government</p> <p>Coastal Users: Taiwan Power Company, Fugui Fishing Harbor, Shimen Fishing Harbor, Shiba Wang Gong Temple, etc.</p>	<p>Starting at Fugui Cape Lighthouse, the route connects Laomei Community and Shimen Cave along the coast, integrating efforts from community development associations and civil organizations. The route links coastal settlements, fishing harbors, and existing pathways, allowing visitors to enjoy unique coastal landscapes such as Laomei Green Reef, Fugui Cape, the lighthouse, beaches, wind-pruned trees, wind-carved rocks, and sea caves.</p>
Shimen Cave Trail		
Jinshan Shitou Mountain Coastal Trail	<p>Coastal Segment Characteristics: Northern Cape and Bay Coast</p> <p>Local Organizations and Human Resources: Zhongjiao Elementary School, Wanli Dapeng Elementary School, Jinbaoli Community Development Association, Huanggang Community Development Association, Jinshan District Leisure and Tourism Association, Masu Fishing Village Cultural and Lifestyle Association, Taiwan Marine Conservation and Fisheries Sustainability Foundation</p> <p>Governing Authorities: North Coast and Guanyinshan National Scenic Area Administration (Tourism Bureau, Ministry of Transportation and Communications), Coast Guard Administration (Ocean Affairs Council), Forestry and Nature Conservation Agency (Ministry of Agriculture), Water Resources Agency, Fisheries Agency (Ministry of Agriculture), Highway Bureau (Ministry of Transportation and Communications), New Taipei City Government</p> <p>Coastal Users: Zhongjiao Bay Surfing Base, surfing operators, Huanggang Fishing Harbor, Shuiwei Fishing Harbor, Guihou Fishing Harbor, Taiwan Power Company, Yehliu Ocean World, Feicuiwan Beach, Fulong Feicuiwan Resort Hotel, White House Hot Spring Beach Resort, etc.</p>	<p>Starting at Shitou Mountain Park, the route connects Zhongjiao Bay, Jinshan, and Yehliu along the coast, integrating efforts from community development associations and civil organizations. This route links coastal settlements, fishing harbors, and existing pathways to protect and highlight unique coastal landscapes such as the Zhongjiao Coastal Botanic Garden, Jinshan Beach, Zhongjiao Bay Beach, Qingshui Wetland, Jinshan Seaside Resort, Dingliao Beach, coastal gravel beaches, lily grasslands, and the sea-eroded terrain of Yehliu Cape.</p>
Yehliu Camel Peak Ridge Trail		
Shen'ao Cape Trail	<p>Coastal Segment Characteristics: Northern Cape and Bay Coast</p> <p>Local Organizations and Human Resources: Shen'ao, Haibin and Nanya Community Development Association, Liandong Elementary School</p> <p>Governing Authorities: Northeast and Yilan Coast National Scenic Area Administration (Tourism Bureau, Ministry of Transportation and Communications), Coast Guard Administration (Ocean Affairs Council), Fisheries Agency (Ministry of Agriculture), Highway Bureau (Ministry of Transportation and Communications), New Taipei City Government</p> <p>Coastal Users: Shen'ao Fishing Harbor, CPC Shen'ao Port Supply Service Center, Shui'nandong Fishing Harbor, Nanya Fishing Harbor, Shui'nandong Thirteen-Level Ruins</p>	<p>Starting at Shen'ao Cape, the route connects Shen'ao, Jinguashi, and Nanya along the coast, integrating efforts from community development associations and civil organizations. This route links coastal settlements, fishing harbors, and existing pathways to protect the unique sea-eroded landscapes along the entire stretch. Highlights include the Shen'ao igneous rock beach, Fanzi'ao Chief Rock, Shen'ao Cape, Elephant Trunk Rock, Ruibin sea-eroded platform, Bat Cave, Shui'nandong, Yin-Yang Sea, Nanya rock formations, and sea-eroded platforms.</p>
Ruifang Shen'ao Fishing Harbor Hai-Tian Trail		
Nanzilin Trail		

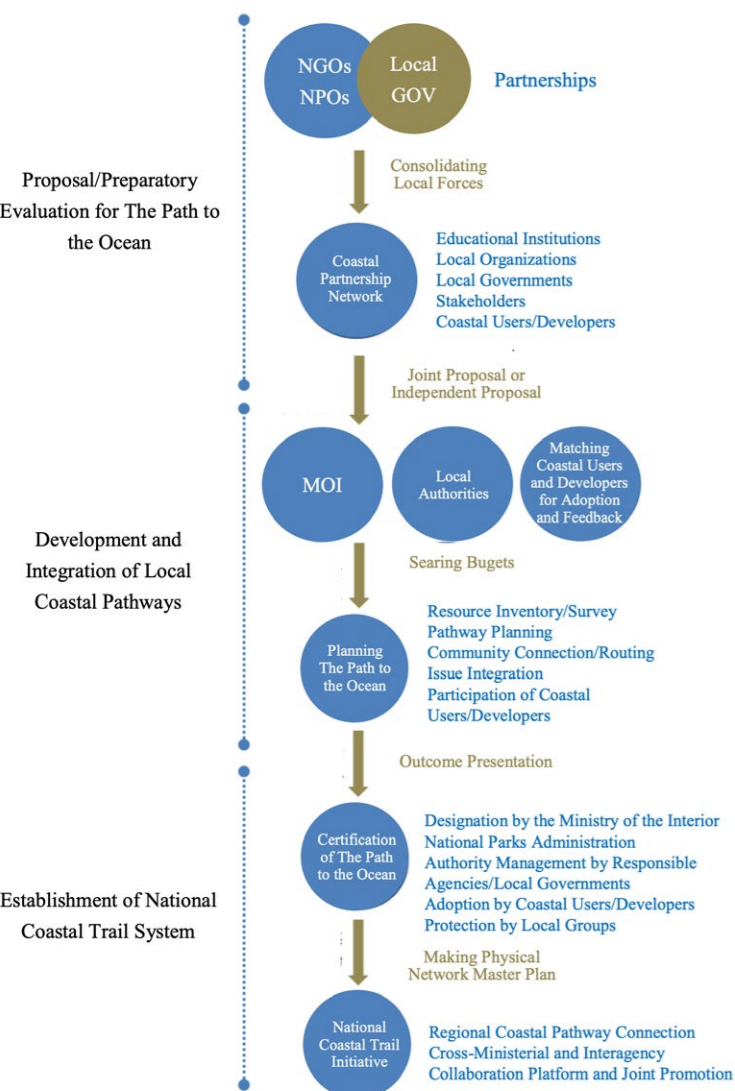


Fig. 04
Operational Process for the Path to the Sea
Source: Ministry of the Interior, National Park Service © 2024.
"2023 Local Connection Implementation
Plan-Promoting Coastal User Participation and Path to the Sea System Planning"

Trail Name	Identification Principles	Development Potential for the Path to the Sea
Bitou Cape Trail	<p>Coastal Segment Characteristics: Northern Cape and Bay Coast</p> <p>Local Organizations and Human Resources: Bitou Community Development Association, Mao'ao Community Development Association, Sandiaojiao Community Development Association, Stonework Team, Shulu Cultural Workshop, Fulian Elementary School, Hemei Elementary School, etc.</p> <p>Governing Authorities: Northeast and Yilan Coast National Scenic Area Administration (Tourism Bureau, Ministry of Transportation and Communications), Coast Guard Administration (Ocean Affairs Council), Fisheries Agency (Ministry of Agriculture), Highway Bureau (Ministry of Transportation and Communications), New Taipei City Government</p> <p>Coastal Users: Diving, snorkeling, and SUP operators; Longdong Four Seasons Bay; nine-hole and abalone aquaculture operators; Gongliao Fishing Harbor; Aodi Fishing Harbor; Longmen Nuclear Power Plant; New Taipei City Sailing Training Center; Fulong Beach; Mao'ao Fishing Harbor; Magang Fishing Harbor</p>	<p>Starting at Bitou Cape, the route connects Bitou, Longdong, Aopu, Yanliao, Fulong Beach, Mao'ao, and Magang along the coast. This initiative integrates efforts from community development associations and civil organizations to link coastal settlements, fishing harbors, and existing pathways. It aims to protect the unique recreational beaches and landscapes, including Longdong Bay, pebble beaches, Jinsha Bay Beach, Yanliao Seaside, Fulong Beach, Mao'ao Bay, Magang intertidal zone, and Sandiaojiao.</p>
Longdong Bay Cape Trail		
Sandia Cape Lighthouse		

Table 01

Potential and Resource Connectivity of Northern Coast Trails.

Source: Ministry of the Interior, National Park Service © 2024. 2023 Local Connection Implementation Plan-Promoting Coastal User Participation and Path to the Sea System Planning

The operational strategy for the Path to the Sea emphasizes local “connection and collaboration”, prioritizing the establishment of dialogue and supply-demand matching platforms between government and private sectors, as well as enterprises and local communities. This demonstration project aims to address the issue of “ensuring public coastal access” as an entry point, incorporating participation from relevant government agencies, county-level departments, private organizations, youth revitalization groups, and social enterprises.

By breaking through and improving the spatial aspects of the Path to the Sea, this initiative not only seeks to develop a National Coastal Trail but also aims to establish a partnership network between central and local governments through demonstration operations. Additionally, it serves as a reference mechanism for proposals by coastal users and large-scale coastal developers to give back to local Satoyama and Satoumi revitalization projects.

In terms of spatial development, the aim is to connect the Highway 2 system with New Taipei City's 10 coastal trails to establish Taiwan's first “Northern Coast Path to the Sea-National Coastal Trail.” This initiative seeks to harness the strength of local organizations and coastal civil groups, along with partnerships with coastal enterprises and users, to collectively address issues con-

cerning the Northern Coast.

The project aspires to implement public coastal access, ensure transparency in coastal activities, and strengthen the social responsibility of enterprises, schools, and institutions toward the coastal environment. Together, these efforts aim to foster appreciation of the coast and safeguard the ocean.

The planning concepts and features of the Northern Coast Path to the Sea include:

A. Collaboration and Participation with Local Cooperative Platforms (Tamsui Community University, Sanzhi Branch). In addition to local community development associations, the project intends to leverage the resources of community universities. The Sanzhi Branch of Tamsui Community University, located on the Northern Coast, has long been involved in cultivating local talent, advocating for natural environmental protection, and fostering local cultural literacy. Courses such as *Sanzhi and the Northern Coast Studies* are examples of this effort. Notable collaborations include partnering with the Sanzhi Cultural Foundation on the *Recreating Stone Weirs* project, participating in the Sanzhi Rural Revitalization Plan, and offering ecological and historical courses focused on Tamsui and Sanzhi.

The *Path to the Sea* initiative can be integrated into these cooperative efforts by organizing local workshops

to discuss coastal issues, inventory local resources, and identify routes that reflect the unique *Satoumi* characteristics of the region.

Additionally, the project can collaborate with the growing Satoyama-Satoumi revitalization teams and local youth organizations, such as the Sanzhi Cultural Foundation, Kanle Creative, Satoumi Revitalization Youth Knowledge Forum, Fish Fun Township Support Team, HaiQing Play See Sea, Masu Fishing Village Cultural and Lifestyle Association, Taiwan Marine Conservation and Fisheries Sustainability Foundation, Sandiaojiao Community Development Association, Stonework Team, and Shulu Cultural Workshop. These groups can provide insights into existing local revitalization resources, advocate for, and support the Northern Coast Path to the Sea initiative.

B. Northern Coast Outdoor Classroom of Coastal Landscapes. The Northern Coast of Taiwan stretches 140 kilometers from the mouth of the Tamsui River to Sandiaojiao, bordered by the Pacific Ocean to the east, the East China Sea to the north, and the Taiwan Strait to the west. This stretch features an intricate coastal geography characterized by alternating capes and bays, along with diverse landforms such as estuarine sandbars, beaches, pebble shores, sea-eroded formations, and algal reefs. The area is also home to numerous fishing harbors, serving as significant fishing grounds with rich marine ecosystems. Exploring the Northern Coast provides an immersive experience akin to an outdoor classroom of coastal geology and natural ecology.

Capes: Fugui Cape, Jinshan Huanggang, Yehliu, Badouzi, Shen'ao Cape, Bitou Cape, Longdong Cape, and Sandiaojiao.

Bays: Jinshan, Yehliu Harbor, Wanli, Keelung, Shen'ao, Longdong Bay, and Fulong. Notably, Jinshan, Wanli, and Fulong feature naturally developed sandy beaches.

C. Connecting Northern Coast Studies to Establish the Northern Coast Living Landscape Context.

The living landscape of the Northern Coast encompasses natural and cultural features, landscape textures, and ecosystems, reflecting the close interactions between people, land, industries, and scenery. These characteristics form distinctive regional development patterns that should be preserved through spatial strategies addressing rural or national land development plans.

Taking the Northern Coast as an example, this region, part of the Datun Volcano alluvial plain, has served as a habitat for various groups since the 17th century, during the maritime era of world history. Historically known as *Jinbaoli Fort*, it was home to the Ketagalan people (*Bassy*), who referred to their settlement as *Jinbaoli*, meaning “abundance.” This rich historical context is still evident today, with cultural practices such as Jinshan's *Benghuozi*

fishing method and the *Ama* diving culture of Mao'ao and Magang preserving the area's heritage and traditions. Therefore, the Path to the Sea is not merely about planning and constructing a trail system; more importantly, it emphasizes learning from local communities through the processes of resource inventory and problem-solving. It seeks to organize and showcase the living landscape context and cultural heritage of coastal settlements. Collaboration with local partners is essential to preserve and build a localized coastal knowledge system that reflects and supports the unique characteristics of the region.

D. Linking Satoumi Revitalization Settlements. The Northern Coast Path to the Sea connects 14 coastal fishing village settlements, including Laomei, Shimen, Wanli, Jinshan, Dawulun, Waimushan, Badouzi, Shen'ao, Bitou Cape, Longdong, Gongliao, Mao'ao, and Magang. Each village has unique cultural characteristics and industrial features, offering significant potential for *Satoumi* revitalization. For example, Shimen is known as the home of *Millennium Rice*, attributed to its efforts in preserving century-old stone-built terraced fields. Gongliao, through the National Taiwan Ocean University's USR program in collaboration with the Gongliao District Office and local youth, promotes initiatives like habitat-friendly environments and the preservation of *Ama* diving culture as part of *Satoyama-Satoumi* revitalization efforts. The Ocean Affairs Council and the New Taipei City Government support Hemei Fishing Harbor through coral reef ecological restoration and waterfront experiences. Magang, Shui'andong, and Shen'ao focus on deep tourism programs to highlight their cultural and ecological significance. Future planning for the Path to the Sea can connect these revitalized settlements and local teams, forming a *Satoumi* revitalization story chain along the Northern Coast, fostering deeper appreciation and sustainable development of these coastal communities.

E. Resource Integration and Negotiation Platform for Government Agencies. The Northern Coast Trail System involves various responsible authorities, including the North Coast and Guanyinshan National Scenic Area Administration, the Northeast and Yilan Coast National Scenic Area Administration (both under the Tourism Bureau, Ministry of Transportation and Communications), the Coast Guard Administration and Marine Conservation Administration (both under the Ocean Affairs Council), the Forestry and Nature Conservation Agency, and the Fisheries Agency (both under the Ministry of Agriculture), the Highway Bureau (Ministry of Transportation and Communications), and the New Taipei City Government. These agencies cover areas such as conservation, tourism, port operations, fisheries, forestry, and transportation. Moving forward, the Path to the Sea initiative should conduct an inventory process

Fig. 05
Northern Taiwan Coastline – Structure.
Source: Monica Kuo © 2024

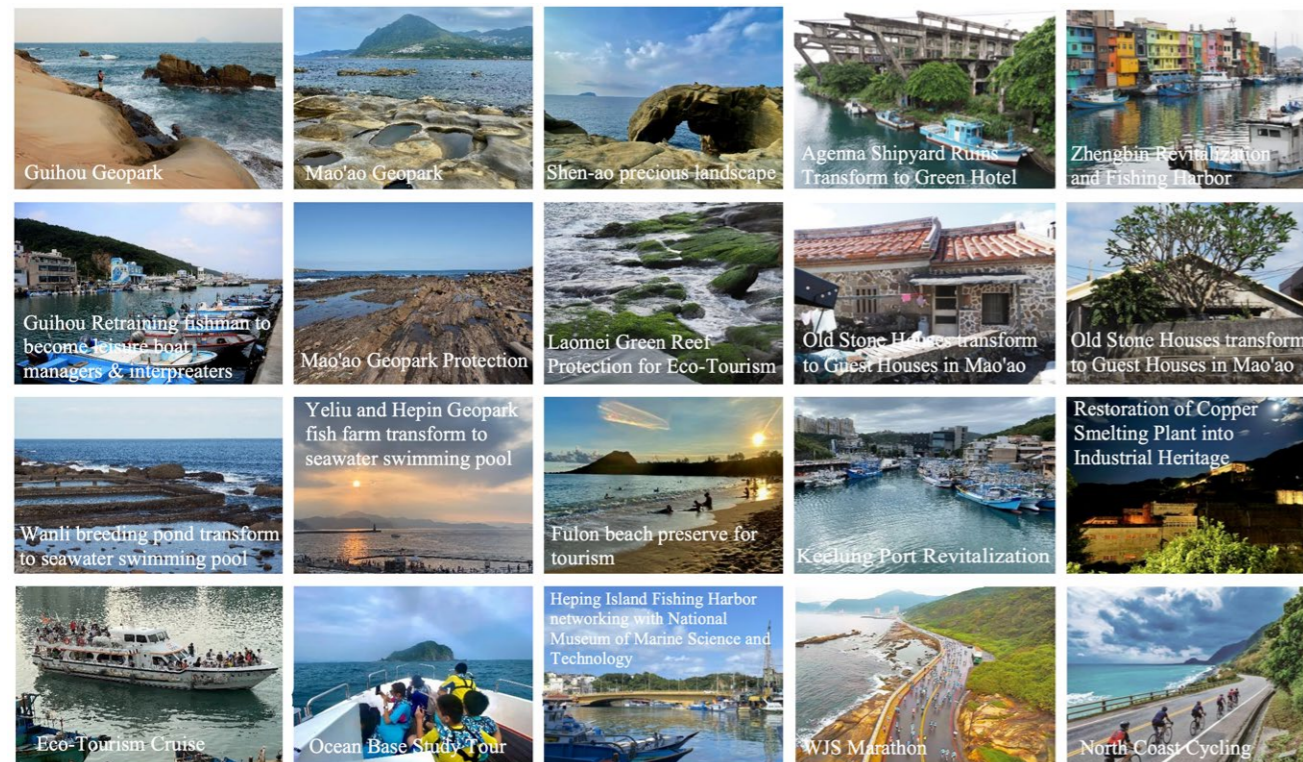
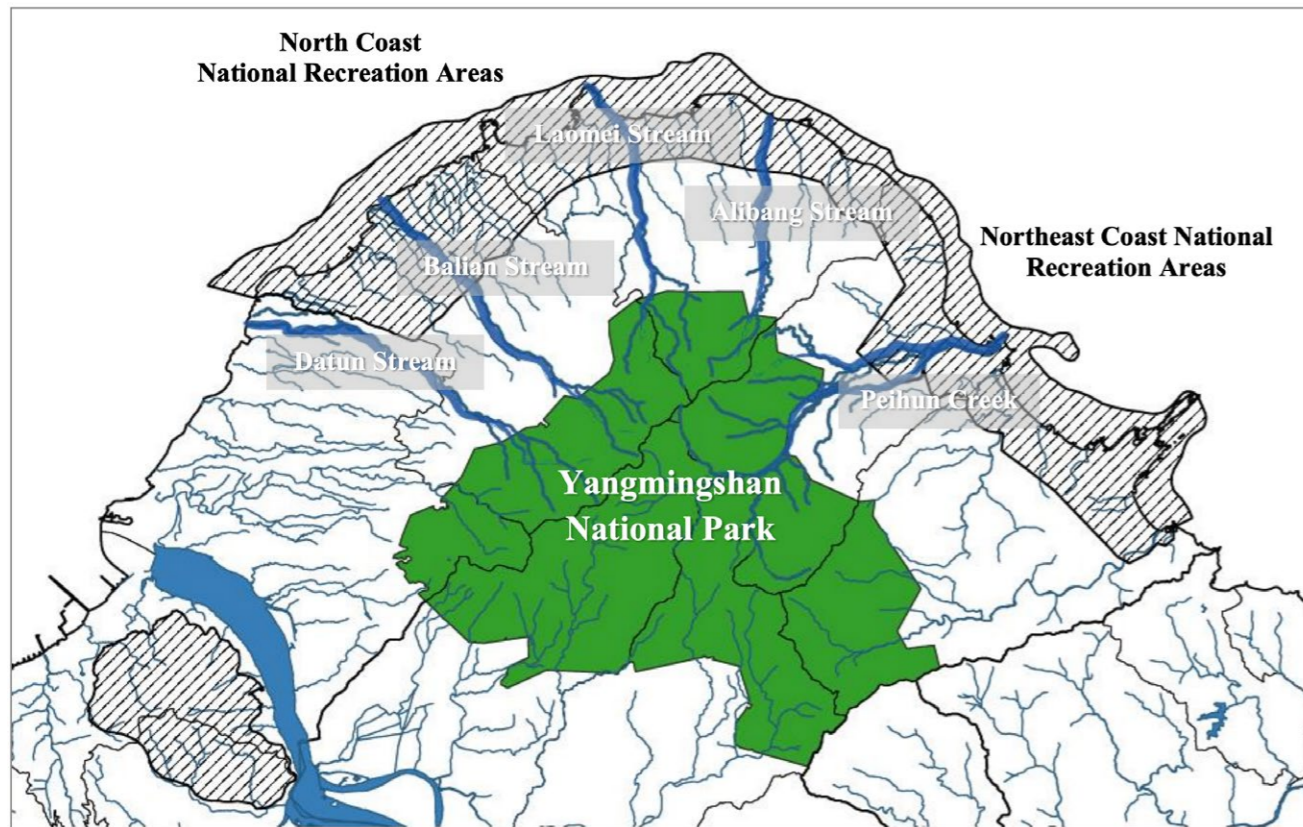


Fig. 06
Northern Taiwan Coastline – Waterfront sceneries. Source: Monica Kuo © 2024

and convene relevant agencies to integrate resources and negotiate responsibilities. This collaborative effort aims to establish a partnership platform that incorporates the advocacy of public coastal access.

F. Participation of Coastal Users or Developers. The operational process of the Path to the Sea should incorporate and emphasize the task allocation and integration mechanisms involving coastal development and utilization enterprises, the education system, civil organizations, and frontline recreational activity operators. Taking the Northern Coast as an example, large-scale coastal development and utilization involve national and private enterprises such as Taipower and CPC Corporation managing thermal power plants and nuclear power plants.

Furthermore, with the Northern Coast's primary industries centered on fisheries and leisure tourism, its coastline hosts over ten fishing harbors with abundant marine resources that shape unique maritime culture, *Satoumi* industries, and fishing village settlements. These include port operations, fisheries associations, and coastal aquaculture industries such as nine-hole abalone farming.

In recent years, marine recreational sports have flourished, including diving, snorkeling, surfing, SUP, sailing, and beach operators.

In the education system and civil organizations, there are numerous marine-oriented rural elementary schools, local revitalization partners, youth teams, and community development resources. Alongside frontline recreational activity operators, the Path to the Sea can serve as a focal point to connect local human networks, promote marine environmental education, revive *Satoumi* culture, and develop a Path to the Sea with distinct local characteristics (for the identification of localities mentioned in the text, see fig. 05 and fig. 06).

CONCLUSION AND RECOMMENDATIONS

- Coastal zone management and public access are critical mechanisms for enhancing the revitalization of remote urban and rural areas and fostering community development.

- The linkage of linear coastlines and varied terrain forms a "crown-shaped" coastal network, connecting coastal estuaries, upstream river paths, and settlements to restore environmental and ecological systems.

- Small fishing harbors and coastal villages along the coastline are revitalized through the Path to the Sea, enhancing the ecological and cultural tourism value of the coastline, promoting "slow fish, slow living" tourism experiences.

- By collaborating with local NGOs and NPOs (such as fisheries associations and tourism organizations) through public-private partnerships (PPP), and involving local elementary and middle school students as citizen scientists in environmental surveys and education, the coastline becomes an "outdoor classroom" with high return value.

- The scenic beauty of the coastline, linked through the Path to the Sea, provides spaces for trails and cycling paths, along with strategically designed rest stops, viewing platforms, and recreational facilities. These features promote alternative coastal leisure experiences and local revitalization business opportunities, demonstrating how systematic connections can transform the "edge" into the "front."

- Through community participation and well planned workshop, it can foster the effective execution of "Coastal Zone Management Act", also encouraging the interaction of cross borders' fishing settlements' cooperation.

- Over past 15 years' advocating for slow fish and slow living, the scientist found out the ecotourism development can elevate the cognition of coastal biodiversity conservation and the more healthy shoreline and near shore ecosystem.

REFERENCES

- Kuo M. et al. 1999, *The Preliminary Planning for the Third Comprehensive Review of Yangmingshan National Park Management Plan*, Yangmingshan National Park, Taipei.
- Kuo M. 2003, *Green and Blue Network: The Theory and Practice of Sustainable Landscape Planning*, Archbook Press, Taipei.
- Kuo M. 2019, *Formosa's Landscape in Transition & Adaptation*, Archbook Press, Taipei.
- Kuo M. et al. 2019, *The Coastal Resource Surveys and Database Installation*, Construction and Planning Agency, Ministry of Interior, Taipei.
- Kuo M. et al. 2022, *Locally-linked Coastal Management Planning*, Construction and Planning Agency, Ministry of Interior, Taipei.
- Li S. 2007, *The Coast of Taiwan*, Walkers Cultural Print, Taipei.
- Ni C.C. 2009, *Taiwan Small Islands*, Walkers Cultural Print, Taipei.

MOBILITY

FUTURE-PROOF INFRASTRUCTURE FOR THE DEVELOPMENT OF COASTAL TERRITORIES

The fifth issue of this journal offers a scientific and multidisciplinary reflection on the theme of sustainable mobility, understood not merely as efficient, low-impact movement, but as an active driver of territorial transformation. Here, mobility is seen as a force capable of generating new spatial qualities, reactivating latent landscapes, and rediscovering environmental and cultural resources. At a time when the concept of mobility extends far beyond traditional infrastructure, the contributions gathered in this volume explore multiple forms of movement-walking, cycling, collective and intermodal travel – that connect space and society, environment and community.

The articles investigate mobility as a tool for urban and territorial regeneration, capable of restoring ecological continuity, proximity, and accessibility. Walking, cycling, and moving through green corridors or coastal networks become both design strategies and interpretive practices through which to read and enhance the contemporary landscape. Through approaches that integrate urban planning, geography, ecology, sociology, and design, the issue highlights how sustainable mobility is also a cultural act—a way of inhabiting, perceiving, and rewriting space.

Particular attention is given to margins, disused infrastructures, and in-between territories, viewed as fertile grounds to be rediscovered through new logics of active and relational mobility. The projects and experiences presented here demonstrate how movement can mean mending, storytelling, care, and reactivation.

This issue invites readers to rethink mobility as a tool for understanding and designing the territory, where movement becomes an opportunity to generate new spatial imaginaries and responsible practices.

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