RAE2026
Ghost Islands as an Ecological Intervention

Prof Laurent Gutierrez

UoA38

Multi Component Output 1

11/2025

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Ghost Islands as an Ecological Intervention

Descriptor

Ghost Islands (2018–2021) is an environmental art research project that confronts the devastating impact of discarded fishing gear or 'ghost nets' on marine ecosystems. Through sculptural installations, exhibitions, and community engagement, the project exposes the hidden scale of pollution in the sea while fostering dialogue with coastal populations.

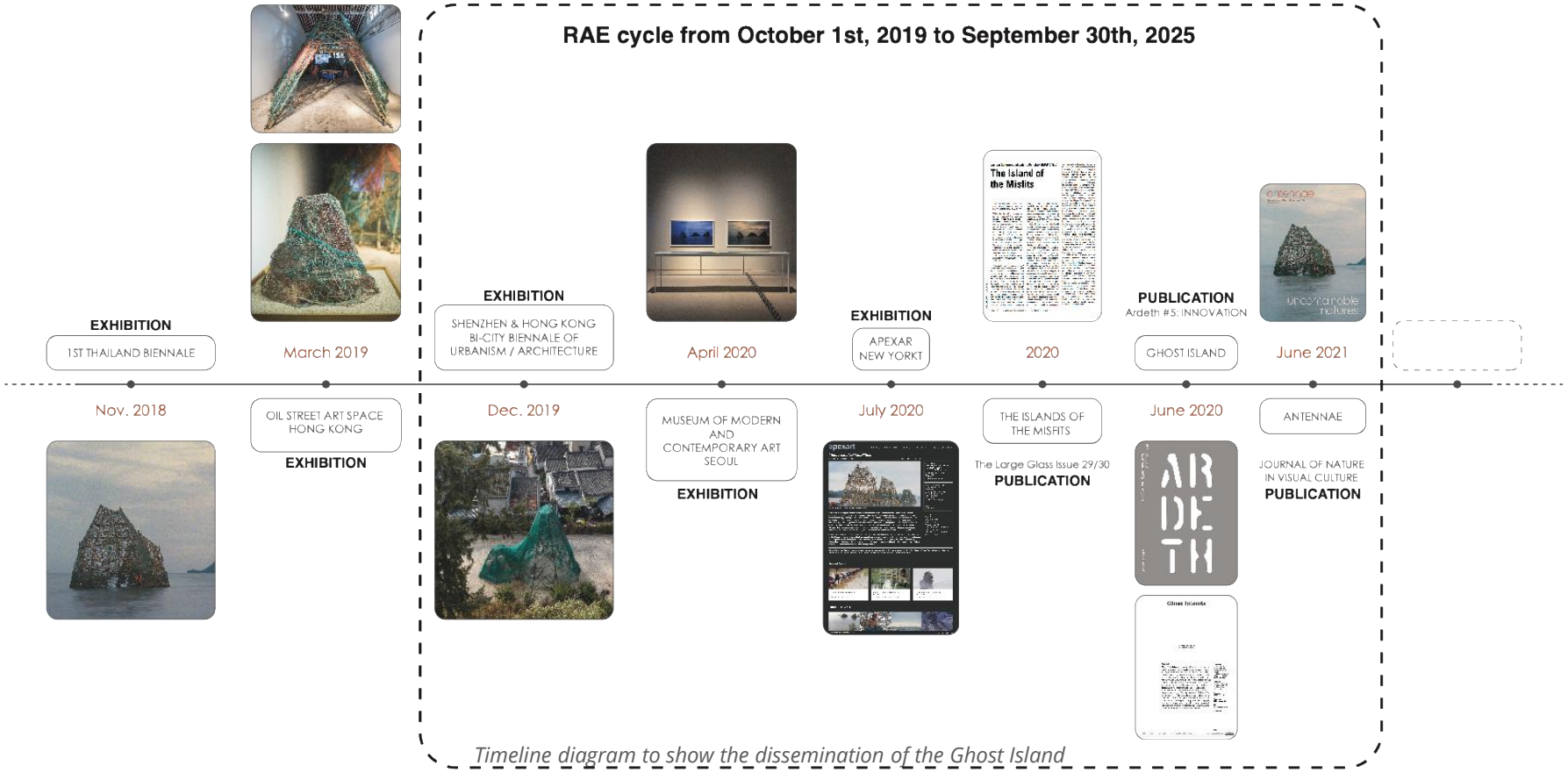
The project debuted at the *2018 Thailand Biennale* in Krabi, where a bamboo structure woven with 300 kgs of reclaimed ghost nets visualised the pervasive yet often invisible threat of marine waste. Drawing on Timothy Morton's theory of hyperobjects (things or phenomena so vast in space and time that they are beyond human comprehension), the installation represented the overwhelming presence of anthropogenic debris in aquatic environments.

Over three years (2018-2021), *Ghost Islands* expanded into a multidisciplinary research investigation and iterations across Thailand, Hong Kong, Shenzhen, Seoul, and New York, blending ecological critique with cultural storytelling. A pivotal collaboration with Thailand's sea gypsy community (a semi-nomadic Austronesian people from the Mergui and the Surin Islands).

deepened the project's scope, integrating Indigenous knowledge and documenting how traditional livelihoods intersect with environmental decline. This shift redirected the project's focus from ecological damage to resilience, adaptation, and artisanal innovation in the face of crisis.

By merging art, design, and anthropology, *Ghost Islands* demonstrates how research and creative practices can amplify environmental awareness while proposing regenerative futures through its evolving constructions. The project advocates for a symbiotic approach to ecological discourse – one where artistic intervention and community wisdom converge to address planetary emergencies. Ultimately, it challenges audiences to reconsider humanity's relationship with the sea, urging collective responsibility and sustainable cohabitation.

Research Timeline



Timeline diagram to show the dissemination of the Ghost Island

The research programme for this multi component output was initiated before the current RAE period; however, no prior material was submitted to RAE 2020.. The work progresses iteratively, continually evolving to address its changing context. Each iteration yields a unique formal output, ensuring that all submissions are original to this cycle.

Prof Laurent Gutierrez

Laurent Gutierrez (Prof., PhD) is a multidisciplinary scholar, architect (DPLG), artist, and cofounder of *MAP Office* (1995–2021), an international practice developed with Valérie Portefaix. With a PhD in Architecture from RMIT University (2015), he is a full professor at the Hong Kong Polytechnic University's School of Design, where he directs the Master of Design in Transitional Environments Design (TED).

His work bridges academia and practice, advancing systems thinking, regenerative development and design-led transitions towards resilient futures. Gutierrez's artistic and architectural projects have been shown at leading institutions—including the MoMA, the Guggenheim and the Venice Biennale—marking his early focus on spatial politics and 'territories of globalisation'. Since RAE2020, his practice has shifted towards ecological engagement, merging art, architecture and activism to address planetary crises. Projects such as *Ghost Island* (MCO1) and the *South China Sea Monument* (MCO2), epitomise this evolution, employing regenerative frameworks to dissect the geopolitical dimensions of ecological systems.

By interrogating intersections of human and environmental narratives, his current work redefines design as a tool for cross-scalar intervention—from local ecosystems to global flows of capital and waste. This conceptual transition—from mapping spatial hierarchies to unravelling ecological interdependencies—reflects his commitment to regenerative knowledge production, where creative practice becomes a catalyst for socio-environmental change.

Research Questions (RQs)

RQ1

How does the *Ghost Islands* research project use art and design to make the invisible crisis of marine pollution visible?

RQ2

In what ways did the collaboration with Thailand's sea gypsies community shift the project's focus from documenting ecological damage to exploring resilience and Indigenous innovation?

RQ3

How does *Ghost Islands* propose the merging of artistic practice, anthropology, and community engagement to foster regenerative ecological futures, and what broader implications does this model hold for addressing planetary emergencies?

Research Output

Exhibitions (5)

- 'First Thailand Biennale curated by Jiang Jiehong in Krabi, Thailand (2018)'?(Nov.2018)
- *Once Lost but Now Found – Ghost Islands* installation curated by Ivy Lim at the Oi! Street Art Space in Hong Kong, China (March 2019)
- *Shenzhen & Hong Kong Bi-City Biennale of Urbanism/Architecture – Ghost Islands* installation curated by Yang Yong in Dapeng, Shenzhen, China (December 2019)
- *Axis of Horizon – Ghost Islands* curated by Youn Bummo at the National Museum of Modern and Contemporary Art (NMMCA), Seoul, South Korea (2020)
- Best online exhibition during the COVID-19 pandemic according to *The New York Times – Ghost Islands* curated by Marianna Tsionki at apexart in New York, USA (2020)

Academic Papers' Peer Review (3)

- 'The Island of the Misfits', in *The Large Glass: Journal of Contemporary Art, Culture and Theory* (No. 29/30), edited by Tihomir Topuzovski at the Museum of Contemporary Art Skopje (2020)
- 'Ghost Islands', in 'Innovation', *Ardeth (*No. 5), guest edited by Andrés Jaque, Roseberg and Sellier, pp. 118–130 (2020)
- 'Ghost Islands', in *Antennae: The Journal of Nature in Visual Culture* (No. 54, Volume 1), pp. 153–159 (Summer 2021)

RAE cycle from 1 October 2019 to 30 September 2025 (see timeline)

Research Output

Prototypes (2)

- *Ghost Islands* – mixed-media installation with bamboo, fishing net, a plastic barrel, a cord, an HD video, sounds, and of variable dimensions
- *Ghost Islands* model – mixed-media installation with bamboo, fishing nets, nylon, and a mirror

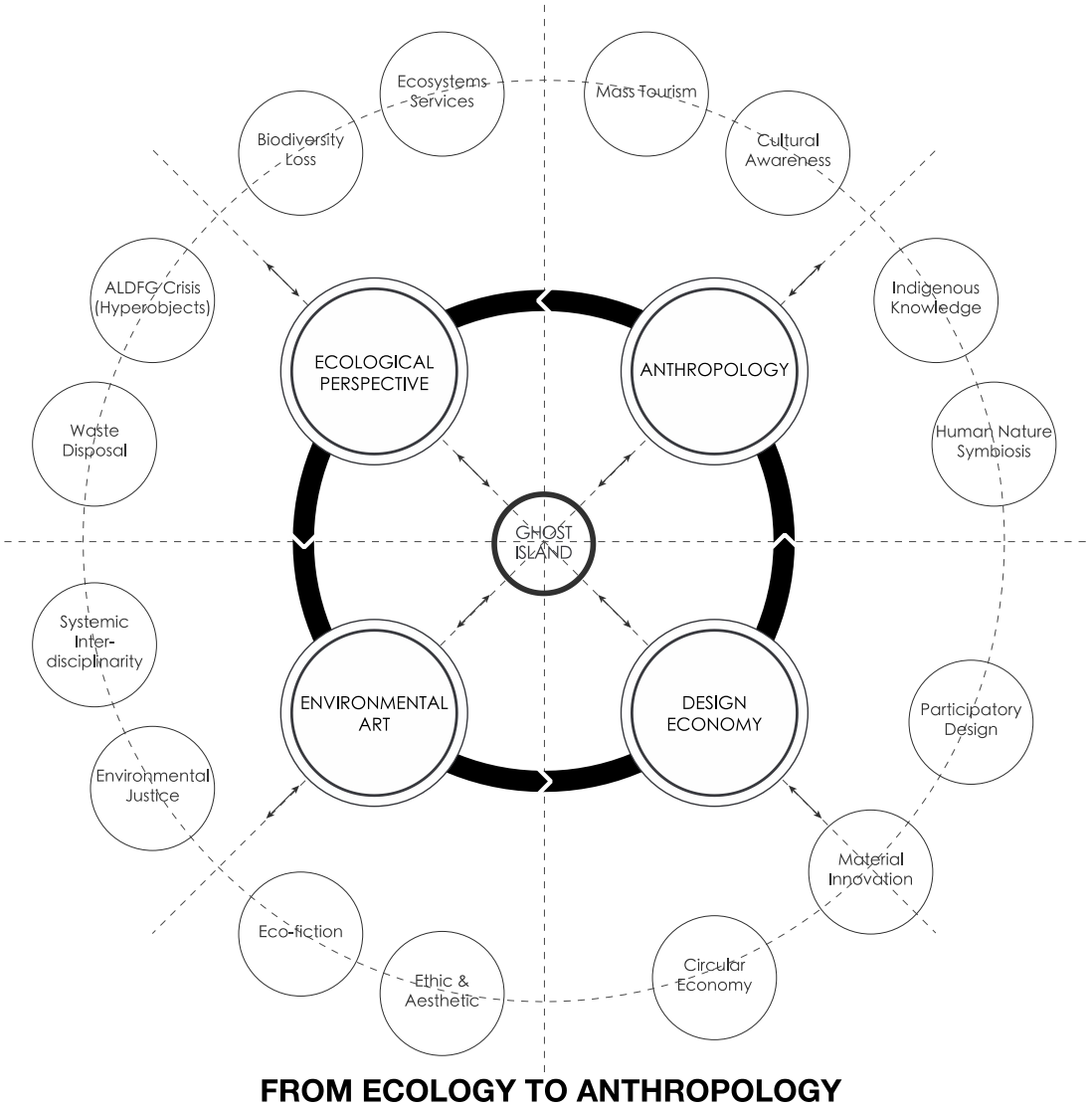
Screenings (2)

- *The Birth of Ghost Islands* – HD video and sound (13:38)
- *Ghost Island* – HD video and sound (40:00)

Visual Materials (3)

- 'Map of Chabkang Changnam Archipelagic Territory' – a C-print on archival art paper
- 'Ghost Island Research Process' – various postcards and drawings
- 'Ghost Island, Noppharat Thara Beach, Krabi' – a pigment print on archival art paper

Research Fields and Key References



Key Research Fields

- Ecological perspective
- Environmental art
- Design economy
- Anthropology

Diagram 1. System causal map demonstrating the correlation between different *key research fields (author)*

Research Fields and Key References

Ghost Nets as Hyperobjects

Ghost nets, conceptualised as hyperobjects (Morton, 2013), exist across spatiotemporal scales, entangling marine life and disrupting benthic ecosystems. Historically, nets served multifaceted roles – from fishing and land trapping to military and transport applications – with globally consistent weaving geometries and knotting techniques. Early nets utilised biodegradable materials, such as grass, flax, and cotton, whereas modern versions predominantly employ durable, nondegradable nylon (Alfaro-Giner, 2017). This material shift exacerbates ecological harm: synthetic nets, abandoned due to storms, equipment failure, or entanglement, trap fish and corals indefinitely, creating long-term marine degradation.

The paradox lies in their design. Originally intended to sustain human livelihoods, synthetic nets now function as persistent ecological threats. Such durability underscores the need to reexamine the choice of material for industrial fishing practices to align with planetary boundaries.

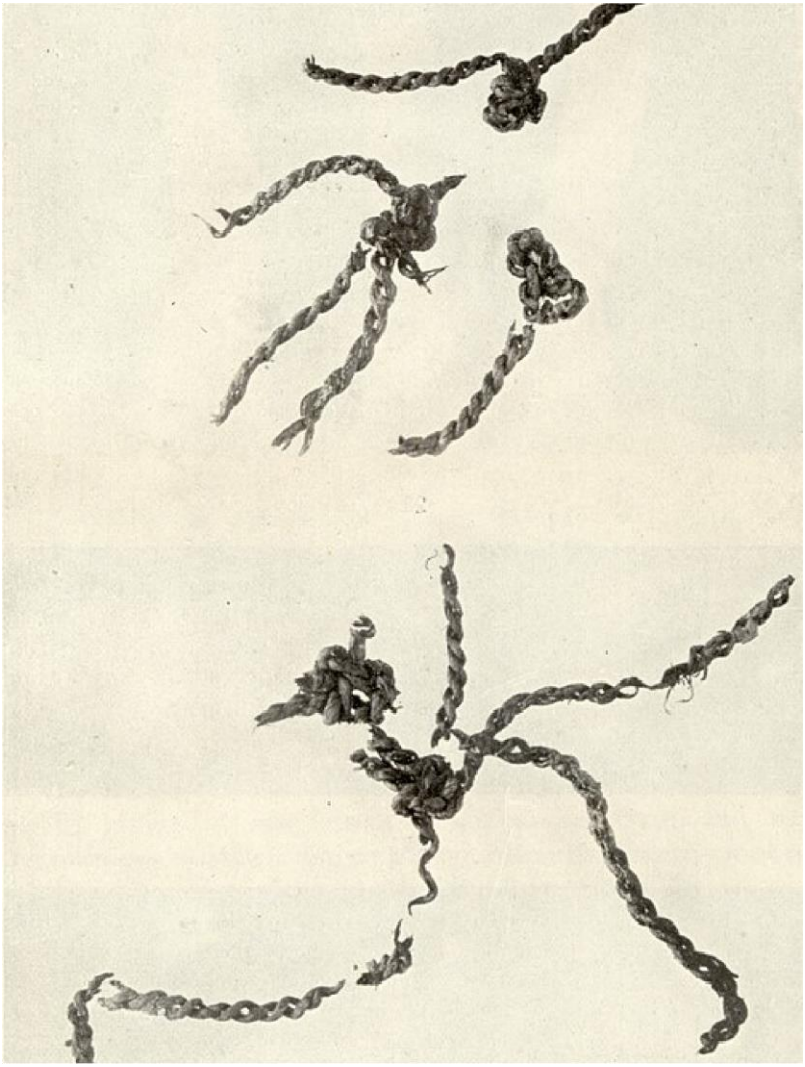


Figure 1. The Antrea Net, Sakari Palsi – 8540 BCE

Research Fields and Key References

Abandoned, Lost, or Otherwise Discarded Fishing Gear (ALDFG) Crisis

Approximately half of marine debris is classified as abandoned, lost, or otherwise discarded fishing gear (ALDFG) by the Food and Agriculture Organisation (FAO) (of the United Nations), highlighting systemic failures in gear management (Huntington & Macfadyen, 2009). Preventive measures such as tagging systems aim to reduce losses; yet their efficacy is undermined by contradictory practices, such as the proliferation of fish aggregating devices (FADs). While FADs boost industrial catches, they facilitate the indiscriminate harvesting of juvenile fish and amplify ALDFG volumes when they are abandoned. Further, grassroots initiatives, including activist diving to retrieve ghost nets, demonstrate localised remediation efforts but lack scalability against industrial overproduction. Current strategies fail to address root causes, such as profit-driven overfishing and material non-degradability, revealing critical gaps in policy enforcement and circular design innovation. A paradigm shift towards biodegradable materials and stringent accountability frameworks remains imperative to mitigate this escalating crisis.

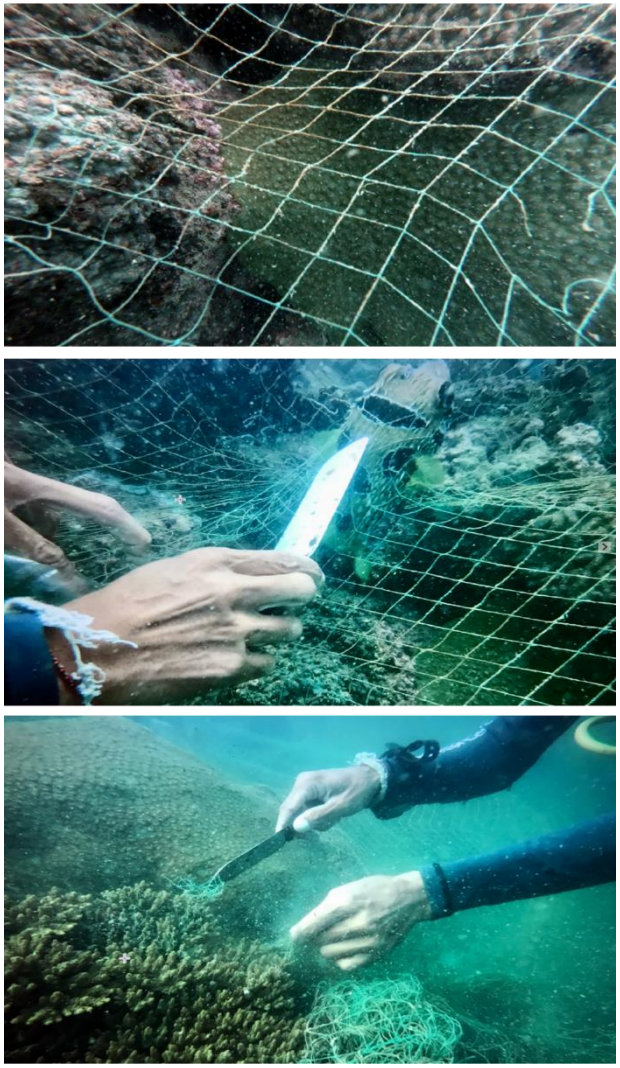


Figure 2. Removing ghost nets in Krabi National Park – Map Office (2019)

Research Fields and Key References

Abandoned, Lost, or Otherwise Discarded Fishing Gear (ALDFG)

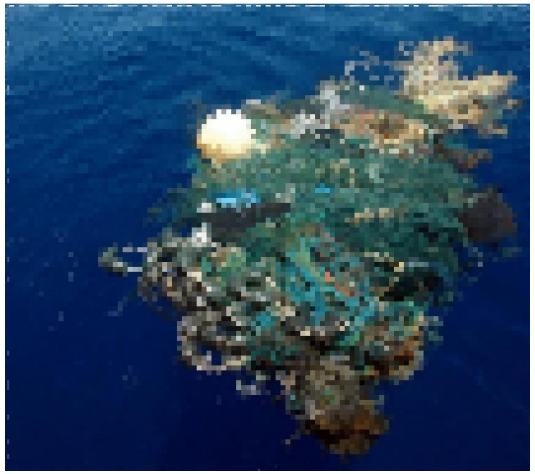
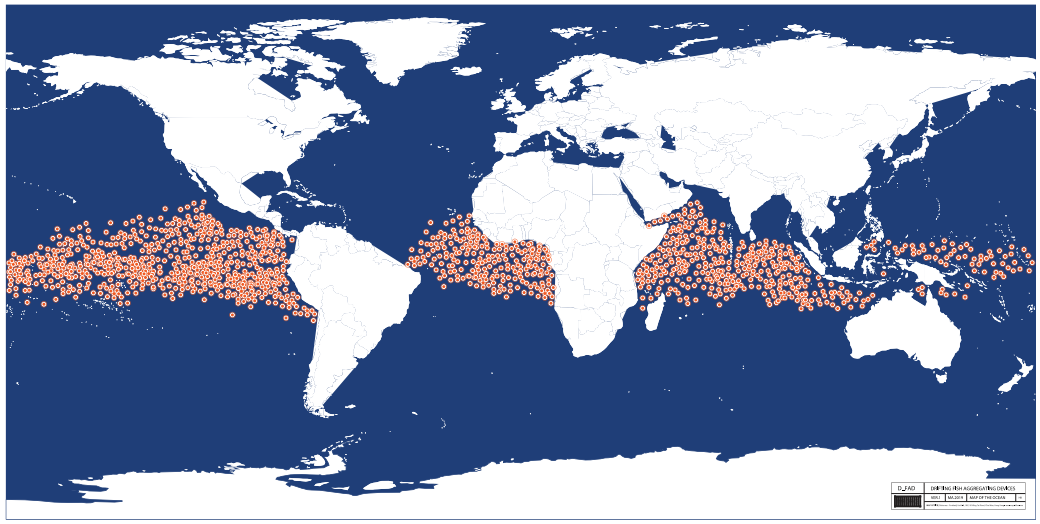


Figure 3. Abandoned, lost, or otherwise discarded fishing gear (ALDFG) from a search online

(filtered due to copyright issues)



Figures 4 and 5. Mapping ALDFG – Created by Map Office (2019)

Research Fields and Key References

Anthropological Perspectives on Ghost Nets

The proliferation of ALDFG is rooted in cultural and socioeconomic patterns, yet anthropological studies on these links remain fragmented. Maritime nomadic communities, such as Southeast Asia's sea nomads, exemplify the use of ecologically aligned fishing practices. Chou (2009) highlights how social reciprocity sustains marine ties against state-led development. Similarly, Hong Kong's floating villages and Japan's Satoumi[1] model showcase community-driven marine symbiosis.

However, anthropological research often neglects how globalisation has marginalised Indigenous knowledge in favour of industrial efficiency, despite evidence of historical sustainability (2). The absence of systematic analysis on cultural erosion and its correlation with the proliferation of ALDFG reveals critical gaps in understanding the sociocultural drivers of marine waste, underscoring the challenge of integrating traditional practices into modern frameworks.

The Invisible Island and High Island, 'man-made' islands and new territory – Map Office Photographs (2013)

1 Satoumi is Japanese and defined as the marine and coastal landscapes that have been formed and maintained by prolonged interaction between humans and ecosystems (online search)

2 For an extended argument see Ingold (2000); Geertz (1983); Marine Carrin (2024) the *Oriental Anthropologist*

Research Fields and Key References

Economic Dimensions of Ghost Nets

The main economic issue facing ghost nets is the systemic failure of waste management and the integration of the circular economy. Due to pollution and the material complexities from marine debris (such as plastic and metal) and nonbiodegradable materials, ghost nets recycling options are limited, and result in the complex waste often ending up in landfills or incinerators, releasing toxic substances, and potentially returning to the sea (Huntington & Macfadyen, 2009). Current efforts primarily focus on post-disposal solutions; although upcycling projects (such as those transforming nets into bags or hammocks) exist, material complexity and pollution issues hinder scalability, failing to address the root causes.

To break this cycle, circular strategies must prioritise two aspects: (1) controlling the upstream material by transitioning to biodegradable materials and redesigning fishing gear to minimise losses during use (Ellen MacArthur Foundation, 2011), and (2) establishing inclusive recycling systems to enhance ghost net recovery efficiency by integrating key stakeholders – e.g., fishermen, recyclers, and coastal communities – into the value recovery process (Kelly, 2018). Through collaborative models or incentive programs, ghost nets can be transformed from waste into community-managed resources. By combining material innovation with an inclusive economic framework, the circular system can shift from symbolic upcycling to scalable closed-loop practices, aligning ecological restoration with livelihood security.

Figure 7. Ghost net collection with local activists in Hong Kong – Map Office (2019)

Research Fields and Key References

Environmental Art

Environmental art is defined as a creative practice that addresses ecological crises through installation art and interventions, aiming to raise public awareness and promote dialogue. While existing projects raise awareness and showcase sustainability, gaps persist. Morton's (2013) hyperobjects representing interconnected ecological entanglement and a lack of systemic research and interdisciplinary collaboration, constraining an art–society–economy integration and narrowing environmental art perspectives.

As described earlier, from an anthropological standpoint, environmental art can revive traditional marine practices (such as those in the Caspian Sea and through marine nomadic living) to critique industrial overfishing and modern consumer lifestyles. From an economic perspective, it reveals the contradiction between symbolic upcycling and scalable circular systems while attempting to incorporate multiple stakeholders into this circular chain and exploring more possibilities. By using ghost nets as a medium and metaphor, it has the potential to combine pollution remediation, cultural narratives, and economic innovation, although it requires an interdisciplinary framework to transform aesthetic interventions into systematic actions.

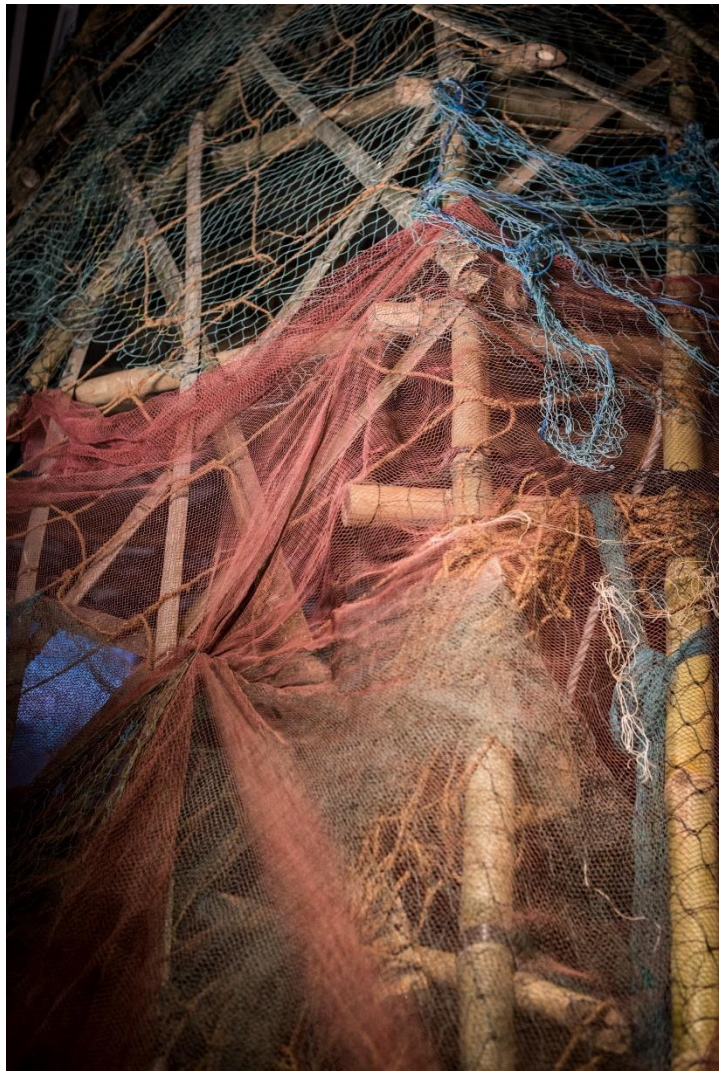


Figure 8. Detail of the installation of Ghost Islands, Oi! Street Art Space – Map Office (2019)

Research Methods, Prototypes, and Materials

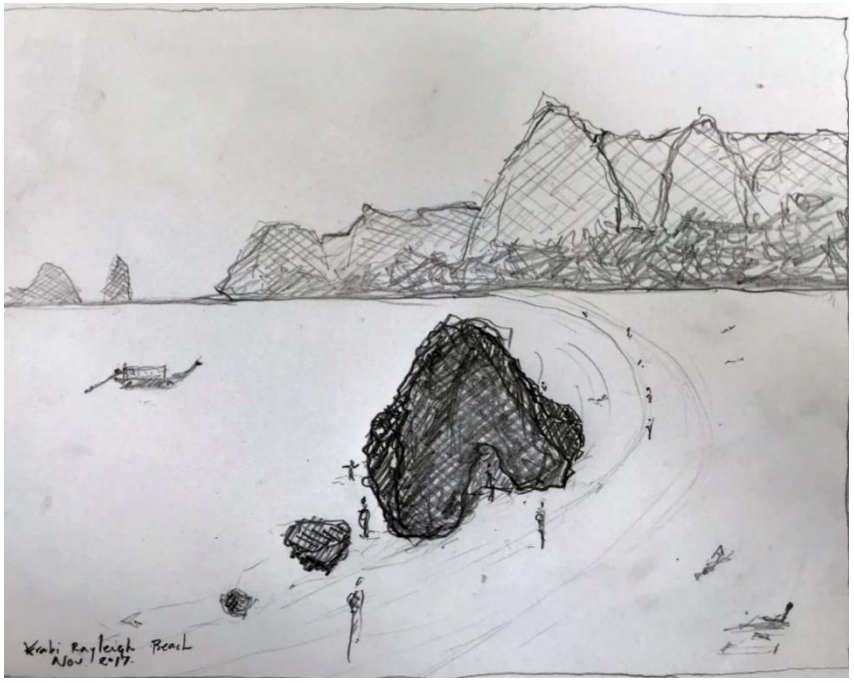


Figure 9. First sketch proposal of Ghost Islands – Map Office (2018)

Methods

- Ethnographic fieldwork (fishing communities)
- Participatory action research (diver clean-ups)
- Material experimentation (net upcycling)

Prototypes

- Bamboo or net sculptures (in Krabi, Hong Kong, and Shenzhen)
- Upcycled net bags and hammocks (in Krabi, Hong Kong, and Shenzhen)

Materials

- Reclaimed fishing nets (300 kg in Krabi and Shenzhen)
- Biodegradable fibre ties

Research Methods, Prototypes, and Materials

The Birth and Development of *Ghost Islands* (2017)

In the fall of 2017, Map Office was invited by curator Jiang Jiehong to participate in the inaugural *Thailand Biennale*, *The Edge of the Wonderland*. The project was sited in Krabi National Park, an Andaman coastal region dominated by tourism yet marked by ecological and cultural contradictions. Working with the Urak Lawoi community, a group of sea gypsies, the research centred on the survival narrative of the fisherman Gung, tracing post-tsunami community rebuilding and policy interventions (e.g., bans on blast fishing and the establishment of Krabi national park).

During research, diving expeditions uncovered the lethal entanglement of ghost nets with marine life and particualrly coral, which became the project's core theme. The installation was constructed on Nopparat Thara Beach, utilising tidal rhythms to design three *Ghost Islands* made of bamboo and 300 kgs of recycled fishing nets, mimicking natural geological stratification. The original installation amid the islands allowed walkable access at low tide and were swimmable at high tide. The constructions absorbed solar energy by day and then glowed at night from the shore.

Gung was invited to inhabit the island temporarily, and continue his daily routines, albeit on an island contructed from the polluting materials and reflecting the human–ecological symbiosis and highlighting the tensions between cultural invisibility and environmental restoration.

Figure 10. Still from a drone video of the sea gypsies' village – Map Office (2018)

Research Methods, Prototypes, and Materials

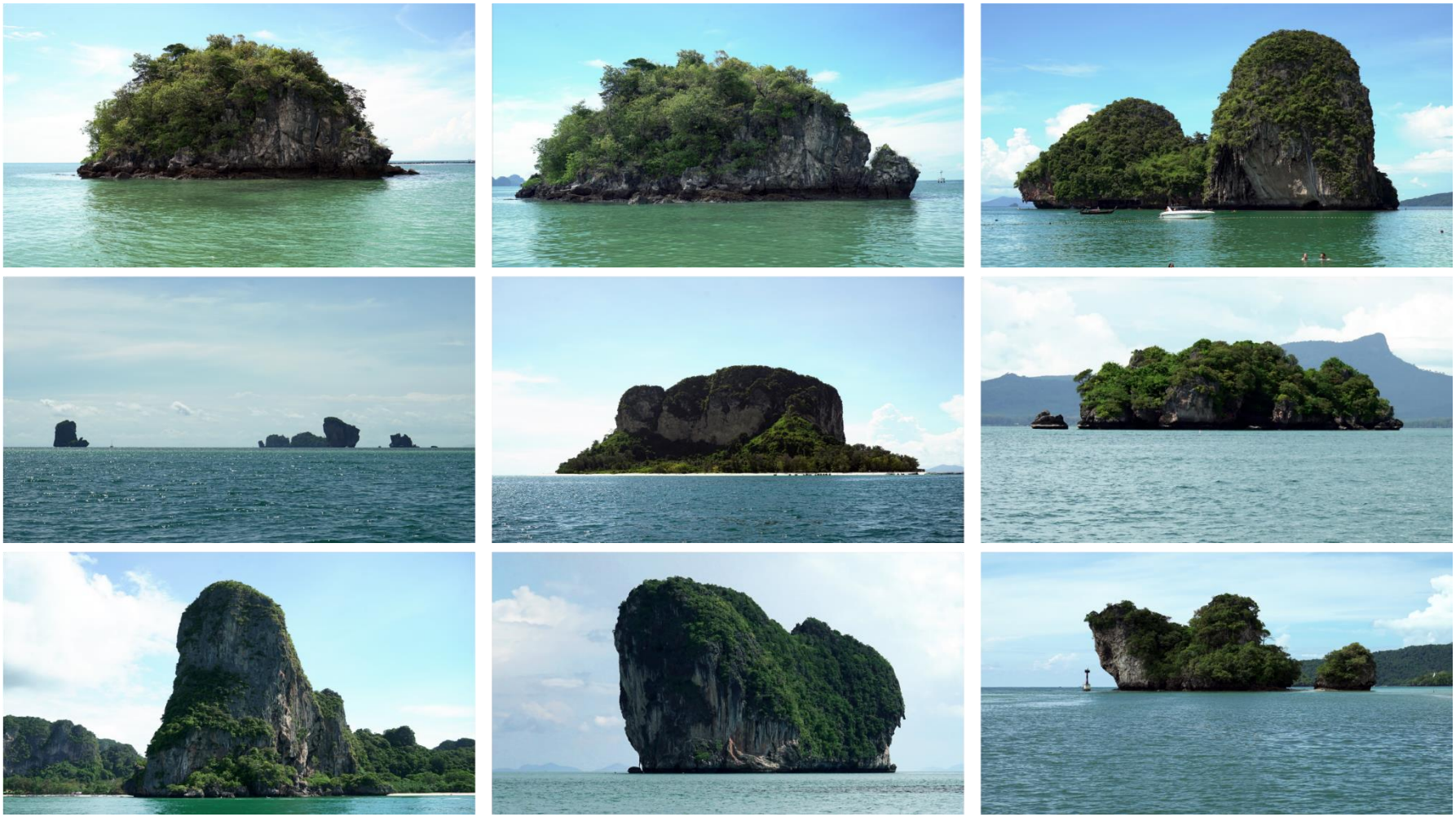


Figure 11. Nopparat Thara Beach's condition, Thailand Biennale Krabi – Map Office (2018)

Research Methods, Prototypes, and Materials

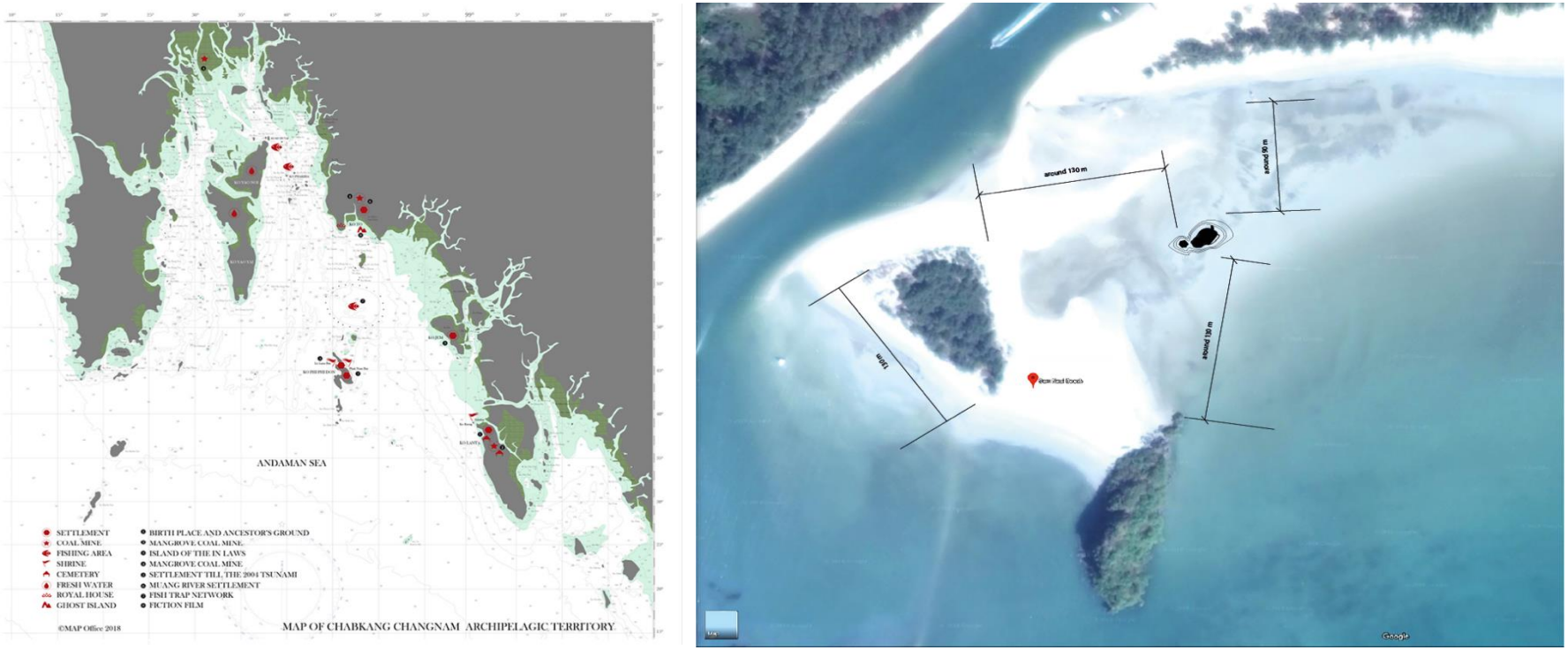


Figure 12. Location and tidal map of Ghost Islands, Thailand Biennale Krabi – Map Office (2018)

Nopparat Thara Beach was chosen for its dramatic tidal rhythms, which allowed *Ghost Islands* to transform daily, being accessible by foot at low tide and submerged at high tide and embodying the dynamic relationship between land and sea. The beach's status as a tourist hotspot highlighted the contrast between surface-level leisure or entertainment, (requiring minimal cognitive engagement) and hidden ecological crises, such as ghost nets entangling marine life nearby. The site's visibility within Krabi National Park amplified the project's message to biennale audiences while grounding it in a locale in which tourism, environmental degradation, and cultural invisibility intersected.

Research Methods, Prototypes, and Materials

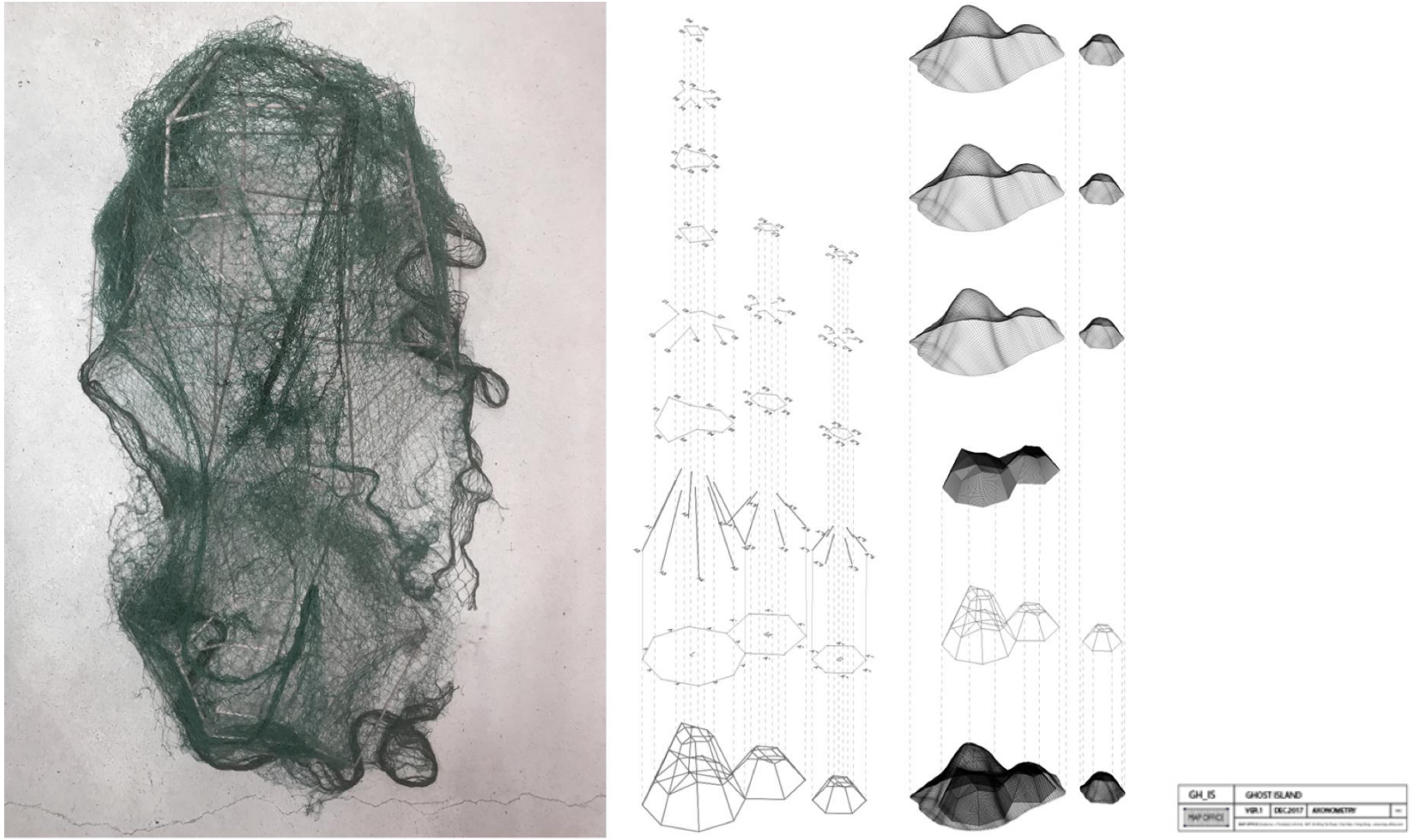


Figure 13. Modelling of Ghost Islands – Map Office (2018)

Research Methods, Prototypes, and Materials

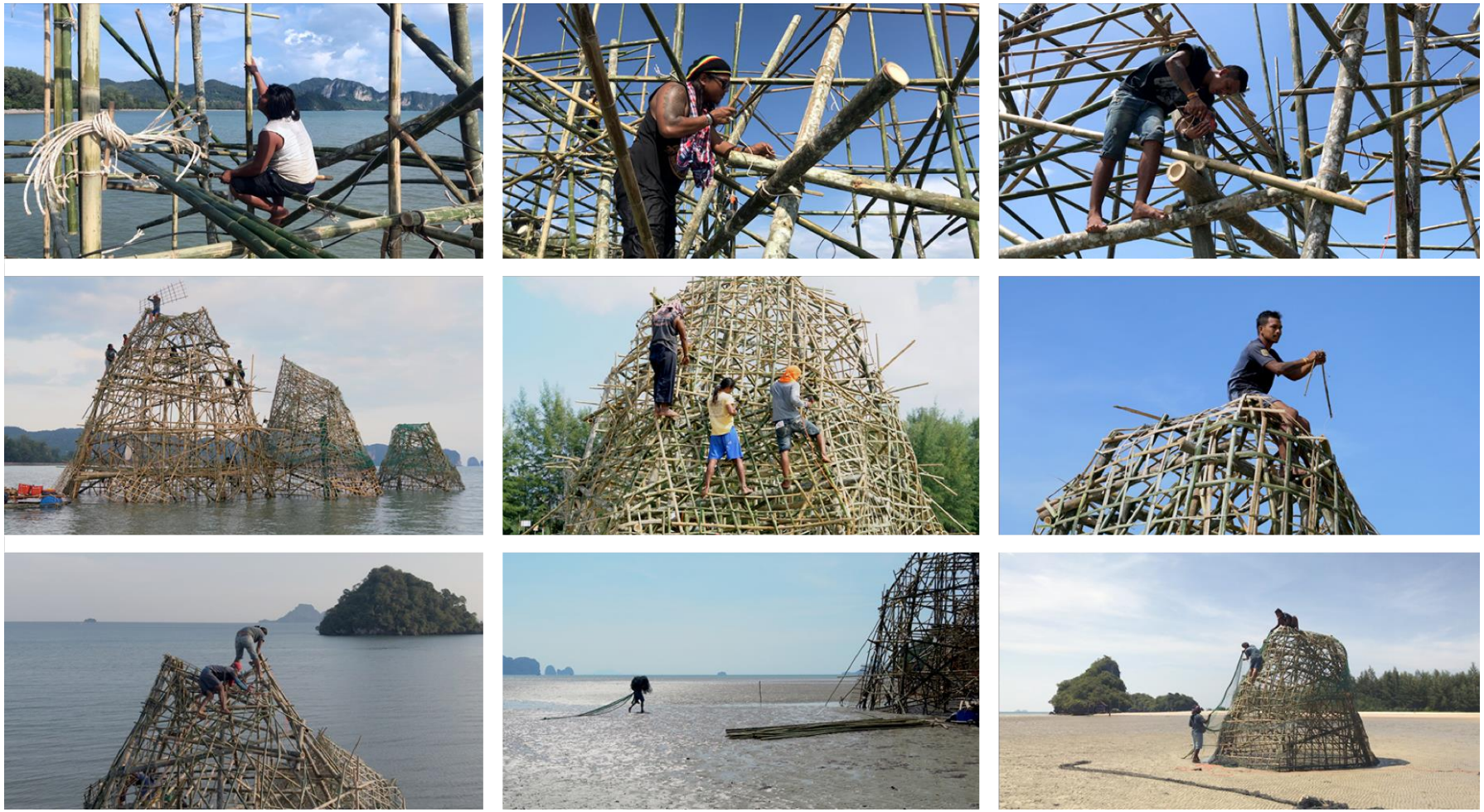


Figure 14. Stills from The Birth of Ghost Islands (a 4K video of 13 minutes; https://vimeo.com/user8551429) – Map Office (2019)

Research Methods, Prototypes, and Materials

Figure 15. C-print of Ghost Islands – Map Office (2019)

Research Methods, Prototypes, and Materials

Figure 16. Series of 12 touristic postcards of Ghost Islands in Krabi, Thailand – Map Office (2019)

Research Methods, Prototypes, and Materials

Role of Sea Gypsies and Integration of Environmental Art

The sea gypsies (Urak Lawoi) were central to *Ghost Islands,* as they are the custodians of ancestral maritime wisdom, with sustainable practices such as tidal-adaptive fishing and net-weaving techniques that contrast sharply with industrial overfishing. Their 'invisible' lifestyle, historically marginalised by tourism and associated conservation and planning policies, became a lens to critique ecological and cultural erasure. *Ghost Islands* aimed to *r*ecentre their narratives by embedding their stories into the installation through Gung's temporary inhabitation of the bamboo-and-net structure and displays of traditional craftsmanship. This transformed the ghost nets, symbols of environmental harm, into cultural artefacts, rendering their forgotten traditions hypervisible.

By situating the installation in a tourist-heavy zone, it forced audiences to confront the coexistence of leisure and ecological crisis while advocating for hybrid economies that merge circular practices (upcycling nets) with cultural preservation. Thus, the artwork became a mediator, bridging environmental urgency, economic resilience, and intangible heritage and proving that sustainability must honour both ecosystems and the communities historically intertwined with them.

Figure 17. Stills from Ghost Islands (a 4K video of 40 minutes) – Map Office (2019)

Research Methods, Prototypes, and Materials

Figure 18. Stills from Ghost Islands (a 4K video of 40 minutes) – Map Office (2019)

Research Methods, Prototypes, and Materials

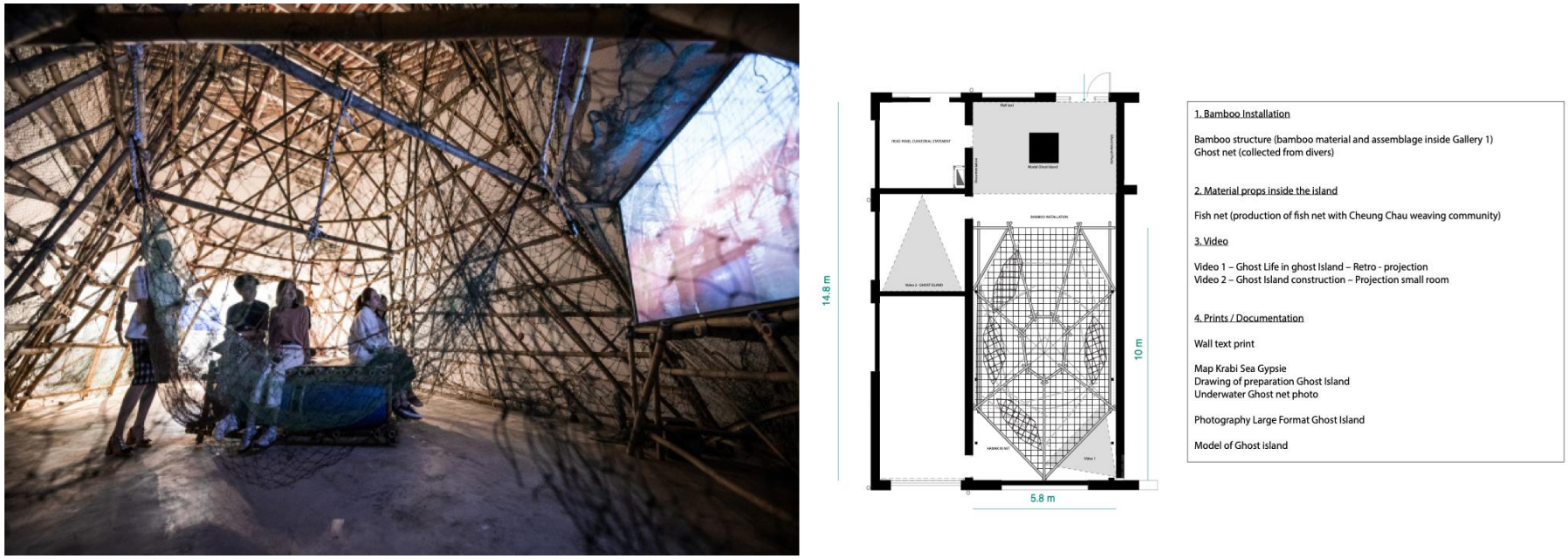


Figure 19. Ghost Islands at the Oi! Street Art Space – Map Office (2019)

Ghost Islands, Hong Kong

The process of making was repeated in Hong Kong with the construction of indoor *Ghost Islands* in the former colony's Yacht Club; the installations were transformed into small cinemas. This installation served as the symbollic flagship of the research project that focused on various local issues regarding sea pollution; it became a space of dialogue and for discussion between diverse groups (such as politicians, environmentalists, scientists, and designers) and Hong Kong's group of activist divers.

Research Methods, Prototypes, and Materials

Figure 20. Ghost Islands model at the Oi! Street Art Space – Map Office (2019)

The iterative development and transformation of each of these structures as they are made not only continues the material critique of the ghost nets at the Thailand Biennale but also alludes to the disruptive impact of Hong Kong's land reclamation projects (formed through excavation of land & sea) on marine ecology, as the project was re-made in Hong Kong. The expansion of artificial land (13% of Hong Kong's land comes from reclamation) results in the disappearance of inter-tidal zones and the destruction of native habitats, echoing the dynamic tension of the land–sea boundaries that are also embodied in the remaking and installation at each iteration of a ghost Island.

Research Methods, Prototypes, and Materials

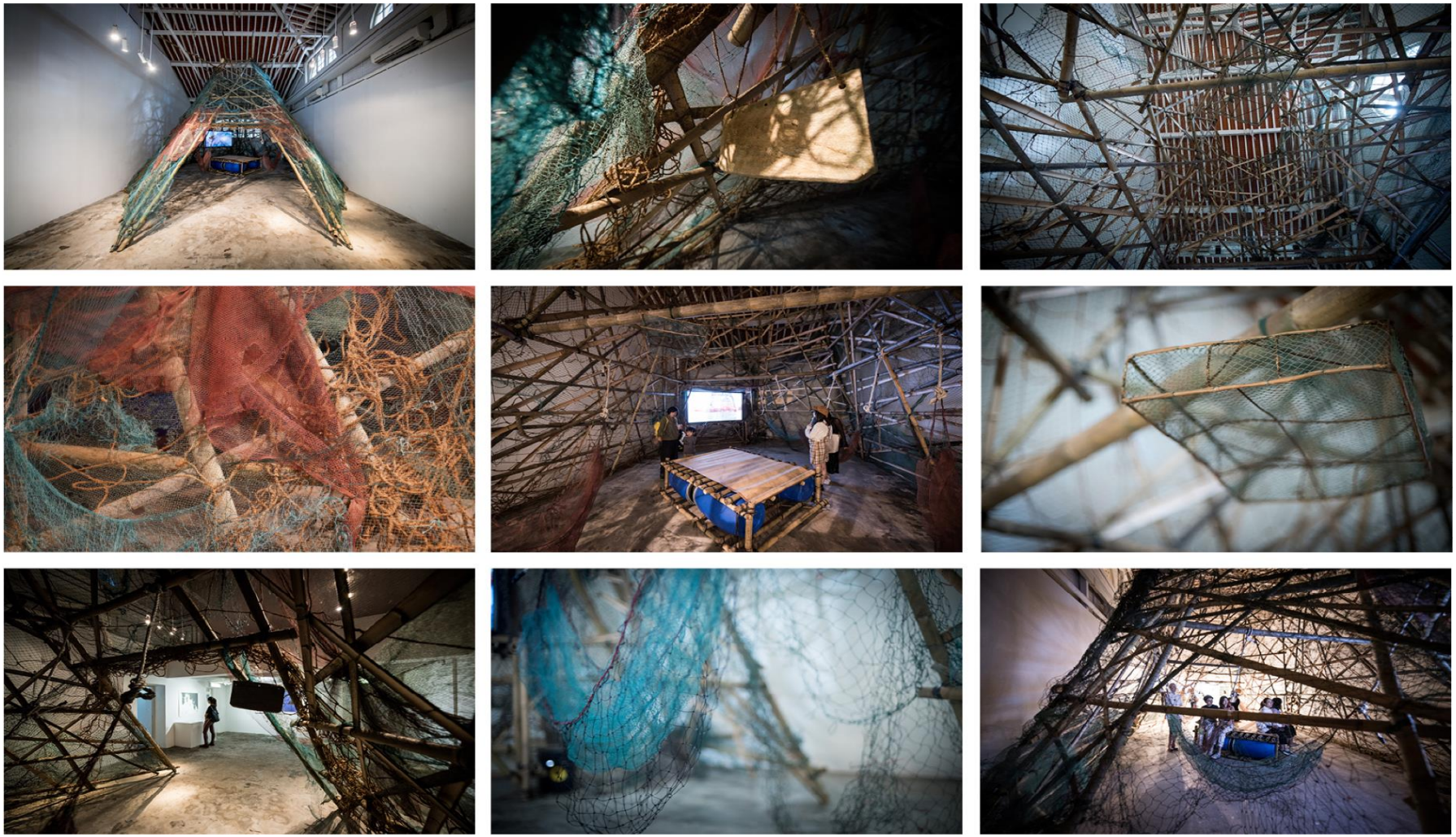


Figure 21. Details of the installations of Ghost Islands at the Oi! Street Art Space – Map Office (2019)

Research Methods, Prototypes, and Materials

Upcycling and Domestic Activities

The Hong Kong installation of *Ghost Islands* addresses the circular economy through two dimensions: upstream material awareness and stakeholder inclusion. Retired fishermen from Cheung Chau revitalised traditional net-weaving techniques to create upcycled products (such as bags and hammocks), merging cultural heritage with waste remediation. This process educates audiences on the urgency of transitioning to biodegradable fibres, emphasising material reclamation's role in domestic contexts.

While the project fosters community cohesion and highlights the potential of circular design, a critical limitation persists: the absence of biodegradable material trials in actual fishing gear. Without testing alternatives such as plant-based nets, symbolic upcycling risks perpetuating reliance on synthetic materials. Thus, while the exhibition bridges cultural preservation and ecological advocacy, tangible material innovation remains essential to disrupt linear production cycles.

Figure 1. Fisherman's tools to weave net bags in Cheung Chau, Hong Kong – Map Office (2018)

Figure 2. Net bags woven by a retired fisherman in Cheung Chau, Hong Kong – Map Office (2018)

Figure 3. Auntie Tree, fisherman community weaving in Cheung Chau, Hong Kong Map Office ((2018)

Research Methods, Prototypes, and Materials

Figure 23.1. Ghost Islands at the MCCA exhibition in Seoul – Map Office (2020)

Figure 23.2. Ghost Islands' installation at the Shenzhen Biennale – Map Office (2019)

Figure 23.3. Ghost Islands at the MCCA exhibition in Seoul – Map Office (2020)

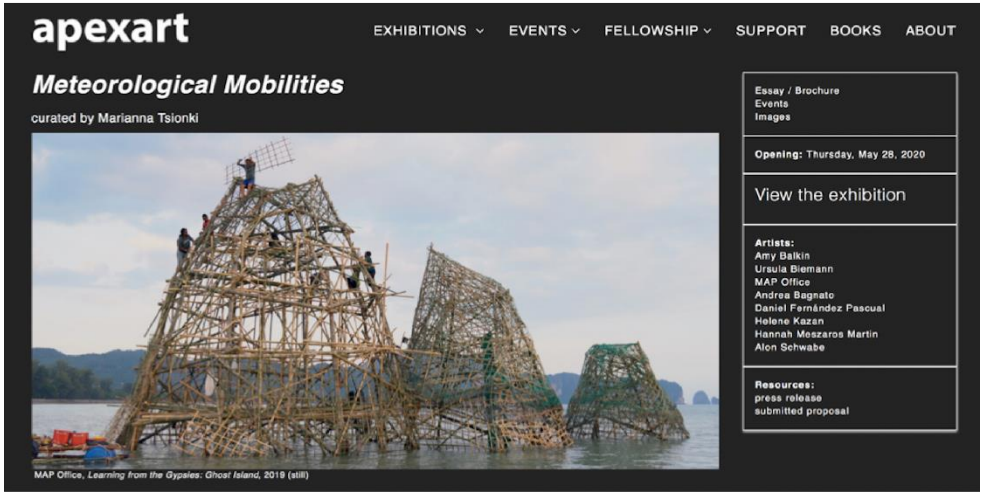


Figure 23.4. Ghost Islands at the apexart exhibition in New York – Map Office (2020)

Research Outcomes, Findings, and Further Research

The project's outcomes and findings revealed that 'ghost nets' represent a fundamental point of "design failure" within the contemporary industrial fishing system. In response, the research highlighted that these installations created a tangible and effective tool for encouraging and raising public awareness.

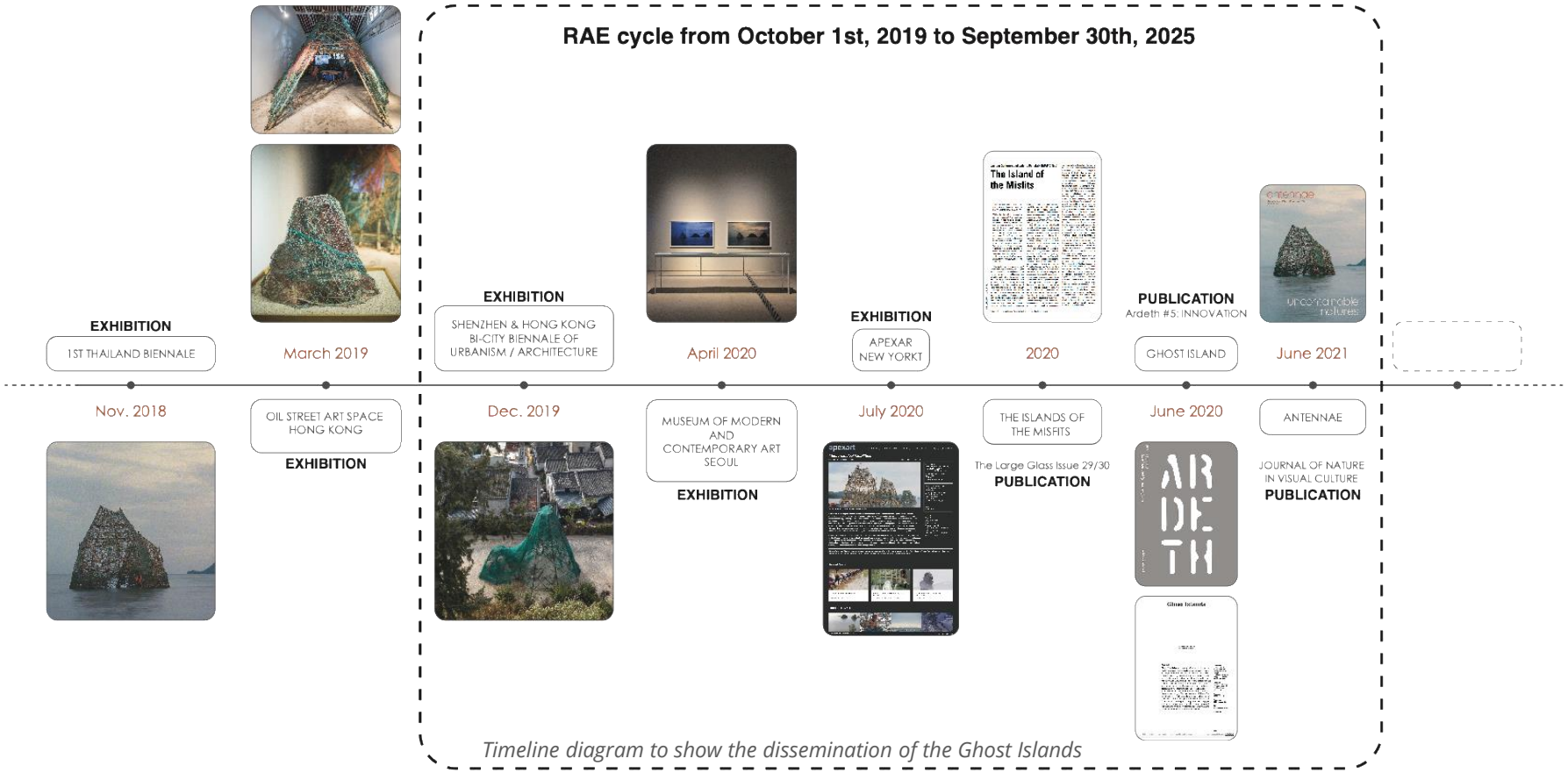
Furthermore, it was found that the traditional knowledge of net-making, which is critical to sustainability, is rapidly disappearing. This underscored the importance of learning from Indigenous communities and adopting circular economy principles as a design approach to recycle fishing waste.

Further and Future Research

The project dialogues also raised questions and identified potential opportunities and policy proposals for net tagging or alternative forms of monitoring.

Equally important was the need to undertake research focusing on investigating biodegradable net alternatives as well as alternative scalable models for material upcycling. This may also require reconsidering what may potentially be learned from studying, understanding and exchanging knowledge with indigenous communities.

Research Dissemination



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